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2014

DEPARTMENT OF NATURAL RESOURCES
Technology Assessment Division
February 10, 2015

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LOUISIANA ENERGY FACTS

ANNUAL 2014

Department of Natural Resources
Stephen Chustz
Secretary of Natural Resources



Prepared by
Manuel Lam, Senior Energy Analyst

Technology Assessment Division

P.O. Box 94396
Baton Rouge, LA 70804-9396
[E-mail: TECHASMT@la.gov](mailto:TECHASMT@la.gov)
WEB: www.dnr.louisiana.gov/tad

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General Questions and Comments

The **Louisiana Energy Facts Annual - 2014 (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 Thomas Harris and the division assistant director is William J. Delmar, Jr.

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

Coal and lignite:

Bill Delmar, Jr.
Assistant Director
(225) 342-5053
E-mail: BILL.DELMAR@la.gov

Oil & gas production, drilling, revenue, reserves, prices, and general energy statistic:

Manuel Lam
Program Manager
(225) 342-8919
E-mail: MANUEL.LAM@la.gov

Electric utilities, cogeneration, independent power producers:

Patricia Nussbaum
Senior Engineer
(225) 342-7974
E-mail: PATRICIA.NUSSBAUM@la.gov

Additional copies of this document may be obtained by contacting:

Department of Natural Resources
Technology Assessment Division
P.O. Box 94396
Baton Rouge, LA 70804-9396
Phone: (225) 342-1270 FAX: (225) 342-1397
E-mail: TECHASMT@la.gov
Web: www.dnr.louisiana.gov/tad

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Louisiana Energy Facts Annual 2014

INTRODUCTION

ABOUT THIS PUBLICATION

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

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

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

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

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Facts & Figures

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

The 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.

2014 HIGHLIGHTS

The data in the 2014 **Louisiana Energy Facts Annual** contains some recent trends.

Crude Oil and Natural Gas Prices

Gas spot price average was \$3.80 per MCF in 2013, and it was \$4.44 per MCF in 2014; which is 16.9% higher than in 2013. The Louisiana natural gas spot market average in January 2014 was \$4.60 per MCF and dropped to \$3.61 per MCF in December 2014. The high price in January was attributed to the cold weather and the price drop at the end of 2014 was caused by record gas shale production and mild temperate weather. The average price for gas for 2015 is expected to be above \$3.00 per MCF.

Light Louisiana Sweet (LLS) average spot crude oil price was \$107.35 per barrel in 2013 and it was \$96.83 per barrel in 2014, a 9.8% drop. The LLS crude oil spot price average was \$102.79 per barrel in January 2014 and fell to \$61.90 per barrel in December 2014. 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 2014 LLS average spot price is expected to be above \$50 per barrel.

Oil and Gas Production

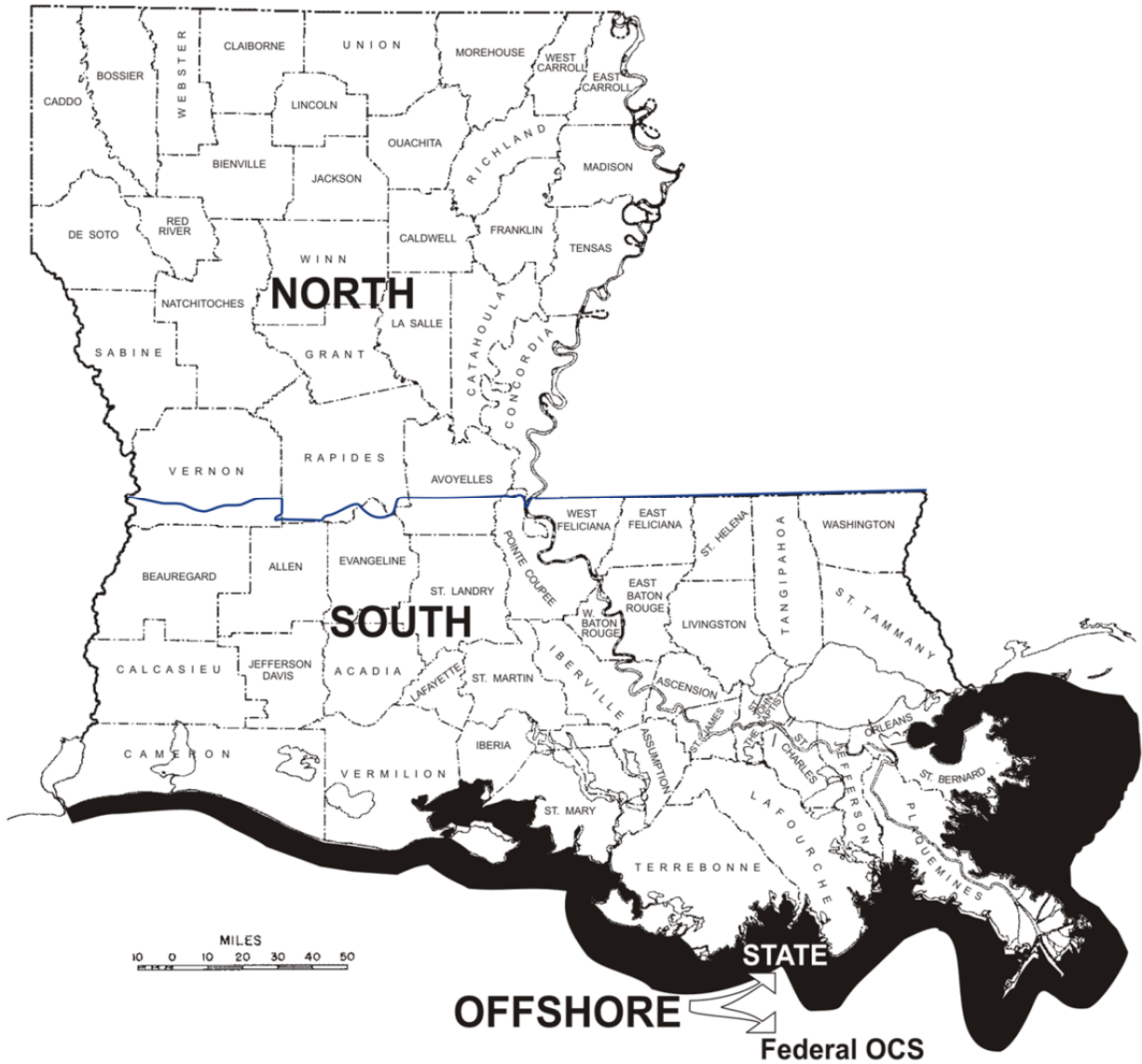
Louisiana state oil production was lower in 2014 than in 2013, while in the federal Outer Continental Shelf (OCS) in the Gulf of Mexico (GOM) it was the opposite. The Louisiana state crude oil and condensate production, excluding the federal OCS, was 68.2 million barrels (MMB) in 2014 and it was 72.1 MMB in 2013. The 2014 oil production was 3.9 MMB barrel or 5.5% lower than 2013. The preliminary federal OCS GOM oil production in 2014 is 502.5 MMB and it was 44.1 MMB or 9.6% higher than 2013 oil production. The increase in federal OCS oil was caused by the high oil prices, the discovery of some large oil reservoir in the GOM, and higher drilling for oil in the area.

Louisiana gas production was lower in 2014 than in 2013. The Louisiana state natural gas and casinghead, excluding OCS production, was 1.9 TCF in 2014, 17.8% lower than 2013. 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 60% of the state total gas production. The preliminary federal OCS GOM gas production in 2014 is 1.26 TCF and it was 5.0% lower than 2013 gas production. The decrease in federal OCS GOM gas was caused by the high oil prices and lower drilling for gas in the area.

Drilling

Louisiana rig count, including the OCS area, averaged 110 active rigs in 2014 a 2.6% increase over 2013. In state areas, the LA offshore region averaged 1 drilling rig in 2014, a decrease of one over 2013, South LA Inland water also showed 5 drilling rigs decrease

SUBDIVISIONS OF LOUISIANA



in 2014 from 2013, while South LA inland land showed a drilling rig increase in 2014 over 2013, and North LA region showed 4 drilling rigs increase in 2014 over 2013. The 2014 LA Federal OCS average showed 4 drilling rigs increased over 2013. The North LA drilling rigs increased due to increases in the Haynesville shale play; the South LA Inland drilling rig decrease was due to lack of over water drilling rigs, the South LA Inland drilling increase was caused by the high oil prices; and the OCS increase was due to recovery from the “Moratorium” and higher oil prices.

Other significant items

Louisiana proved oil reserves were higher in 2012 than in 2011, due to increases in the offshore federal OCS areas in the deep water region. The South region (onshore and offshore) also showed increases, while the North region showed a slight decline. Louisiana proved gas reserves were lower in 2012 than in 2011 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' 2014 daily crude oil average runs to stills were 2.82 million barrels per day, 2.6% higher than in 2013. It reflected the higher utilization of the refinery capacity.

Average employment in the oil and gas extraction industries was 50,221 in 2013; a 1.5% decrease from 2012, due to technological improvement in exploration and production activities.

Table 1

LOUISIANA STATE CRUDE OIL PRODUCTION
Excluding OCS
(Barrels)

DATE	NORTH	SOUTH	OFFSHORE	TOTAL
1993	20,243,587	72,529,630	14,448,403	107,221,620
1994	17,374,804	67,063,120	13,716,512	98,154,436
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	7,996,633	36,318,691	4,081,708	48,397,032
2009	7,822,933	35,812,215	3,813,509	47,448,657
2010	7,788,454 r	36,629,543 r	4,671,151 r	49,089,148 r
2011	8,953,730 r	37,971,526 r	5,064,106 r	51,989,362 r
2012	9,958,137 r	39,808,007 r	5,034,846 r	54,800,990 r
January	926,885 r	3,406,906 r	427,256 r	4,761,047 r
February	851,969 r	3,132,771 r	381,438 r	4,366,178 r
March	923,524 r	3,428,179 r	437,007 r	4,788,710 r
April	878,019 r	3,302,207 r	418,472 r	4,598,698 r
May	911,270 r	3,434,572 r	486,513 r	4,832,355 r
June	847,482 r	3,403,015 r	468,906 r	4,719,403 r
July	846,963 r	3,493,469 r	476,588 r	4,817,020 r
August	868,437 r	3,424,825 r	556,074 r	4,849,336 r
September	843,463 r	3,354,118 r	513,770 r	4,711,351 r
October	874,743 r	3,289,660 r	486,314 r	4,650,717 r
November	841,479 r	3,270,105 r	454,353 r	4,565,937 r
December	866,916 r	3,371,339 r	451,803 r	4,690,058 r
2013 Total	10,481,150 r	40,311,166 r	5,558,494 r	56,350,810 r
January	839,971	3,229,540	422,946	4,492,457
February	782,054	2,937,505	406,525	4,126,084
March	871,080	3,291,097	549,438	4,711,615
April	841,236	3,112,392	501,647	4,455,275
May	865,547	3,297,289	502,073	4,664,909
June	843,450	3,237,401	482,522	4,563,373
July	836,012	3,342,374	417,644	4,596,030
August	829,095	3,385,074	445,686	4,659,855
September	826,150	3,215,020	437,014	4,478,184
October	803,781	3,169,016	406,957	4,379,754
November	821,076 p	3,246,889 p	436,213 p	4,504,177 p
December	816,637 p	3,248,773 p	426,988 p	4,492,398 p
2014 Total	9,976,089 p	38,712,369 p	5,435,653 p	54,124,111 p

e Estimated r Revised p Preliminary

Table 2

LOUISIANA STATE CONDENSATE PRODUCTION

Excluding OCS

(Barrels)

DATE	NORTH	SOUTH	OFFSHORE	TOTAL
1993	3,933,228	25,427,247	1,147,939	30,508,414
1994	3,949,898	23,844,433	1,176,441	28,970,772
1995	4,348,138	22,800,168	1,819,043	28,967,349
1996	5,501,552	26,080,486	2,388,975	33,971,013
1997	4,574,610	24,315,163	2,492,990	31,382,763
1998	3,984,695	25,194,599	1,580,874	30,760,168
1999	3,686,774	24,768,250	1,343,439	29,798,463
2000	3,417,155	26,347,005	1,429,428	31,193,588
2001	3,439,438	28,422,048	1,970,474	33,831,960
2002	2,991,507	28,372,104	1,809,428	33,173,039
2003	2,869,424	26,171,738	1,895,522	30,936,684
2004	2,998,745	21,981,339	1,709,470	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	5,107,982	16,895,216	2,200,332	24,203,530
2009	4,268,592	15,079,481	2,176,661	21,524,734
2010	3,224,794 r	13,365,320 r	1,910,707 r	18,500,821 r
2011	2,910,689 r	12,937,245 r	1,452,008 r	17,299,942 r
2012	2,798,081 r	11,899,237 r	1,560,653 r	16,257,971 r
January	275,347 r	999,290 r	134,612 r	1,409,249 r
February	265,223 r	930,257 r	103,766 r	1,299,246 r
March	287,294 r	1,005,556 r	109,237 r	1,402,087 r
April	279,158 r	939,570 r	100,266 r	1,318,994 r
May	266,702 r	994,572 r	104,646 r	1,365,920 r
June	257,941 r	958,997 r	95,297 r	1,312,235 r
July	264,350 r	969,616 r	134,993 r	1,368,959 r
August	256,490 r	966,904 r	103,227 r	1,326,621 r
September	224,885 r	904,320 r	63,091 r	1,192,296 r
October	257,651 r	916,530 r	68,249 r	1,242,430 r
November	263,069 r	888,717 r	77,706 r	1,229,492 r
December	302,673 r	903,465 r	85,582 r	1,291,720 r
2013 Total	3,200,783 r	11,377,794 r	1,180,672 r	15,759,249 r
January	275,603	999,940	139,148	1,414,691
February	265,278	931,239	107,801	1,304,318
March	287,298	1,006,088	112,568	1,405,954
April	279,285	939,790	100,266	1,319,341
May	261,566	995,235	107,725	1,364,526
June	258,023	958,400	97,345	1,313,768
July	264,881	969,293	136,362	1,370,536
August	256,058	949,388	103,005	1,308,451
September	221,193	893,301	88,801	1,203,295
October	220,250	890,085	63,061	1,173,396
November	259,716 p	937,716 p	109,471 p	1,306,903 p
December	260,115 p	934,021 p	111,881 p	1,306,017 p
2014 Total	3,109,266 p	11,404,497 p	1,277,434 p	15,791,197 p

e Estimated r Revised p Preliminary

Table 3

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

DATE	NORTH	SOUTH	OFFSHORE	TOTAL
1993	24,176,815	97,956,877	15,596,342	137,730,034
1994	21,324,702	90,907,553	14,892,953	127,125,208
1995	20,595,093	87,613,455	17,016,027	125,224,575
1996	22,078,179	89,743,267	17,137,665	128,959,111
1997	21,829,276	88,295,426	16,030,812	126,155,514
1998	20,304,949	87,523,706	14,312,144	122,140,799
1999	16,711,501	81,260,610	12,850,588	110,822,699
2000	15,307,562	80,304,828	11,549,975	107,162,365
2001	14,274,475	79,328,486	11,264,058	104,867,019
2002	12,726,261	71,523,765	9,440,089	93,690,115
2003	12,049,211	67,975,624	10,349,488	90,374,323
2004	11,696,648	63,270,406	8,725,050	83,692,104
2005	11,909,370	56,993,657	6,782,960	75,685,987
2006	12,100,880	55,151,918	6,717,319	73,970,117
2007	12,427,647	57,353,465	7,595,386	77,376,498
2008	13,104,615	53,213,907	6,282,040	72,600,562
2009	12,091,525	50,891,696	5,990,170	68,973,391
2010	11,013,248 r	49,994,863 r	6,581,858 r	67,589,969 r
2011	11,864,419 r	50,908,771 r	6,516,114 r	69,289,304 r
2012	12,756,218 r	51,707,244 r	6,595,499 r	71,058,961 r
January	1,202,232 r	4,406,196 r	561,868 r	6,170,296 r
February	1,117,192 r	4,063,028 r	485,204 r	5,665,424 r
March	1,210,818 r	4,433,735 r	546,244 r	6,190,797 r
April	1,157,177 r	4,241,777 r	518,738 r	5,917,692 r
May	1,177,972 r	4,429,144 r	591,159 r	6,198,275 r
June	1,105,423 r	4,362,012 r	564,203 r	6,031,638 r
July	1,111,313 r	4,463,085 r	611,581 r	6,185,979 r
August	1,124,927 r	4,391,729 r	659,301 r	6,175,957 r
September	1,068,348 r	4,258,438 r	576,861 r	5,903,647 r
October	1,132,394 r	4,206,190 r	554,563 r	5,893,147 r
November	1,104,548 r	4,158,822 r	532,059 r	5,795,429 r
December	1,169,589 r	4,274,804 r	537,385 r	5,981,778 r
2013 Total	13,681,933 r	51,688,960 r	6,739,166 r	72,110,059 r
January	1,147,070	4,071,486	502,231	5,720,787
February	1,060,908	3,738,681	477,735	5,277,324
March	1,129,421	4,212,332	624,941	5,966,694
April	1,107,964	4,024,909	567,873	5,700,746
May	1,104,078	4,198,713	575,502	5,878,293
June	1,097,823	4,099,207	556,245	5,753,275
July	1,129,229	4,172,933	467,754	5,769,916
August	1,123,348	4,182,708	492,660	5,798,716
September	1,027,996	4,054,322	492,025	5,574,343
October	1,057,530	3,973,335	452,459	5,483,324
November	1,078,877 p	4,066,999 p	488,795 p	5,634,670 p
December	1,075,119 p	4,060,611 p	475,473 p	5,611,202 p
2014 Total	13,139,363 p	48,856,235 p	6,173,692 p	68,169,291 p

e Estimated r Revised p Preliminary

Figure 1

LOUISIANA STATE OIL PRODUCTION Actual and Forecasted Through Year 2030

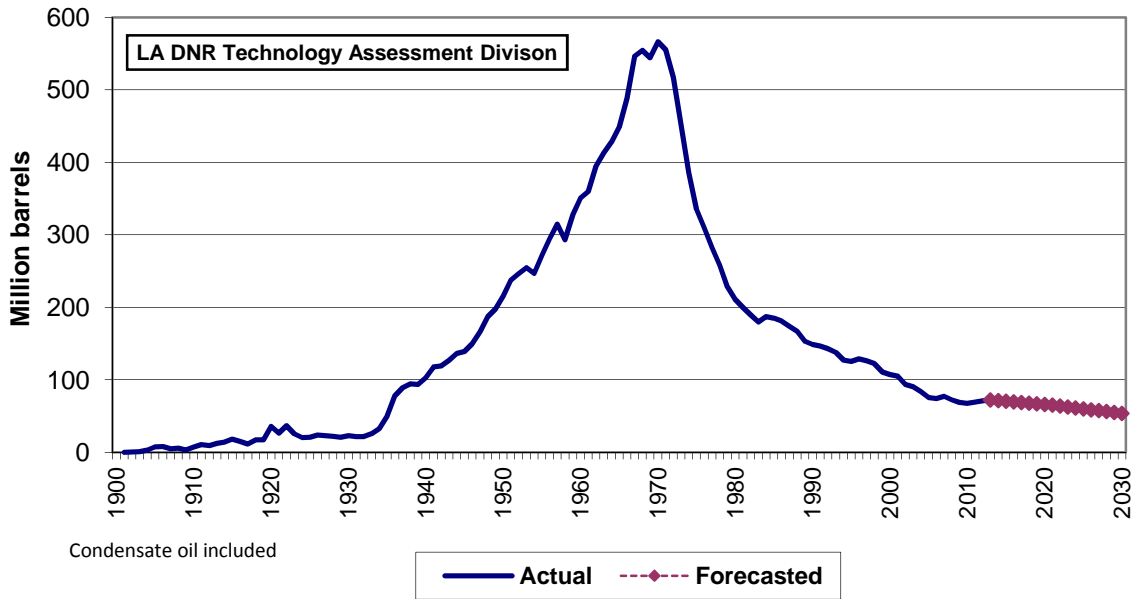
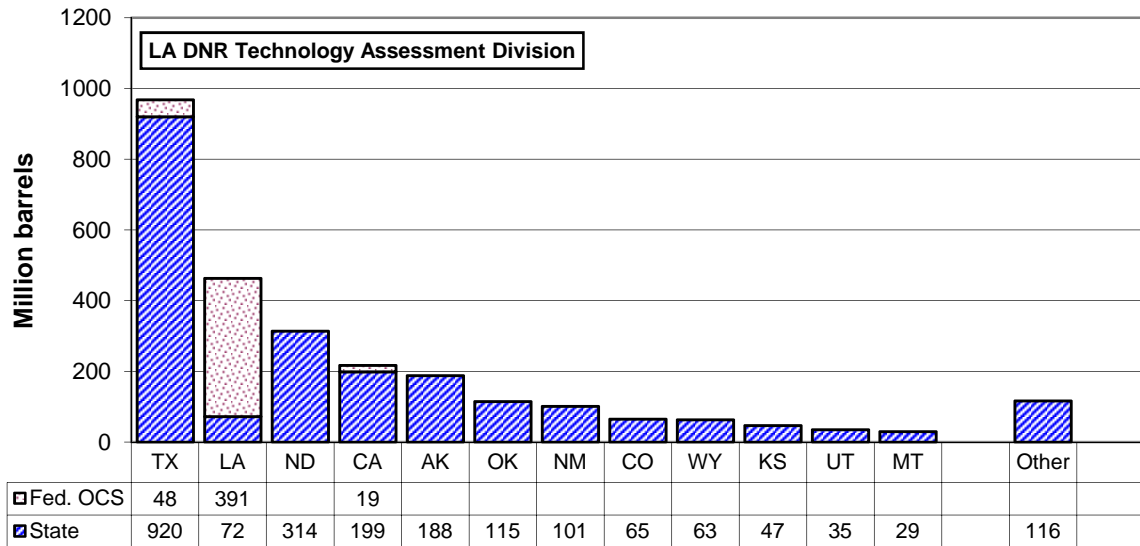


Figure 2

2013 UNITED STATES OIL PRODUCTION BY STATE



Federal OCS production estimated

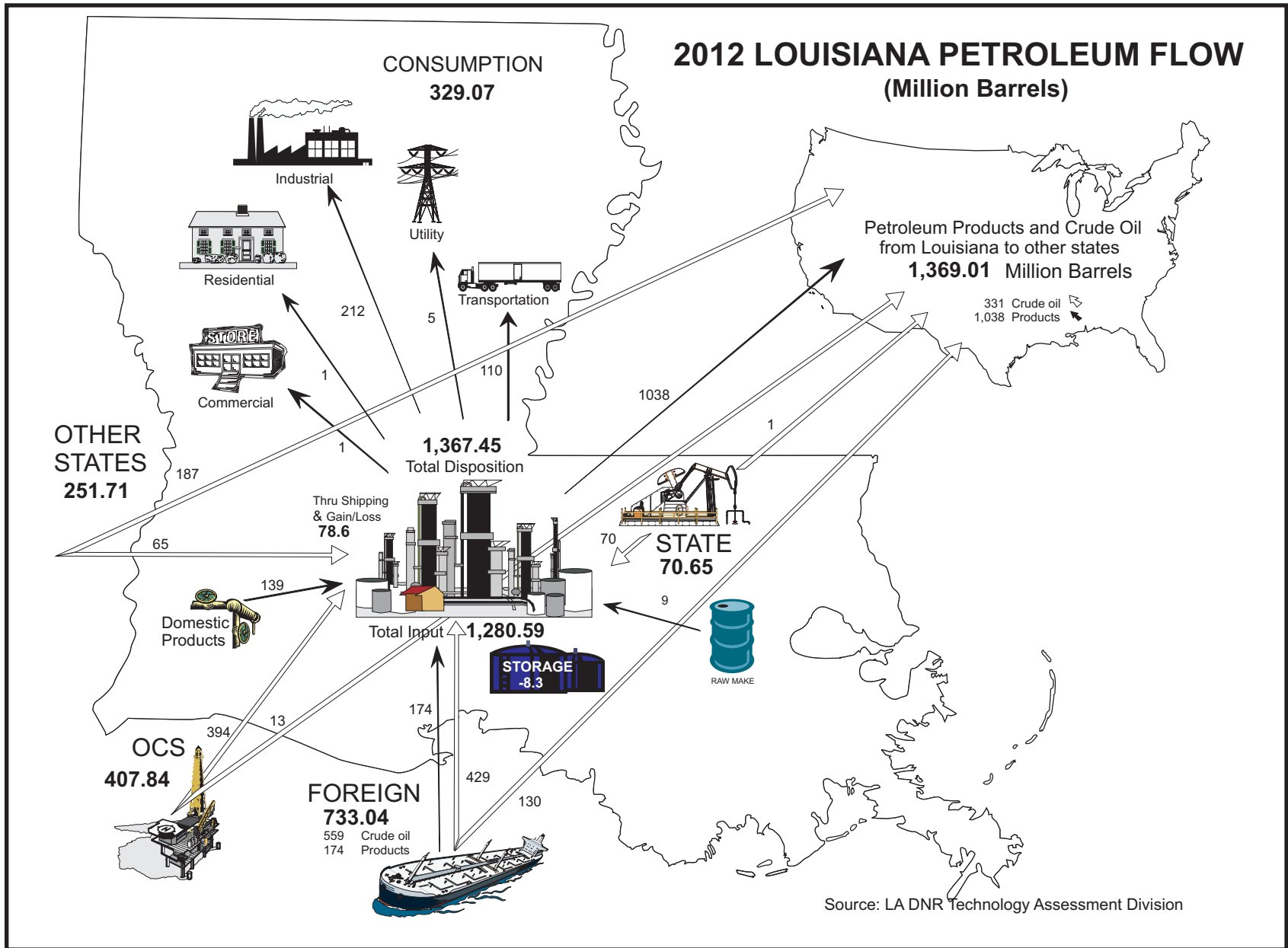
Table 4

**LOUISIANA TOTAL CRUDE OIL and CONDENSATE PRODUCTION
(Barrels)**

DATE	ONSHORE	OFFSHORE		TOTAL
		State	Federal OCS	
1993	122,133,692	15,596,342	293,443,881	431,173,915
1994	112,232,255	14,892,953	293,077,191	420,202,399
1995	108,208,548	17,016,027	320,255,087	445,479,662
1996	111,821,446	17,137,665	349,101,048	478,060,159
1997	110,124,702	16,030,812	399,536,004	525,691,518
1998	107,828,655	14,312,144	425,865,901	548,006,700
1999	97,972,111	12,850,588	451,391,454	562,214,153
2000	95,612,390	11,549,975	477,645,662	584,808,027
2001	93,602,961	11,264,058	502,115,031	606,982,050
2002	84,250,026	9,440,089	508,630,349	602,320,464
2003	80,024,835	10,349,488	505,203,116	595,577,439
2004	74,967,054	8,725,050	477,182,586 e	560,874,690 e
2005	68,903,027	6,782,960	407,154,253 e	482,840,240 e
2006	67,252,798	6,717,319	419,555,392 e	493,525,509 e
2007	69,781,112	7,595,386	427,033,161 e	504,409,659 e
2008	66,318,522	6,282,040	385,638,041 e	458,238,603 e
2009	62,983,221	5,990,170	528,205,742 e	597,179,133 e
2010	61,008,111 r	6,581,858 r	520,367,741 e	587,957,710 e r
2011	62,773,190 r	6,516,114 r	435,569,349 e r	504,858,653 e r
2012	64,463,462 r	6,595,499 r	407,841,789 e r	478,900,750 e r
January	5,608,428 r	561,868 r	35,742,931 e r	41,913,227 e r
February	5,180,220 r	485,204 r	31,742,950 e r	37,408,374 e r
March	5,644,553 r	546,244 r	33,273,195 e r	39,463,992 e r
April	5,398,954 r	518,738 r	34,362,688 e r	40,280,380 e r
May	5,607,116 r	591,159 r	31,789,533 e r	37,987,808 e r
June	5,467,435 r	564,203 r	28,250,155 e r	34,281,793 e r
July	5,574,398 r	611,581 r	34,211,597 e r	40,397,576 e r
August	5,516,656 r	659,301 r	33,698,784 e r	39,874,741 e r
September	5,326,786 r	576,861 r	34,975,437 e r	40,879,084 e r
October	5,338,584 r	554,563 r	32,071,754 e r	37,964,901 e r
November	5,263,370 r	532,059 r	33,786,607 e	39,582,036 e r
December	5,444,393 r	537,385 r	34,914,102 e	40,895,880 e r
2013 Total	65,370,893 r	6,739,166 r	398,819,732 e r	470,929,791 e r
January	5,218,556	502,231	35,129,093 e	40,849,880 e
February	4,799,589	477,735	32,052,863 e	37,330,187 e
March	5,341,753	624,941	34,896,308 e	40,863,002 e
April	5,132,873	567,873	36,627,330 e	42,328,076 e
May	5,302,791	575,502	37,666,225 e	43,544,518 e
June	5,197,030	556,245	36,557,717 e	42,310,992 e
July	5,302,162	467,754	37,724,781 e	43,494,697 e
August	5,306,056	492,660	38,491,397 e	44,290,113 e
September	5,082,318	492,025	36,916,065 e	42,490,408 e
October	5,030,865	452,459	36,236,864 e	41,720,188 e
November	5,145,876 p	488,795 p	N/A	5,634,670 p
December	5,135,730 p	475,473 p	N/A	5,611,202 p
2014 Total	61,995,598 p	6,173,692 p	362,298,643 e	430,467,933 p

e Estimated r Revised p Preliminary

Figure 3



Source: LA DNR Technology Assessment Division

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
1993	128,699,431	3,448,387	7,240,065	139,387,883
1994	118,109,958	3,691,802	6,347,047 e	128,148,807 e
1995	108,373,913	4,239,717	6,230,454 e	118,844,084 e
1996	103,524,192	3,786,147	6,240,956 e	113,551,295 e
1997	101,772,533	3,466,389	6,101,247 e	111,340,169 e
1998	89,083,365	2,878,225	5,892,007 e	97,853,597 e
1999	85,207,438	2,786,515	5,690,984 e	93,684,937 e
2000	88,411,207	2,783,268	5,322,515	96,516,990
2001	83,994,058	2,576,683	5,175,142	91,745,883
2002	79,038,703 e	2,571,901 e	4,681,607 e	86,292,211 e
2003	75,070,785	2,565,017	4,912,890	82,548,691
2004	73,133,821	2,852,851	4,838,681	80,825,353
2005	61,356,971	2,754,911	4,784,530	68,896,412
2006	61,520,365	2,621,592	4,786,820	68,928,778
2007	64,036,607	2,612,497	4,531,456	71,180,560
2008	61,520,109	2,564,615	4,974,960	69,059,684
2009	55,212,475	1,927,478	4,364,995	61,504,949
2010	52,998,554	2,144,740	4,315,681	59,458,975
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
January	4,560,012	175,520	444,863	5,180,394
February	4,723,542	122,145	446,184	5,291,870
March	4,831,661	177,836	398,502	5,407,998
April	3,906,454	173,209	334,362	4,414,025
May	4,549,866	185,334	443,810	5,179,010
June	4,709,465	165,922	421,408	5,296,795
July	4,726,577	172,925	406,578	5,306,080
August	4,795,342	187,668	406,797	5,389,807
September	4,481,616	177,519	438,102	5,097,236
October	4,613,887	198,964	474,069	5,286,920
November	4,627,646	170,281	457,515	5,255,442
December	4,194,393	203,343	445,487	4,843,224
2013 Total	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	N/A	N/A	N/A	N/A
December	N/A	N/A	N/A	N/A
2014 Total	45,208,850 p	1,871,126 p	4,303,471 p	51,383,447 p

e Estimated r Revised p Preliminary

See footnote in Appendix B.

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

YEAR	LOUISIANA	TEXAS	CALIFORNIA	TOTAL
1968	263,825,359	3,110,642	2,059,889	268,995,890
1969	300,159,292	2,759,851	9,940,844	312,859,987
1970	333,411,492	2,247,048	24,987,628	360,646,168
1971	385,760,351	1,685,047	31,103,548	418,548,946
1972	387,590,662	1,733,018	22,562,213	411,885,893
1973	374,196,856	1,617,829	18,915,314	394,729,999
1974	342,435,496	1,381,825	16,776,744	360,594,065
1975	313,592,559	1,340,136	15,304,757	330,237,452
1976	301,887,002	1,054,554	13,978,553	316,920,109
1977	290,771,605	909,037	12,267,598	303,948,240
1978	278,071,535	2,107,599	12,085,908	292,265,042
1979	271,008,916	3,595,546	10,961,076	285,565,538
1980	256,688,082	10,502,007	10,198,886	277,388,975
1981	255,875,717	14,284,661	19,605,027	289,765,405
1982	275,513,489	17,263,766	28,434,202	321,211,457
1983	298,093,559	19,710,197	30,527,487	348,331,243
1984	318,024,622	21,960,086	30,254,306	370,239,014
1985	338,901,863	20,640,957	29,781,465	389,324,285
1986	340,152,276	19,835,882	29,227,846	389,216,004
1987	307,950,881	24,634,142	33,556,686	366,141,709
1988	261,936,530	26,115,776	32,615,118	320,667,424
1989	246,207,653	25,887,841	33,072,161	305,167,655
1990	264,670,535	24,970,114	33,312,719	324,423,181
1991	262,647,733	24,380,908	29,146,090	323,831,064
1992	288,918,208	23,639,788	41,222,801	346,053,626
1993	293,443,881	20,376,996	50,078,144	358,655,540
1994	293,077,191	26,819,958	57,229,464	371,300,873
1995	320,255,087	20,419,104	71,254,440	416,293,300
1996	349,101,048	25,841,553	67,804,200	436,634,538
1997	399,536,004	28,718,405	58,279,489	469,873,968
1998	425,865,901	27,837,631	40,636,231	484,861,417
1999	451,391,454	31,758,296	42,071,101	537,198,889
2000	477,645,662	35,044,216	34,373,524	557,370,524
2001	502,115,031	42,991,844	34,763,192	592,514,727
	GULF OF MEXICO		PACIFIC	TOTAL
	CENTRAL	WESTERN		
2002	478,652,767	88,169,359	29,783,000	596,606,889
2003	476,746,239	83,696,697	30,001,000	590,477,590
2004	447,625,460	86,932,724	27,052,000	561,629,979
2005	327,825,527	74,791,038	26,554,000	429,172,427
2006	393,445,174	76,794,758	26,113,000	496,352,933
2007	407,038,554	59,225,206	24,599,000	490,878,085
2008	371,922,492	48,984,103	24,145,000	445,092,125
2009	514,730,687	52,407,408	22,307,000	589,503,991
2010	507,337,395 r	52,121,383 r	21,702,000 r	581,197,307 r
2011	422,674,277 r	58,041,118 r	19,818,000 r	500,553,154 r
2012	392,394,293 r	72,219,668 r	17,679,000 r	482,303,868 r
2013	382,294,966 r	68,500,102 r	18,578,000 r	469,376,921 r

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
1993	351,757	2,499,033	2,477,230	5,367
1994	371,331	2,431,476	2,578,072	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	562,755	1,991,404	3,692,063	0
2005	493,389	1,891,200	3,695,971	18,889
2006	497,994	1,857,035	3,693,081	3,086
2007	492,561	1,853,122	3,661,404	2,703
2008	447,313 r	1,829,897	3,580,694	7,113
2009	592,511 r	1,954,018 r	3,289,675	20,368
2010	585,149 r	1,996,788 r	3,362,856	0
2011	500,031	2,063,137 r	3,261,422	0
2012	481,372 r	2,377,805 r	3,120,755	0
January	42,859 r	219,551 r	246,629 r	0
February	38,293 r	198,744 r	204,191 r	0
March	40,375 r	222,286 r	232,398 r	0
April	41,631 r	220,913 r	232,807 r	0
May	38,682 r	225,857 r	239,970 r	0
June	35,158 r	217,324 r	231,930 r	0
July	40,059 r	231,895 r	249,788 r	0
August	38,252 r	231,788 r	251,079 r	0
September	41,106 r	232,539 r	237,699 r	0
October	38,005 r	238,434 r	231,822 r	0
November	40,595	236,653	222,248	0
December	41,474	243,971	240,919	0
2013 Total	476,489 r	2,719,955 r	2,821,480 r	0
January	41,998	248,534	235,090	0
February	38,674	227,796	201,588	0
March	42,304	256,134	225,184	0
April	43,900	256,330	226,414	0
May	45,388	267,316	222,119	0
June	44,035	260,877	211,632	0
July	45,741	270,185	236,310	0
August	46,265	271,451	231,604	0
September	44,779	269,437	225,232	0
October	45,351	280,432	221,022	0
November	N/A	N/A	N/A	N/A
December	N/A	N/A	N/A	N/A
2014 Total	438,435 p	2,608,492 p	2,236,195 p	0 p

e Estimated r Revised p Preliminary

Table 8

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

DATE	OIL (Barrels)	GAS (MCF)	PLANT LIQUIDS (Barrels)
1993	6,721,350	67,052,274	698,857
1994	6,288,843	54,798,617	600,660
1995	6,385,269	57,013,225	925,825
1996	6,489,394	60,326,587	477,640
1997	6,534,913	60,778,002	1,440,435
1998	6,604,124	56,691,269	331,767
1999	6,030,138	51,051,870	204,124
2000	6,366,604	53,780,835	355,112
2001	7,059,789	65,034,347	983,641
2002	4,707,772	53,434,290	800,697
2003	4,910,469	53,135,969	1,459,006
2004	4,222,899	45,261,610	2,185,235
2005	3,340,640	34,454,802	1,101,153
2006	3,611,971	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 r	37,204,336 r	4,784,684 r
2011	3,901,117 r	42,154,957 r	5,506,257 r
2012	3,894,705 r	43,566,017 r	5,793,534 r
January	343,578 r	4,045,891 r	733,534 r
February	310,021 r	3,508,840 r	677,502 r
March	343,860 r	3,907,709 r	757,465 r
April	325,670 r	3,503,616 r	875,294 r
May	342,822 r	4,035,264 r	876,882 r
June	334,334 r	3,642,781 r	964,541 r
July	324,653 r	3,678,083 r	1,038,260 r
August	355,673 r	3,595,849 r	915,291 r
September	340,593 r	3,686,567 r	811,893 r
October	325,727 r	3,349,647 r	905,415 r
November	312,961 r	3,304,338 r	886,300 r
December	335,627 r	3,450,728 r	775,584 r
2013 Total	3,995,518 r	43,709,313 r	10,217,961 r
January	305,448	3,160,322	745,177
February	273,018	2,968,873	744,873
March	332,657	3,348,122	796,335
April	304,792	3,275,949	805,162
May	332,800	3,473,227	775,006
June	324,643	3,228,585	719,672
July	318,202	2,930,074	670,908
August	317,559	3,275,137	721,392
September	286,009	3,262,255	727,752
October	311,023 p	3,090,322 p	695,741 p
November	298,947 p	2,998,873 p	686,585 p
December	301,360 p	3,044,966 p	701,672 p
2014 Total	3,706,458 p	38,056,705 p	8,790,276 p

e Estimated r Revised p Preliminary

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
1993	337,285,840	1,000,882,139	106,161,644	1,444,329,623
1994	334,991,404	963,252,221	111,049,367	1,409,292,992
1995	348,385,615	942,253,430	117,647,934	1,408,286,979
1996	390,027,306	968,846,558	142,807,837	1,501,681,701
1997	406,306,877	900,334,348	143,913,520	1,450,554,745
1998	386,628,112	891,315,044	127,056,460	1,404,999,616
1999	355,536,417	858,338,237	100,525,024	1,314,399,678
2000	358,193,670	880,522,742	94,251,610	1,332,968,022
2001	370,998,160	903,068,572	97,208,445	1,371,275,177
2002	370,358,148	803,816,704	87,069,617	1,261,244,469
2003	401,217,674	779,381,241	72,327,053	1,252,925,968
2004	462,100,053	741,913,556	59,881,419	1,263,895,028
2005	526,863,613	645,073,330	46,609,741	1,218,546,684
2006	562,637,880	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	676,366,985	542,411,847	79,919,444	1,298,698,276
2009	953,849,530	446,004,458	70,837,238	1,470,691,226
2010	1,689,570,668 r	361,789,723 r	62,218,583 r	2,113,578,974 r
2011	2,507,434,667 r	344,196,223 r	63,038,251 r	2,914,669,141 r
2012	2,504,491,021 r	322,419,077 r	71,822,357 r	2,898,732,455 r
January	185,415,017 r	28,140,676 r	5,986,765 r	219,542,458 r
February	164,457,816 r	26,454,816 r	5,248,293 r	196,160,925 r
March	174,455,291 r	29,605,909 r	5,695,977 r	209,757,177 r
April	164,916,325 r	27,319,452 r	5,147,043 r	197,382,820 r
May	165,863,611 r	30,336,642 r	5,119,186 r	201,319,439 r
June	156,946,343 r	28,442,203 r	5,006,082 r	190,394,628 r
July	156,943,227 r	29,343,155 r	5,086,127 r	191,372,509 r
August	149,378,612 r	28,391,570 r	4,916,611 r	182,686,793 r
September	135,203,518 r	28,392,678 r	2,519,892 r	166,116,088 r
October	135,698,256 r	26,925,684 r	4,157,714 r	166,781,654 r
November	131,035,348 r	27,403,068 r	3,737,179 r	162,175,595 r
December	135,950,566 r	28,149,239 r	4,197,612 r	168,297,417 r
2013 Total	1,856,263,930 r	338,905,092 r	56,818,481 r	2,251,987,503 r
January	134,917,891	26,283,838	3,862,989	165,064,718
February	121,132,594	24,271,789	3,811,213	149,215,596
March	130,922,908	27,605,328	4,159,312	162,687,548
April	126,709,829	27,054,222	3,937,364	157,701,415
May	130,230,621	27,483,907	4,023,521	161,738,049
June	129,663,465	26,266,966	3,500,906	159,431,337
July	127,695,104	26,297,247	2,213,484	156,205,835
August	122,726,176	24,979,675	3,287,731	150,993,582
September	113,408,301	24,452,410	3,426,704	141,287,415
October	113,954,390	24,774,198	3,414,315	142,142,903
November	120,760,550 p	25,176,621 p	3,155,953 p	149,093,124 p
December	118,990,651 p	24,960,078 p	3,087,239 p	147,037,968 p
2014 Total	1,491,112,480 p	309,606,278 p	41,880,731 p	1,842,599,490 p

e Estimated r Revised p Preliminary

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
1993	23,009,433	136,674,314	17,880,673	177,564,420
1994	19,873,183	105,685,162	17,346,385	142,904,730
1995	18,829,476	104,638,062	18,858,344	142,325,882
1996	25,253,140	95,560,699	16,692,314	137,506,153
1997	35,537,210	107,984,665	17,042,997	160,564,872
1998	42,629,820	117,397,217	17,264,409	177,291,446
1999	29,943,303	99,043,293	15,304,875	144,291,471
2000	23,214,008	98,062,634	13,295,103	134,571,745
2001	19,843,912	90,200,751	14,001,877	124,046,540
2002	16,711,388	72,739,365	11,166,555	100,617,308
2003	15,270,654	65,328,195	11,086,256	91,685,105
2004	13,325,138	64,252,316	8,252,738	85,830,192
2005	11,006,284	48,525,678	6,876,708	66,408,670
2006	9,217,910	51,568,797	5,183,113	65,969,820
2007	8,385,917	61,102,107	5,842,664	75,330,688
2008	7,683,885	49,016,969	4,016,814	60,717,668
2009	7,104,630	46,254,642	4,025,491	57,384,763
2010	6,814,984 r	48,912,534 r	6,175,426 r	61,902,944 r
2011	7,009,646 r	53,403,682 r	6,787,940 r	67,201,268 r
2012	7,479,186 r	53,412,869 r	4,972,136 r	65,864,191 r
January	700,811 r	4,527,988 r	345,759 r	5,574,558 r
February	633,063 r	3,972,649 r	275,142 r	4,880,854 r
March	697,669 r	4,406,968 r	331,013 r	5,435,650 r
April	560,980 r	4,549,642 r	333,148 r	5,443,770 r
May	587,739 r	4,641,142 r	473,658 r	5,702,539 r
June	554,486 r	4,713,294 r	430,998 r	5,698,778 r
July	584,608 r	5,045,604 r	396,432 r	6,026,644 r
August	587,361 r	4,968,030 r	428,265 r	5,983,656 r
September	511,661 r	4,680,020 r	442,117 r	5,633,798 r
October	574,735 r	4,406,898 r	590,995 r	5,572,628 r
November	559,916 r	4,396,298 r	421,790 r	5,378,004 r
December	520,653 r	4,508,121 r	399,152 r	5,427,926 r
2013 Total	7,073,682 r	54,816,654 r	4,868,469 r	66,758,805 r
January	493,204	4,127,931	452,035	5,073,170
February	443,447	3,858,344	447,019	4,748,810
March	594,276	4,347,742	529,858	5,471,876
April	579,485	4,228,055	400,452	5,207,992
May	457,755	4,393,780	700,528	5,552,063
June	516,549	4,333,529	410,382	5,260,460
July	538,367	4,520,344	331,038	5,389,749
August	513,646	4,826,039	386,063	5,725,748
September	577,332	4,821,592	321,446	5,720,370
October	518,156	4,338,103	329,145	5,185,404
November	530,146 p	4,549,650 p	353,481 p	5,433,277 p
December	532,852 p	4,592,701 p	342,169 p	5,467,722 p
2014 Total	6,295,215 p	52,937,810 p	5,003,616 p	64,236,641 p

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Figure 4

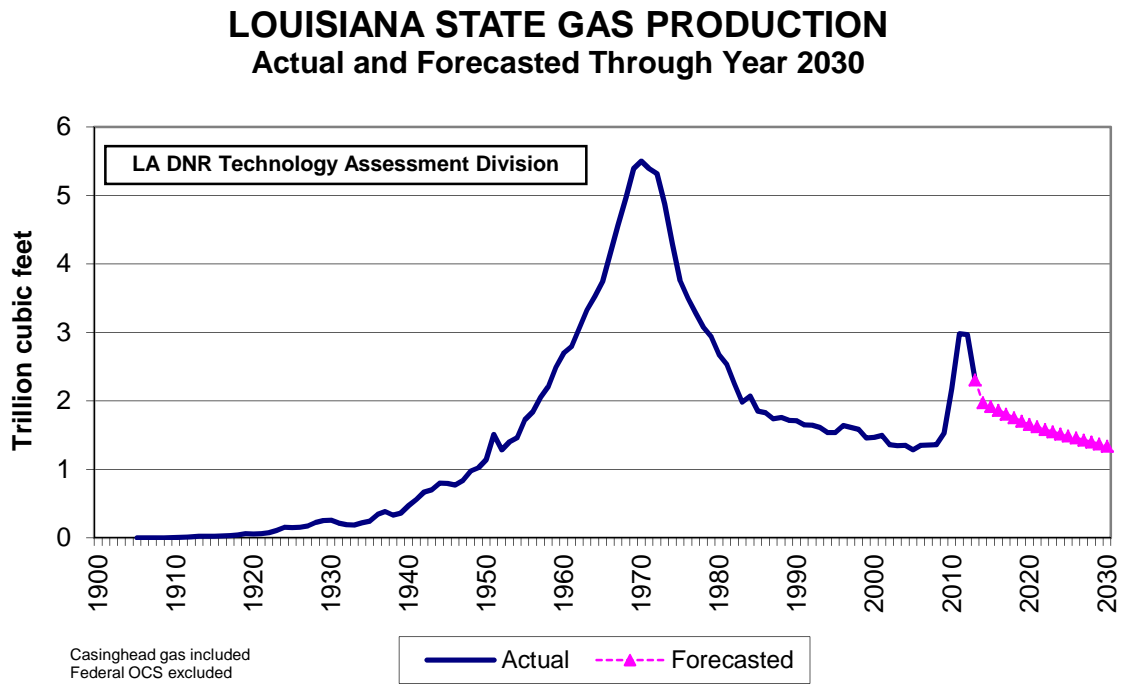


Figure 5

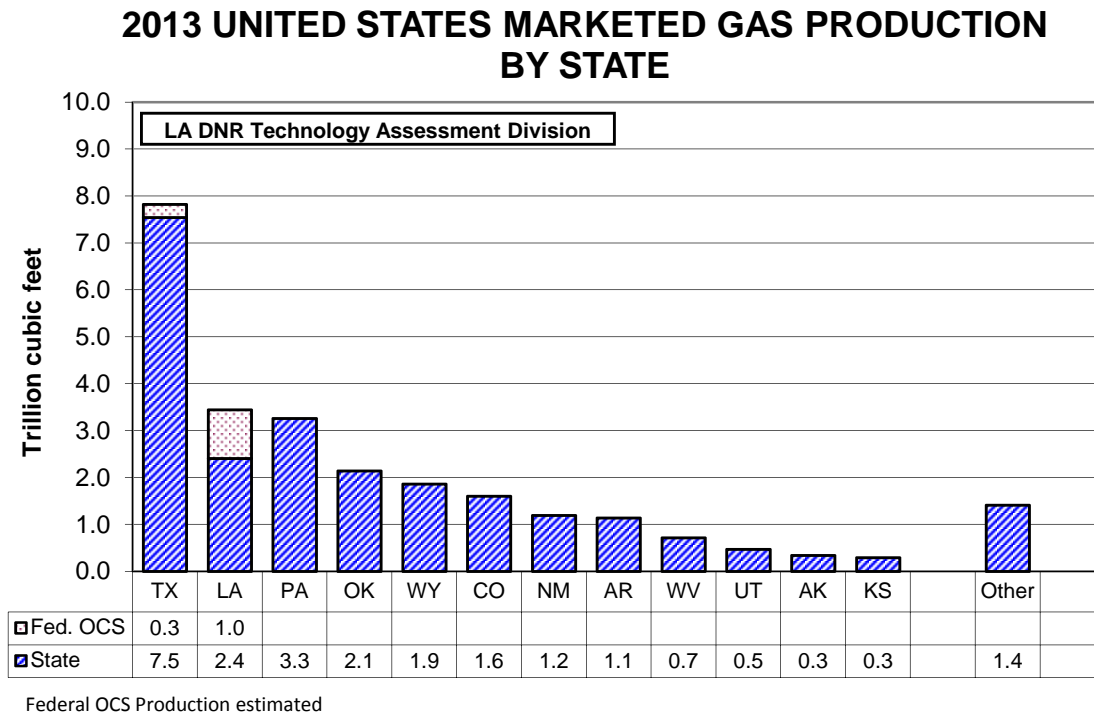


Table 11

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
1993	360,295,273	1,137,556,453	124,042,317	1,621,894,043
1994	354,864,587	1,068,937,383	128,395,752	1,552,197,722
1995	367,215,091	1,046,891,492	136,506,278	1,550,612,861
1996	415,280,446	1,064,407,257	159,500,151	1,639,187,854
1997	441,844,087	1,008,319,013	160,956,517	1,611,119,617
1998	429,257,932	1,008,712,261	144,320,869	1,582,291,062
1999	385,479,720	957,381,530	115,829,899	1,458,691,149
2000	381,407,678	978,585,376	107,546,713	1,467,539,767
2001	390,842,072	993,269,323	111,210,322	1,495,321,717
2002	387,069,536	876,556,069	98,236,172	1,361,861,777
2003	416,488,328	844,709,436	83,413,309	1,344,611,073
2004	475,425,191	806,165,872	68,134,157	1,349,725,220
2005	537,869,897	693,599,008	53,486,449	1,284,955,354
2006	571,855,790	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	684,050,870	591,428,816	83,936,258	1,359,415,944
2009	960,954,160	492,259,100	74,862,729	1,528,075,989
2010	1,696,385,652 r	410,702,257 r	68,394,009 r	2,175,481,918 r
2011	2,514,444,313 r	397,599,905 r	69,826,191 r	2,981,870,409 r
2012	2,511,970,207 r	375,831,946 r	76,794,493 r	2,964,596,646 r
January	186,115,828 r	32,668,664 r	6,332,524 r	225,117,016 r
February	165,090,879 r	30,427,465 r	5,523,435 r	201,041,779 r
March	175,152,960 r	34,012,877 r	6,026,990 r	215,192,827 r
April	165,477,305 r	31,869,094 r	5,480,191 r	202,826,590 r
May	166,451,350 r	34,977,784 r	5,592,844 r	207,021,978 r
June	157,500,829 r	33,155,497 r	5,437,080 r	196,093,406 r
July	157,527,835 r	34,388,759 r	5,482,559 r	197,399,153 r
August	149,965,973 r	33,359,600 r	5,344,876 r	188,670,449 r
September	135,715,179 r	33,072,698 r	2,962,009 r	171,749,886 r
October	136,272,991 r	31,332,582 r	4,748,709 r	172,354,282 r
November	131,595,264 r	31,799,366 r	4,158,969 r	167,553,599 r
December	136,471,219 r	32,657,360 r	4,596,764 r	173,725,343 r
2013 Total	1,863,337,612 r	393,721,746 r	61,686,950 r	2,318,746,308 r
January	135,411,095	30,411,769	4,315,024	170,137,888
February	121,576,041	28,130,133	4,258,232	153,964,406
March	131,517,184	31,953,070	4,689,170	168,159,424
April	127,289,314	31,282,277	4,337,816	162,909,407
May	130,688,376	31,877,687	4,724,049	167,290,112
June	130,180,014	30,600,495	3,911,288	164,691,797
July	128,233,471	30,817,591	2,544,522	161,595,584
August	123,239,822	29,805,714	3,673,794	156,719,330
September	113,985,633	29,274,002	3,748,150	147,007,785
October	114,472,546	29,112,301	3,743,460	147,328,307
November	121,290,696 p	29,726,270 p	3,509,435 p	154,526,401 p
December	119,523,503 p	29,552,779 p	3,429,408 p	152,505,690 p
2014 Total	1,497,407,695 p	362,544,088 p	46,884,348 p	1,906,836,131 p

e Estimated r Revised p Preliminary

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

Table 12

LOUISIANA TOTAL GAS PRODUCTION, WET AFTER LEASE SEPARATION

Natural Gas and Casinghead Gas

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

DATE	ONSHORE	OFFSHORE		TOTAL
		State	Federal OCS ¹²	
1993	1,497,851,726	124,042,317	3,320,312,261	4,942,206,304
1994	1,423,801,970	128,395,752	3,423,837,064	4,976,034,786
1995	1,414,106,583	136,506,278	3,564,677,663	5,115,290,524
1996	1,479,687,703	159,500,151	3,709,198,609	5,348,386,463
1997	1,450,163,100	160,956,517	3,825,354,038	5,436,473,655
1998	1,437,970,193	144,320,869	3,814,583,541	5,396,874,603
1999	1,342,861,250	115,829,899	3,836,619,562	5,295,310,711
2000	1,359,993,054	107,546,713	3,761,812,062	5,229,351,829
2001	1,384,111,395	111,210,322	3,818,657,416	5,313,979,133
2002	1,263,625,605	98,236,172	3,457,864,868	4,819,726,645
2003	1,261,197,764	83,413,309	3,276,387,510 e	4,620,998,583 e
2004	1,281,591,063	68,134,157	2,840,552,489 e	4,190,277,709 e
2005	1,231,468,905	53,486,449	2,185,591,643 e	3,470,546,997 e
2006	1,282,636,419	67,273,962	2,048,437,877 e	3,398,348,258 e
2007	1,283,766,986	71,412,494	2,022,058,582 e	3,377,238,062 e
2008	1,275,479,686	83,936,258	1,644,624,969 e	3,004,040,913 e
2009	1,453,213,260	74,862,729	1,727,190,594 e	3,255,266,583 e
2010	2,107,087,909 r	68,394,009 r	1,635,940,615 e	3,811,422,533 e r
2011	2,912,044,218 r	69,826,191 r	1,330,695,042 e	4,312,565,451 e r
2012	2,887,802,153 r	76,794,493 r	1,111,122,875 e	4,075,719,521 e r
January	218,784,492 r	6,332,524 r	91,361,018 e	316,478,034 e r
February	195,518,344 r	5,523,435 r	80,386,366 e	281,428,145 e r
March	209,165,837 r	6,026,990 r	86,301,547 e	301,494,374 e r
April	197,346,399 r	5,480,191 r	84,711,444 e	287,538,034 e r
May	201,429,134 r	5,592,844 r	83,879,191 e	290,901,169 e r
June	190,656,326 r	5,437,080 r	75,547,895 e	271,641,301 e r
July	191,916,594 r	5,482,559 r	83,197,073 e	280,596,226 e r
August	183,325,573 r	5,344,876 r	83,349,537 e	272,019,986 e r
September	168,787,877 r	2,962,009 r	83,207,349 e	254,957,235 e r
October	167,605,573 r	4,748,709 r	78,141,058 e	250,495,340 e r
November	163,394,630 r	4,158,969 r	81,448,428 e	249,002,027 e r
December	169,128,579 r	4,596,764 r	83,619,588 e	257,344,931 e r
2013 Total	2,257,059,358 r	61,686,950 r	911,530,905 e	3,313,896,800 e r
January	165,822,864	4,315,024	78,105,274 e	248,243,162 e
February	149,706,174	4,258,232	71,639,012 e	225,603,418 e
March	163,470,254	4,689,170	77,771,579 e	245,931,003 e
April	158,571,591	4,337,816	78,019,614 e	240,929,021 e
May	162,566,063	4,724,049	82,741,571 e	250,031,683 e
June	160,780,509	3,911,288	80,631,009 e	245,322,806 e
July	159,051,062	2,544,522	81,248,236 e	242,843,820 e
August	153,045,536	3,673,794	83,813,163 e	240,532,493 e
September	143,259,635	3,748,150	79,172,350 e	226,180,135 e
October	143,584,847	3,743,460	73,913,143 e	221,241,450 e
November	151,016,966 p	3,509,435 p	N/A	154,526,401 p
December	149,076,281 p	3,429,408 p	N/A	152,505,690 p
2014 Total	1,859,951,783 p	46,884,348 p	787,054,950 e	2,693,891,081 e p

e Estimated r Revised p Preliminary

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

Figure 6

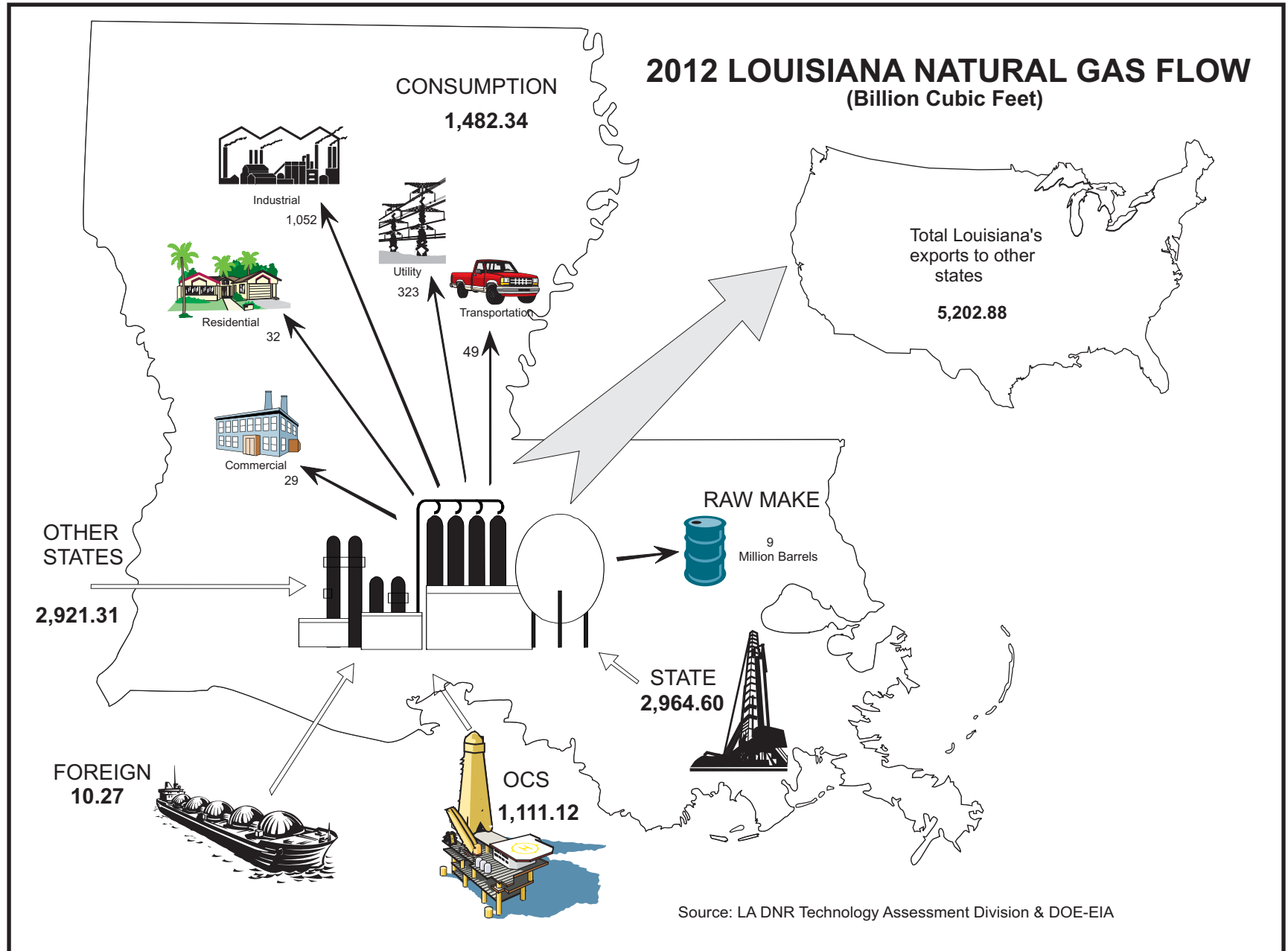


Table 13

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

DATE	Alabama	Florida	Louisiana	Federal		Mississippi	Texas
				OCS	GOM		
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	18.3	2,897.4	1,478.0		62.6	7,328.7
2013	248.8 e	17.9 e	2,371.5	1,211.7		73.6 e	7,373.0

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** Prior to 1997 Federal OCS GOM production were 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
1993	1,463,723,027	46,017,071	13,839,450	1,523,579,548
1994	1,410,035,722	52,417,334	13,688,870	1,476,141,926
1995	1,334,980,887	53,491,942	13,759,192	1,402,232,021
1996	1,354,105,430	52,368,159	11,191,715	1,417,665,304
1997	1,343,182,922	57,663,413	9,951,387	1,410,797,722
1998	1,191,471,607	60,242,544	11,733,098	1,263,447,249
1999	1,151,493,116	57,308,865	10,617,631	1,219,419,612
2000	1,217,171,149	53,797,867	8,195,799	1,279,164,815
2001	1,264,513,132	74,687,708	7,806,688	1,347,007,528
2002	1,068,512,639	75,724,074	7,748,258	1,151,984,971
2003	1,091,483,424	80,659,914	7,963,553	1,180,106,891
2004	1,139,626,885	83,441,736	5,507,456	1,235,308,986
2005	1,130,014,025	91,951,579	4,642,451	1,227,085,699
2006	1,134,544,485	113,490,843	5,545,802	1,253,870,355
2007	1,070,511,169	122,399,829	7,365,200	1,200,461,343
2008	1,044,876,723	137,853,642	6,398,792	1,189,129,157
2009	994,356,639	168,793,831	4,489,808	1,167,640,278
2010	874,590,391	177,946,449	7,737,200	1,060,274,040
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
January	-184,432	15,028,263	727,767	15,571,598
February	-36,216,034	14,370,217	691,158	-21,154,659
March	51,413,001	14,268,183	775,027	66,456,211
April	66,130,286	12,807,887	737,551	79,675,724
May	82,393,040	15,657,354	800,170	98,850,564
June	82,153,418	13,812,606	671,378	96,637,402
July	85,312,090	15,068,005	687,945	101,068,040
August	79,834,997	14,546,743	665,771	95,047,511
September	74,885,638	14,872,275	733,767	90,491,680
October	90,650,037	15,500,910	753,487	106,904,434
November	84,370,153	13,762,914	754,022	98,887,089
December	97,472,333	14,361,130	766,479	112,599,942
2013 Total	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	N/A	N/A	N/A	N/A
December	N/A	N/A	N/A	N/A
2014 Total	940,212,368	136,272,597	6,329,385	1,082,814,350

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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
1969	1,786,760,423	124,601,568	4,750,708	1,916,112,699
1970	2,228,516,212	130,683,192	11,989,041	2,371,188,444
1971	2,582,297,962	124,857,371	15,363,786	2,722,519,119
1972	2,824,792,196	144,267,198	9,836,582	2,978,895,976
1973	2,995,634,220	145,754,588	7,143,485	3,148,532,293
1974	3,283,413,450	156,838,375	5,464,209	3,445,716,035
1975	3,266,745,456	120,166,178	3,874,047	3,390,785,681
1976	3,431,149,749	90,764,667	3,406,969	3,525,321,386
1977	3,575,898,616	85,236,246	5,417,963	3,666,552,825
1978	4,068,255,571	227,305,175	5,166,292	4,300,727,039
1979	4,076,873,552	501,546,069	5,431,822	4,583,851,442
1980	3,934,902,550	612,378,333	5,900,023	4,553,180,906
1981	4,025,867,929	715,937,640	12,763,307	4,754,568,877
1982	3,729,057,653	841,173,981	17,751,924	4,587,983,558
1983	3,111,576,348	834,112,318	24,168,292	3,969,856,958
1984	3,508,475,799	913,008,621	46,363,899	4,467,848,319
1985	3,055,687,773	818,533,627	64,558,213	3,938,779,613
1986	2,870,347,386	959,161,285	59,078,021	3,888,586,692
1987	3,117,669,167	1,180,839,487	54,805,158	4,353,313,812
1988	3,036,077,646	1,155,285,485	49,167,638	4,240,530,769
1989	2,947,545,132	1,142,237,197	50,791,912	4,140,574,242
1990	3,633,554,307	1,321,607,333	49,972,764	5,005,134,404
1991	3,225,373,562	1,161,671,524	51,855,577	4,438,900,663
1992	3,272,561,370	1,215,055,449	55,231,660	4,608,807,577
1993	3,320,312,261	1,007,755,289	52,150,277	4,455,275,861
1994	3,423,837,064	994,291,314	53,560,686	4,578,282,175
1995	3,564,677,663	890,682,224	54,790,061	4,619,222,806
1996	3,709,198,609	953,772,416	66,783,677	4,955,474,989
1997	3,825,354,038	946,381,458	73,344,546	5,010,736,875
1998	3,814,583,541	850,572,237	74,984,850	4,789,522,576
1999	3,836,619,562	798,140,396	77,809,430	4,935,623,726
2000	3,761,812,062	869,068,079	76,074,550	4,919,901,921
2001	3,818,657,416	898,035,393	70,946,682	5,145,905,423
	GULF OF MEXICO		PACIFIC	TOTAL
	CENTRAL	WESTERN		
2002	3,510,522,709	999,720,152	67,816,000	4,607,640,353
2003	3,326,281,736	1,065,770,532	58,095,000	4,503,195,666
2004	2,883,809,634	1,099,125,084	54,655,000	4,104,828,091
2005	1,935,105,938	773,450,925	54,088,000	2,764,108,550
2006	2,122,733,551	779,987,637	40,407,000	2,943,406,324
2007	2,095,397,494	635,587,701	45,516,000	2,822,458,130
2008	1,704,274,579	481,863,516	44,902,000	2,370,112,660
2009	1,789,834,812	466,958,100	41,229,000	2,477,584,901
2010	1,695,275,249 r	412,726,233 r	41,200,000	2,272,131,363
2011	1,378,958,593 r	339,226,840 r	36,579,000	1,862,693,051
2012	1,151,422,668 r	310,684,293 r	27,262,000	1,535,856,475
2013	1,036,615,096	254,966,715	26,572,600	1,327,411,096

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

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

Figure 7

LOUISIANA OIL PRODUCTION AND PRICE

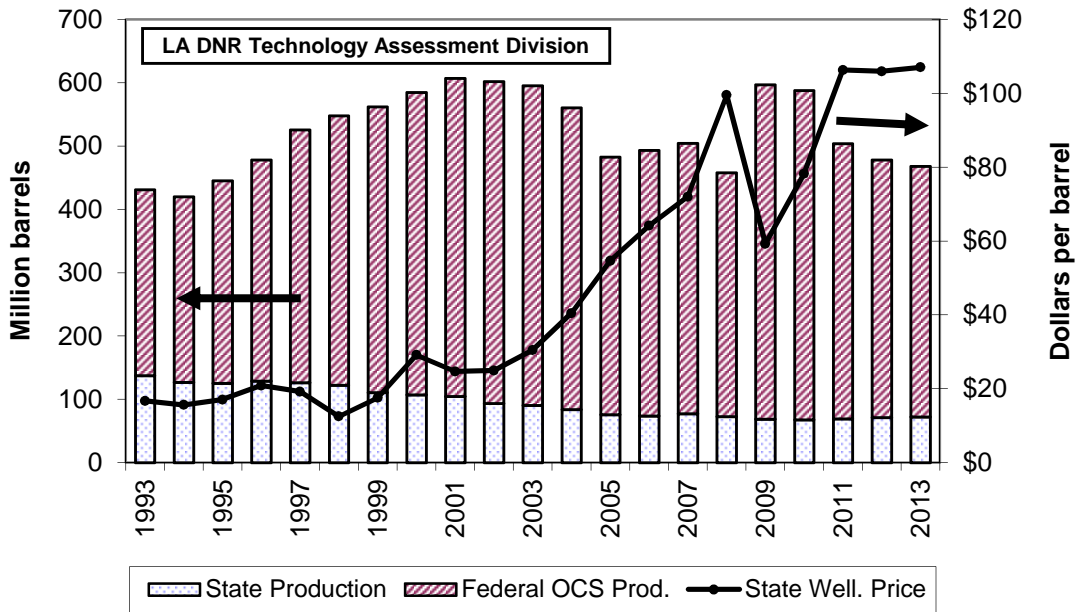


Figure 8

LOUISIANA GAS PRODUCTION AND PRICE

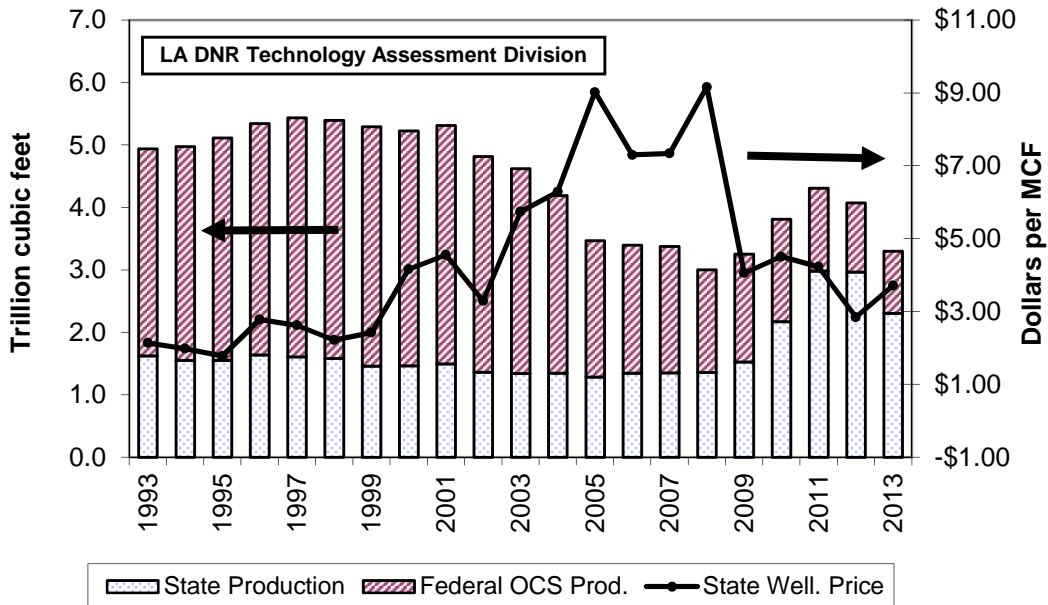


Table 16

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

DATE	GROSS	WET AFTER LEASE SEPARATION	MARKETED	DRY	GROSS IMPORTS
1993	22,279	18,832	18,609	17,740	2,304
1994	23,118	19,547	19,323	18,451	2,572
1995	23,277	19,402	19,123	18,233	2,785
1996	23,640	19,690	19,423	18,484	2,880
1997	23,737	19,727	19,475	18,531	2,935
1998	23,635	19,670	19,569	18,650	3,090
1999	23,355	19,524	19,416	18,462	3,515
2000	23,699	19,890	19,801	18,805	3,707
2001	24,020	20,261	20,166	19,231	3,899
2002	23,471	19,592	19,530	18,591	3,937
2003	23,645	19,678	19,582	18,724	3,866
2004	23,499	19,230	19,134	18,226	4,175
2005	22,996	18,672	18,555	17,696	4,256
2006	23,046	19,156	19,001	18,113	4,104
2007	24,108	19,940	19,626	18,714	4,517
2008	25,133	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	23,720	23,564	22,452	3,401
2012	28,962	25,000 r	24,787	23,561	3,076
January	2,501 r	2,117 r	2,100 r	1,989 r	273
February	2,263 r	1,922 r	1,906 r	1,806 r	232
March	2,493 r	2,121 r	2,103 r	1,992 r	243
April	2,428 r	2,070 r	2,053 r	1,945 r	216
May	2,480 r	2,141 r	2,124 r	2,012 r	230
June	2,371 r	2,062 r	2,046 r	1,938 r	232
July	2,508 r	2,186 r	2,169 r	2,054 r	232
August	2,491 r	2,185 r	2,165 r	2,051 r	232
September	2,405 r	2,105 r	2,087 r	1,977 r	239 r
October	2,507 r	2,186 r	2,168 r	2,053 r	216 r
November	2,463 r	2,147 r	2,130 r	2,017 r	214 r
December	2,506 r	2,153 r	2,136 r	2,023 r	268 r
2013 Total	29,416 r	25,394 r	25,186 r	23,856 r	2,827 r
January	2,592	2,195	2,175	2,059	290
February	2,327	1,974	1,958	1,852	241
March	2,609	2,215	2,197	2,074	230
April	2,530	2,162	2,142	2,019	197
May	2,619	2,260	2,239	2,113	203
June	2,550	2,200	2,181	2,054	198
July	2,582	N/A	2,263	2,130	197
August	2,627	N/A	2,309	2,175	202
September	2,619	N/A	2,241	2,109	198
October	2,726	N/A	2,331	2,195	217
November	N/A	N/A	N/A	N/A	N/A
December	N/A	N/A	N/A	N/A	N/A
2014 Total	25,781	13,006	22,035	20,779	2,171

e Estimated r Revised p Preliminary

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

Table 17

LOUISIANA AVERAGE CRUDE OIL PRICES
(Dollars per Barrel)

DATE	LIGHT LOUISIANA SWEET		ALL GRADES AT WELLHEAD			
	Spot Market ¹⁰	Refinery Posted	State ⁶	OCS Gulf ⁶	Severance Tax ⁸	State Royalty
1993	18.56	17.27	16.72	16.17	17.39	16.84
1994	17.25	15.84	15.61	14.72	15.46	15.52
1995	18.60	17.16	17.06	16.16	16.98	17.06
1996	22.32	20.77	20.87	20.00	20.56	21.24
1997	20.69	18.90	19.23	18.63	19.80	19.22
1998	14.21	12.17	12.52	12.03	13.47	12.31
1999	19.00	16.73	17.55	16.46	16.09	17.22
2000	30.29	27.88	29.14	27.57	28.10	25.96
2001	25.84	23.23	24.70	23.36	26.23	19.81
2002	26.18	23.14	24.92	23.36	25.17	24.39
2003	31.20	27.88	30.50	28.69	30.28	29.77
2004	41.47	37.85	40.43	37.54	38.34	39.06
2005	56.86	52.75	54.68	50.97	54.62	52.20
2006	67.44	62.41	64.17	60.62	63.55	63.08
2007	74.60	68.96	71.98	67.62	64.14	71.87
2008	102.29	96.57	99.53	100.00	104.86	97.60
2009	64.28	59.04	59.27	57.57	52.78	57.54
2010	82.72	75.90	78.23	77.13	75.24	77.71 r
2011	112.24	93.61	106.30	106.19	101.40	108.89 r
2012	111.79 r	93.71 r	105.98 r	105.85 r	107.46 r	110.89 r
January	112.73	91.22	110.29	107.07	102.89	112.82
February	116.30	91.83	108.10	107.53	105.56	110.45
March	112.82	89.62	107.53	109.97	107.00	110.73
April	105.42	88.23	106.96	108.00	114.38	110.18 r
May	104.27	91.24	104.54	102.66	110.61	106.62 r
June	104.19	91.75	102.10	100.69	103.20	103.13 r
July	110.52	100.81	109.82	102.90	103.11	117.02 r
August	110.95	102.45 r	110.19	106.71	100.94	110.43 r
September	108.17	102.25 r	109.12	106.42	114.20	109.33 r
October	102.85	96.18 r	101.79 r	101.56 r	108.42	100.61 r
November	97.18	89.22 r	93.88	94.57	104.73	95.91 r
December	102.79	93.14 r	97.65	93.94	106.02	97.86 r
2013 Average	107.35	93.99 r	105.16	103.50	106.75	107.09 r
January	102.79	90.07	96.45	88.11	96.09	97.90
February	106.36	95.79	104.87	101.79	96.40	106.72
March	104.13	96.05	103.29	102.01	101.62	103.88
April	104.15	97.60	103.92	101.18	99.34	103.79
May	104.27	97.16	102.29	99.36	105.85	102.45
June	108.22	100.39	105.47	100.91	104.07	105.31
July	106.41	97.70	103.37	101.67	103.11	104.14
August	100.13	91.45	98.16	99.17	105.27	98.34
September	96.30	88.11	95.33	95.03	105.53	95.14
October	87.60	79.76 p	85.19	87.47	93.41	85.61
November	79.64	62.51 p	N/A	N/A	N/A	76.36 p
December	61.90	50.21 p	N/A	N/A	N/A	60.59 p
2014 Average	96.83	87.23 p	99.83	97.67	101.07	95.02 p

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

Figure 9

CRUDE OIL AVERAGE PRICES

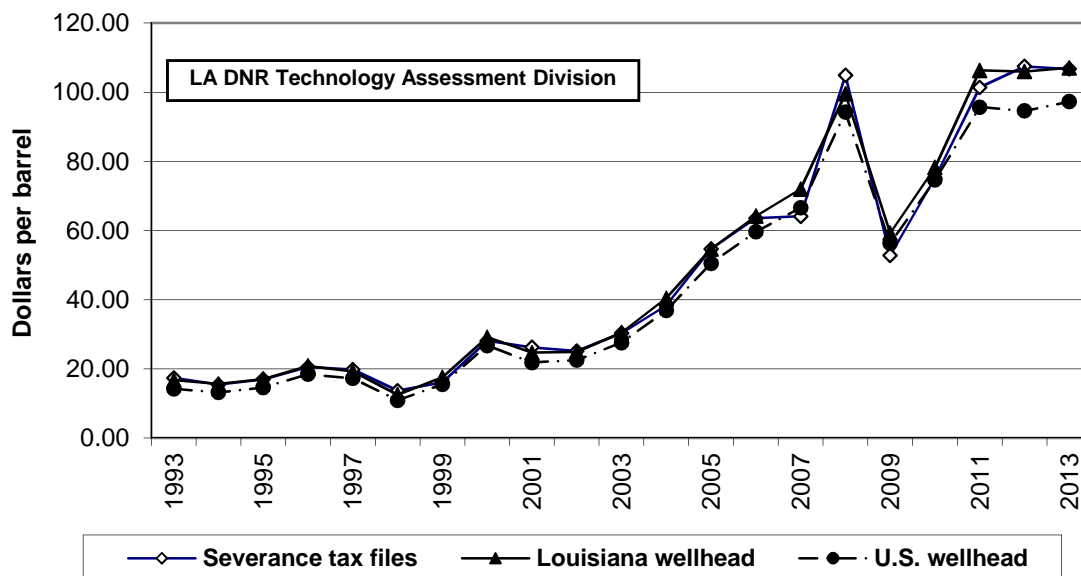


Figure 10

NATURAL GAS AVERAGE PRICES

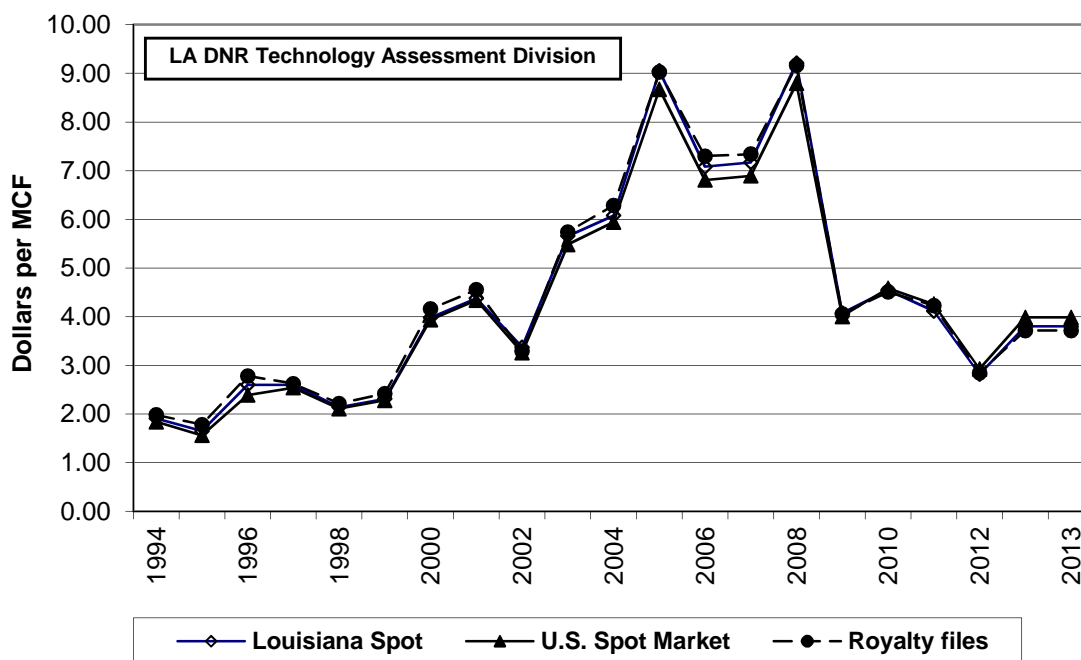


Table 18

UNITED STATES AVERAGE CRUDE OIL PRICES² (Dollars per Barrel)

DATE	REFINERY ACQUISITION		DOMESTIC WELLHEAD	IMPORTS LANDED	IMPORTS FOB	IMPORTS OPEC FOB
	Domestic	Imports				
	Costs	Costs				
1994	15.64	15.41	13.19	15.07	14.13	13.94
1995	17.32	17.15	14.62	16.77	15.69	15.35
1996	20.81	20.60	18.46	20.27	19.24	18.87
1997	19.65	18.55	17.23	18.14	16.98	16.33
1998	13.15	12.35	10.94	11.86	10.75	10.17
1999	17.64	17.27	15.53	17.38	16.48	16.01
2000	29.08	27.68	26.72	27.54	26.26	25.55
2001	24.34	21.99	21.90	21.77	20.45	19.56
2002	24.56	23.63	22.50	23.82	22.57	22.19
2003	29.78	27.87	27.54	27.83	26.06	25.61
2004	38.97	35.79	36.86	36.05	33.73	33.99
2005	53.05	48.93	50.53	49.41	47.74	49.75
2006	62.50	58.89	59.65	59.03	57.03	59.17
2007	69.56	67.13	66.56	67.86	66.12	68.98
2008	98.09	92.30	94.22	92.14	89.45	91.23
2009	58.95	59.37	56.31	60.30	58.12	58.92
2010	77.94 r	75.92 r	74.65	76.51	74.21	75.31
2011	100.62 r	102.50 r	95.69 r	102.92 r	101.65 r	105.30 r
2012	100.91 r	101.07 r	94.63 r	100.86 r	99.54 r	104.08 r
January	103.78	97.91	95.00 r	95.12 r	94.93 r	102.42
February	103.75	99.23	95.01 r	98.93 r	100.46 r	106.93
March	103.45	99.11	95.54 r	98.35 r	99.73 r	105.77
April	102.53	96.45	94.41 r	95.75 r	95.59 r	98.68
May	101.98	98.50	94.75 r	97.39 r	96.12 r	98.72
June	98.67	100.26	93.82 r	96.90 r	96.22 r	98.45
July	103.85	106.19	101.41 r	101.19 r	101.36 r	102.36
August	106.20	108.30	102.96 r	103.13 r	101.89 r	103.69
September	105.70	107.96	102.32 r	101.59 r	100.82 r	104.44 r
October	100.41 r	103.00 r	96.18 r	94.89 r	92.81 r	97.38 r
November	93.32 r	96.09 r	88.70	89.45	88.30	93.23
December	94.32	97.87	91.85	90.07	89.90	94.41
2013 Average	101.50 r	100.91 r	96.00 r	96.90 r	96.51 r	100.54 r
January	93.52	97.17	89.59	90.97	90.93	94.86
February	99.32	102.33	96.89	95.38	92.76	97.51
March	100.05	102.61	96.18	95.54	93.06	97.19
April	100.07	102.42	96.47	96.47	94.18	99.30
May	100.57	102.36	95.69	98.00	96.17	98.29
June	102.45	104.18	98.70	99.27	97.57	100.67
July	101.18	103.20	96.67	96.59	93.79	97.43
August	95.61	97.60	90.72	91.53	89.28	93.30
September	92.26	94.62	87.34	87.62	85.58	88.70
October	85.00	86.72	78.83	82.14	78.93	80.44
November	76.35	78.37	N/A	N/A	N/A	N/A
December	N/A	N/A	N/A	N/A	N/A	N/A
2014 Average	95.13	97.42	92.71	93.35	91.23	94.77

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
1994	2.10	1.98	1.97	N/A	1.86	1.95	1.91
1995	1.61	1.78	1.70	1.75	1.62	1.68	1.65
1996	2.37	2.78	2.69	2.87	2.47	2.69	2.60
1997	2.63	2.62	2.69	2.63	2.54	2.67	2.60
1998	2.36	2.22	2.19	2.17	2.08	2.18	2.14
1999	2.18	2.42	2.36	2.36	2.25	2.36	2.31
2000	3.59	4.16	4.04	4.39	3.92	4.03	3.98
2001	4.05	4.55	4.44	4.11	4.27	4.47	4.38
2002	2.98	3.29	3.39	3.48	3.29	3.43	3.37
2003	5.12	5.74	5.61	5.71	5.32	5.92	5.66
2004	6.04	6.29	6.39	6.14	5.98	6.18	6.08
2005	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 r	4.57	4.39	4.47	4.61	4.55
2011	4.48	4.24 r	4.20	4.00	4.04	4.17	4.11
2012	3.07	2.88 r	2.90	2.75	2.75	2.87	2.82
January	N/A	3.26	3.49	3.33	3.37	3.50	3.45
February	N/A	3.33 r	3.36	3.33	3.30	3.40	3.37
March	N/A	3.69 r	3.56	3.81	3.70	3.82	3.78
April	N/A	4.14 r	4.14	4.17	4.17	4.29	4.25
May	N/A	4.12	4.32	4.04	4.11	4.22	4.18
June	N/A	3.99	4.31	3.83	3.98	4.10	4.05
July	N/A	3.67 r	3.86	3.62	3.67	3.81	3.75
August	N/A	3.46	3.60	3.43	3.41	3.54	3.48
September	N/A	3.62 r	3.71	3.61	3.52	3.85	3.68
October	N/A	3.64 r	3.64	3.67	3.52	3.91	3.74
November	N/A	3.56 r	3.64	3.62	3.49	3.86	3.65
December	N/A	4.06 r	3.97	4.23	3.83	4.57	4.21
2013 Average	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	4.81	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	4.62	4.80	4.57	4.45	4.85	4.69
July	N/A	4.19	4.58	4.01	3.59	4.58	4.17
August	N/A	3.86	3.96	3.88	3.78	4.06	3.94
September	N/A	3.91	4.12	3.92	3.47	6.69	4.02
October	N/A	3.88	4.14	3.77	3.57	4.18	3.94
November	N/A	3.33	3.88	4.10	3.62	4.53	4.03
December	N/A	3.08	4.45	3.42	2.68	4.47	3.61
2014 Average	4.04	4.26	4.59	4.37	3.98	5.14	4.44

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			
1994	2.02	1.91	1.89	N/A	1.79	1.88	1.84
1995	1.55	1.75	1.63	1.69	1.56	1.61	1.59
1996	2.28	2.67	2.59	2.76	2.37	2.58	2.50
1997	2.53	2.52	2.59	2.53	2.44	2.57	2.50
1998	2.27	2.13	2.10	2.08	2.00	2.10	2.05
1999	2.10	2.33	2.27	2.27	2.17	2.27	2.22
2000	3.45	4.00	3.88	4.23	3.77	3.88	3.83
2001	3.89	4.28	4.27	3.95	4.11	4.30	4.21
2002	2.87	3.16	3.26	3.35	3.16	3.30	3.24
2003	4.92	5.52	5.40	5.49	5.11	5.69	5.44
2004	5.81	6.04	6.15	5.90	5.75	5.95	5.85
2005	6.58	8.68 r	8.62	8.83	8.50	8.90	8.70
2006	7.92	7.07 r	7.25	6.73	6.64	6.96	6.81
2007	6.60	7.11 r	6.86	6.98	6.80	7.01	6.89
2008	8.69	8.81 r	9.03	8.88	8.77	8.99	8.86
2009	4.84	3.90 r	3.99	3.80	3.82	4.00	3.92
2010	3.94	4.37 r	4.39	4.22	4.30	4.44	4.37
2011	4.31	4.08 r	4.04	3.85	3.88	4.01	3.96
2012	2.95	2.77 r	2.79	2.65	2.64	2.76	2.71
January	N/A	3.13	3.35	3.20	3.24	3.37	3.32
February	N/A	3.20 r	3.23	3.20	3.17	3.27	3.24
March	N/A	3.55 r	3.43	3.66	3.56	3.67	3.64
April	N/A	3.98 r	3.98	4.01	4.01	4.12	4.08
May	N/A	3.96	4.15	3.88	3.95	4.05	4.02
June	N/A	3.84	4.15	3.68	3.82	3.94	3.89
July	N/A	3.53 r	3.71	3.48	3.53	3.66	3.61
August	N/A	3.33	3.46	3.30	3.28	3.41	3.35
September	N/A	3.48 r	3.57	3.47	3.38	3.70	3.54
October	N/A	3.50 r	3.50	3.53	3.38	3.76	3.60
November	N/A	3.42 r	3.50	3.48	3.36	3.71	3.51
December	N/A	3.90 r	3.82	4.07	3.68	4.39	4.05
2013 Average	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	4.63	4.86	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	4.44	4.62	4.39	4.28	4.66	4.51
July	N/A	4.03	4.40	3.86	3.46	4.40	4.01
August	N/A	3.71	3.81	3.73	3.63	3.90	3.79
September	N/A	3.76	3.96	3.77	3.34	6.43	3.87
October	N/A	3.73	3.98	3.63	3.43	4.02	3.78
November	N/A	3.20	3.73	3.94	3.48	4.36	3.88
December	N/A	2.96	4.28	3.29	2.58	4.30	3.47
2014 Average	3.88	4.10	4.41	4.20	3.82	4.95	4.27

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
1994	2.54	6.24	5.42	2.17	2.17
1995	2.21	6.01	5.15	1.82	1.88
1996	3.13	6.76	6.09	2.84	2.94
1997	3.04	7.16	6.22	2.87	2.79
1998	2.33	6.68	5.64	2.31	2.37
1999	2.70	6.83	5.73	2.54	2.59
2000	4.61	8.34	7.41	4.03	4.55
2001	5.55	10.47	8.58	5.04	4.30
2002	4.07	8.06	6.74	3.69	3.63
2003	5.78	10.29	8.81	5.53	5.94
2004	6.56	11.20	9.56	6.58	6.50
2005	8.56	13.26	11.41	9.11	9.14
2006	7.67	14.66	11.84	7.42	7.66
2007	7.22	14.20	11.83	7.08	7.53
2008	9.58	15.49	13.52	9.32	10.01
2009	5.96	13.15	10.46	4.31	4.35
2010	5.35	13.65	9.82	4.64	4.82
2011	5.76	13.34	9.41	4.27	4.45 r
2012	3.41	12.34	8.25	2.97	3.09
January	3.96 r	9.05 r	8.45 r	3.54 r	3.62
February	3.77 r	9.71 r	8.51 r	3.42 r	3.58
March	4.11 r	9.23 r	8.20 r	3.76 r	3.95
April	4.60 r	10.88 r	8.89 r	4.25 r	4.36
May	4.62 r	12.71 r	9.21 r	4.30 r	N/A
June	4.42 r	14.92 r	9.30 r	4.25 r	N/A
July	4.00 r	15.72 r	8.60 r	3.85 r	N/A
August	3.78 r	15.97 r	8.57 r	3.63 r	N/A
September	3.96 r	15.56 r	8.50 r	3.75 r	N/A
October	3.91 r	15.29 r	8.48 r	3.74 r	3.84
November	4.04	11.98	8.61	3.72	3.79 r
December	4.48	8.91	8.24	4.17	4.34
2013 Average	4.14 r	12.49 r	8.63 r	3.87 r	3.93 r
January	5.05	8.91	8.69	4.75	4.87
February	5.96	9.39	9.07	5.97	N/A
March	5.38	9.92	9.23	5.18	5.45
April	5.09	11.59	9.27	4.86	5.00
May	5.09	13.94	9.58	4.95	4.99
June	5.03	15.57	9.31	4.90	4.93
July	4.64	16.42	9.36	4.55	4.59
August	4.19	16.18	8.70	4.10	4.22
September	4.33	16.47	8.99	4.21	4.30
October	4.44	15.85	8.73	4.22	4.23
November	N/A	N/A	N/A	N/A	N/A
December	N/A	N/A	N/A	N/A	N/A
2014 Average	4.92	13.42	9.09	4.77	4.73

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
1994	2.44	6.00	5.21	2.09	2.09
1995	2.13	5.78	4.95	1.75	1.81
1996	3.01	6.50	5.86	2.73	2.83
1997	2.92	6.88	5.98	2.76	2.68
1998	2.24	6.42	5.42	2.22	2.28
1999	2.60	6.57	5.51	2.44	2.49
2000	4.43	8.02	7.13	3.88	4.38
2001	5.34	10.07	8.25	4.85	4.13
2002	3.91	7.75	6.48	3.55	3.49
2003	5.56	9.89	8.47	5.32	5.71
2004	6.31	10.77	9.19	6.33	6.25
2005	8.23	12.75	10.97	8.76	8.79
2006	7.38	14.10	11.38	7.13	7.37
2007	6.94	13.65	11.38	6.81	7.24
2008	9.21	14.89	13.00	8.96	9.63
2009	5.73	12.64	10.06	4.14	4.18
2010	5.14	13.13	9.44	4.46	4.63
2011	5.54	12.83	9.05	4.11	4.28
2012	3.28	11.87	7.94	2.85	2.98
January	3.81 r	8.70 r	8.13 r	3.40 r	3.48
February	3.63 r	9.34 r	8.18 r	3.29 r	3.44
March	3.95 r	8.88 r	7.88 r	3.62 r	3.80
April	4.42 r	10.46 r	8.55 r	4.09 r	4.19
May	4.44 r	12.22 r	8.86 r	4.13 r	N/A
June	4.25 r	14.35 r	8.94 r	4.09 r	N/A
July	3.85 r	15.12 r	8.27 r	3.70 r	N/A
August	3.63 r	15.36 r	8.24 r	3.49 r	N/A
September	3.81 r	14.96 r	8.17 r	3.61 r	N/A
October	3.76 r	14.70 r	8.15 r	3.60 r	3.69
November	3.88	11.52	8.28	3.58	3.64 r
December	4.31	8.57	7.92	4.01	4.17
2013 Average	3.98 r	12.01 r	8.30 r	3.72 r	3.77 r
January	4.86	8.57	8.36	4.57	4.68
February	5.73	9.03	8.72	5.74	N/A
March	5.17	9.54	8.88	4.98	5.24
April	4.89	11.14	8.91	4.67	4.81
May	4.89	13.40	9.21	4.76	4.80
June	4.84	14.97	8.95	4.71	4.74
July	4.46	15.79	9.00	4.38	4.41
August	4.03	15.56	8.37	3.94	4.06
September	4.16	15.84	8.64	4.05	4.13
October	4.27	15.24	8.39	4.06	4.07
November	N/A	N/A	N/A	N/A	N/A
December	N/A	N/A	N/A	N/A	N/A
2014 Average	4.73	12.91	8.74	4.59	4.55

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

Table 21

UNITED STATES AVERAGE NATURAL GAS PRICES (MCF)
(Dollars/Thousand Cubic Feet)

DATE	WELLHEAD ³	SPOT MARKET ⁵	FOREIGN IMPORTS ³	CITY GATES ³	DELIVERED TO RESIDENTIAL ³
1994	1.85	1.84	1.87	3.07	6.89
1995	1.55	1.56	1.49	2.78	6.58
1996	2.17	2.39	1.96	3.27	6.97
1997	2.32	2.54	2.15	3.66	6.94
1998	1.96	2.11	1.97	3.07	7.45
1999	2.19	2.28	2.23	3.10	7.34
2000	3.68	3.94	3.88	4.62	8.51
2001	4.00	4.34	4.36	5.24	9.91
2002	2.95	3.26	3.14	4.10	8.60
2003	4.88	5.48	5.18	5.84	10.62
2004	5.45	5.94	5.78	6.61	11.64
2005	7.32	8.67	8.09	8.72	13.72
2006	6.40	6.81	6.87	8.28	14.16
2007	6.38	6.89	6.87	8.02	14.19
2008	8.07	8.80	8.77	9.59	15.45
2009	3.66	4.00	4.14	6.14	12.91
2010	4.48	4.58	4.46	6.07	12.91
2011	3.95	4.26	4.22	5.73	12.57
2012	2.66	2.93	2.88	4.71	12.09
January	N/A	4.01	4.14	4.52	9.15 r
February	N/A	4.07	3.99	4.56	9.24
March	N/A	3.99	3.84	4.75	9.36 r
April	N/A	4.30	3.98	5.16	10.43 r
May	N/A	4.19	3.94	5.55	12.61
June	N/A	4.07	3.90	5.74	15.02 r
July	N/A	3.81	3.41	5.51	16.30
August	N/A	3.47	3.17	5.24	16.43 r
September	N/A	3.68	3.49	5.21	15.69
October	N/A	3.73	3.40	4.88	12.38 r
November	N/A	3.77	3.77 r	4.78 r	10.05 r
December	N/A	4.69	4.75 r	4.91 r	9.15 r
2013 Average	N/A	3.98	3.82 r	5.07 r	12.15 r
January	N/A	6.43	7.15	5.59	9.28
February	N/A	8.22	9.11	6.31	9.77
March	N/A	6.87	8.12	6.56	10.72
April	N/A	4.71	5.11	5.63	11.77
May	N/A	4.62	4.60	5.88	13.61
June	N/A	4.53	5.32	5.99	16.06
July	N/A	4.07	4.77	5.97	17.18
August	N/A	3.80	3.87	5.48	17.39
September	N/A	3.86	4.24	5.41	16.28
October	N/A	3.73	3.87	5.17	13.15
November	N/A	4.08	N/A	N/A	N/A
December	N/A	3.78	N/A	N/A	N/A
2014 Average	N/A	4.89	5.62	5.80	13.52

e Estimated r Revised p Preliminary

Table 21A

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

DATE	WELLHEAD³	SPOT MARKET⁵	FOREIGN IMPORTS³	CITY GATES³	DELIVERED TO RESIDENTIAL³
1994	1.78	1.77	1.80	2.95	6.63
1995	1.49	1.50	1.43	2.67	6.33
1996	2.08	2.30	1.88	3.14	6.70
1997	2.23	2.44	2.07	3.52	6.67
1998	1.88	2.03	1.89	2.95	7.16
1999	2.11	2.19	2.15	2.98	7.06
2000	3.54	3.79	3.73	4.44	8.19
2001	3.85	4.17	4.19	5.04	9.53
2002	2.84	3.14	3.02	3.94	8.27
2003	4.69	5.27	4.98	5.62	10.21
2004	5.24	5.71	5.56	6.35	11.19
2005	7.04	8.34	7.77	8.38	13.19
2006	6.15	6.55	6.60	7.96	13.62
2007	6.13	6.63	6.61	7.72	13.64
2008	7.76	8.46	8.44	9.22	14.85
2009	3.52	3.85	3.98	5.91	12.41
2010	4.31	4.40	4.29	5.84	12.41
2011	3.80	4.09	4.06	5.51	12.09
2012	2.55	2.81	2.77	4.53	11.57 r
January	N/A	3.86	3.98	4.35	8.80 r
February	N/A	3.91	3.84	4.38	8.88
March	N/A	3.83	3.69	4.57	9.00 r
April	N/A	4.14	3.83	4.96	10.03 r
May	N/A	4.03	3.79	5.34	12.13
June	N/A	3.92	3.75	5.52	14.44 r
July	N/A	3.66	3.28	5.30	15.67
August	N/A	3.34	3.05	5.04	15.80 r
September	N/A	3.54	3.36	5.01	15.09
October	N/A	3.59	3.27	4.69	11.90 r
November	N/A	3.62	3.63 r	4.60 r	9.66 r
December	N/A	4.51	4.57 r	4.72 r	8.80 r
2013 Average	N/A	3.83	3.67 r	4.87 r	11.68 r
January	N/A	6.18	6.88	5.38	8.92
February	N/A	7.90	8.76	6.07	9.39
March	N/A	6.60	7.81	6.31	10.31
April	N/A	4.53	4.91	5.41	11.32
May	N/A	4.44	4.42	5.65	13.09
June	N/A	4.36	5.12	5.76	15.44
July	N/A	3.91	4.59	5.74	16.52
August	N/A	3.65	3.72	5.27	16.72
September	N/A	3.71	4.08	5.20	15.65
October	N/A	3.59	3.72	4.97	12.64
November	N/A	3.92	N/A	N/A	N/A
December	N/A	3.64	N/A	N/A	N/A
2014 Average	N/A	4.70	5.40	5.58	13.00

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
1993	1,040	1,149	76
1994	1,015	1,113	74
1995	979	1,065	68
1996	1,248	1,381	121
1997	1,424	1,562	85
1998	1,171	1,286	96
1999	908	1,017	79
2000	1,363	1,453	151
2001	1,277	1,365	96
2002	902	1,025	90
2003	1,152	1,264	83
2004	1,535	1,633	57
2005	1,882	1,996	74
2006	2,040	2,137	61
2007	2,082	2,150	34
2008	2,296	2,374	40
2009	1,335	1,365	12
2010	1,914	1,956	32
2011	1,638	1,676	36
2012	1,543	1,581	28
January	79	79	3
February	117	121	5
March	157	158	5
April	173	174	4
May	123	127	1
June	114	120	6
July	148	153	4
August	155	157	1
September	141	142	2
October	108	113	2
November	131	131	1
December	103	103	3
2013 Total	1,549	1,578	37
January	164	165	0
February	118	120	1
March	91	94	0
April	102	102	2
May	121	122	0
June	154	159	0
July	121	122	1
August	84	87	1
September	104	106	1
October	136	140	1
November	99	103	1
December	85	88	0
2014 Total	1,379	1,408	8

e Estimated r Revised p Preliminary

Figure 11

LOUISIANA STATE DRILLING PERMITS ISSUED
Federal OCS Excluded

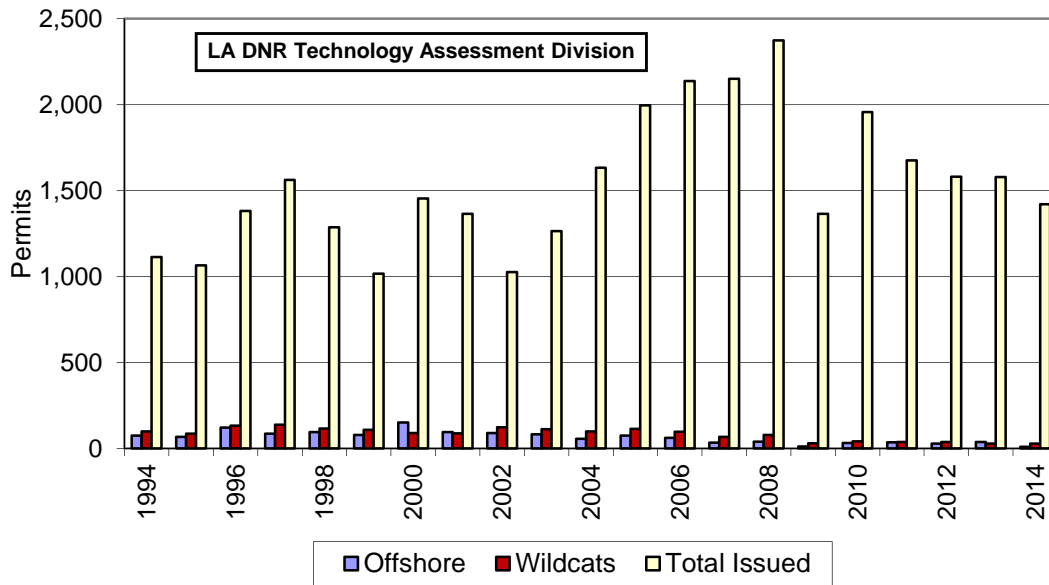


Figure 12

LOUISIANA AVERAGE ACTIVE RIGS

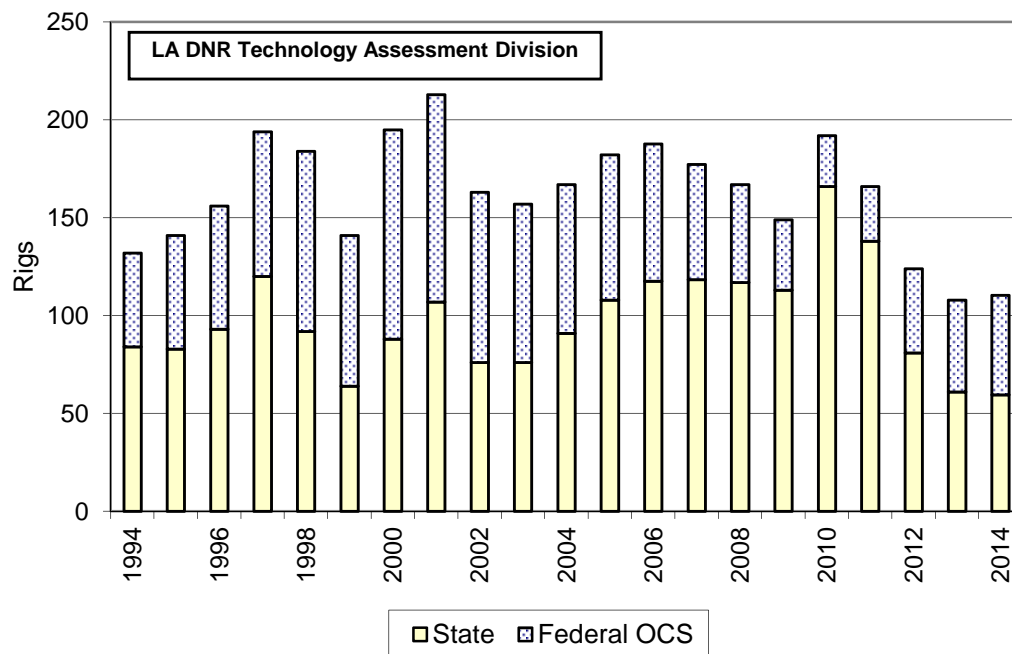


Table 23

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					
1993	11	12	22	19	64	40	59	104
1994	14	16	25	29	84	48	78	132
1995	16	15	28	23	82	58	81	141
1996	19	19	31	25	93	63	88	156
1997	21	23	48	28	120	74	102	194
1998	19	21	38	14	93	92	106	184
1999	16	16	21	12	65	76	88	141
2000	24	16	37	10	86	108	118	195
2001	30	20	44	10	104	108	119	213
2002	23	16	32	5	76	87	92	163
2003	29	14	29	4	76	81	85	157
2004	39	18	30	3	91	76	79	167
2005	48	23	32	4	108	74	79	182
2006	57	19	38	3	118	70	73	188
2007	58	24	34	2	118	59	61	177
2008	68	20	26	3	117	50	53	167
2009	89	8	15	1	113	36	38	150
2010	134	13	16	2	166	26	28	192
2011	97	17	22	2	138	28	29	165
2012	36	18	26	1	81	43	44	124
January	21	18	18	3	60	46	49	106
February	23	17	17	2	59	50	52	109
March	25	20	14	2	61	46	47	107
April	23	24	16	2	64	43	45	108
May	22	23	18	1	64	43	44	107
June	24	21	17	1	62	44	45	106
July	24	19	13	1	57	46	47	103
August	26	22	13	2	63	47	49	110
September	25	20	15	3	62	49	52	111
October	24	17	17	3	61	47	50	108
November	24	18	16	1	59	50	51	109
December	25	20	12	0	57	54	54	111
2013 Average	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

e Estimated r Revised p Preliminary

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

DATE	NORTH	SOUTH	OFFSHORE	TOTAL
1969	13,670	11,131	4,954	29,756
1970	13,166	10,363	1,179	24,707
1971	12,889	9,626	1,107	23,623
1972	12,475	8,912	1,048	22,436
1973	11,698	8,249	1,025	20,972
1974	11,984	8,262	985	21,230
1975	12,259	8,094	936	21,288
1976	12,393	7,730	1,073	21,196
1977	12,915	7,444	1,067	21,425
1978	13,019	7,219	1,086	21,324
1979	12,961	6,859	1,078	20,898
1980	13,981	6,832	1,073	21,885
1981	15,084	6,777	1,105	22,966
1982	15,540	6,608	1,112	23,259
1983	16,299	6,374	1,037	23,710
1984	17,544	6,300	1,038	24,882
1985	18,794	6,223	1,014	26,031
1986	19,346	6,061	1,001	26,408
1987	18,630	5,768	945	25,343
1988	17,953	5,698	964	24,615
1989	16,849	5,474	927	23,250
1990	17,369	5,215	906	23,490
1991	17,731	5,143	868	23,742
1992	17,449	5,155	842	23,446
1993	16,810	5,015	814	22,640
1994	15,904	4,682	805	21,392
1995	15,260	4,451	769	20,479
1996	15,148	4,295	719	20,163
1997	14,573	4,165	619	20,358
1998	13,975	3,962	546	18,484
1999	13,747	3,971	546	18,264
2000	16,795	3,914	408	21,117
2001	16,494	4,257	393	21,144
2002	16,531	4,071	423	21,026
2003	16,516	3,583	467	20,566
2004	16,148	3,485	462	20,095
2005	17,153	3,648	317	21,117
2006	17,072	3,615	241	20,928
2007	16,994	3,711	262	20,966
2008	N/A	N/A	N/A	21,146
2009	N/A	N/A	N/A	20,852
2010	N/A	N/A	N/A	19,367
2011	14,333	4,045	411	18,789
2012	14,217	4,275	436	18,928
2013	16,691	3,646	240	20,577
2014	12,557	3,156	228	16,941

e Estimated r Revised p Preliminary

Figure 13

2013 Percentage of Louisiana Oil Wells by Production Rates

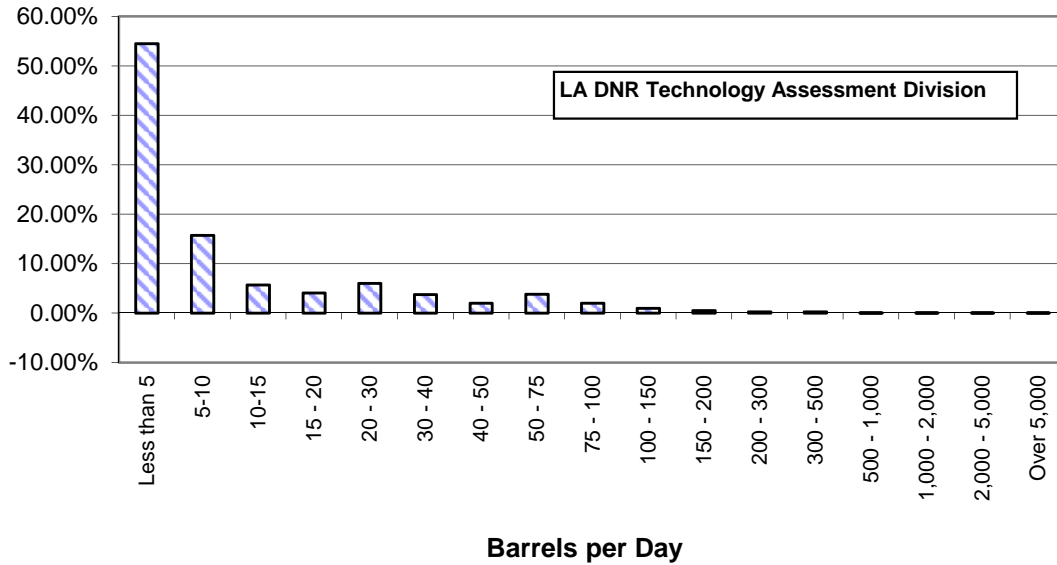


Figure 14

2013 Percentage of Louisiana Gas Wells by Production Rates

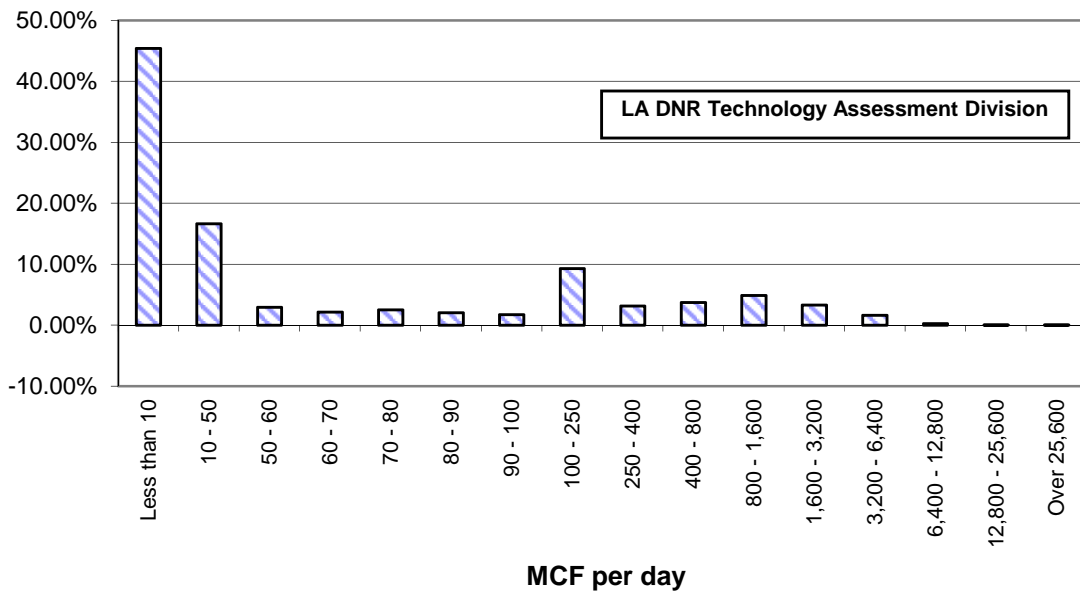


Table 25**LOUISIANA STATE PRODUCING NATURAL GAS WELLS
Excluding OCS**

DATE	NORTH	SOUTH	OFFSHORE	TOTAL
1969	4,558	3,451	1,297	9,306
1970	4,511	3,438	311	8,260
1971	4,449	3,389	327	8,164
1972	4,664	3,397	316	8,378
1973	4,927	3,449	332	8,707
1974	5,159	3,458	313	8,929
1975	5,373	3,331	308	9,012
1976	5,851	3,289	362	9,502
1977	6,343	3,331	449	10,123
1978	6,915	3,253	472	10,640
1979	7,372	3,214	514	11,100
1980	8,360	3,277	551	12,188
1981	9,479	3,226	557	13,262
1982	10,154	3,136	564	13,855
1983	10,502	3,065	549	14,115
1984	10,812	2,955	532	14,299
1985	11,026	2,887	511	14,424
1986	11,049	2,730	436	14,216
1987	10,726	2,635	413	13,774
1988	10,813	2,539	445	13,796
1989	10,861	2,474	501	13,836
1990	10,802	2,407	512	13,721
1991	10,702	2,261	496	13,459
1992	10,498	2,149	496	13,143
1993	10,506	2,192	490	13,189
1994	10,596	2,260	473	13,329
1995	10,452	2,200	335	12,987
1996	10,376	2,148	274	12,799
1997	10,446	2,149	296	12,891
1998	10,579	1,995	259	12,833
1999	10,581	2,010	262	12,853
2000	13,704	3,194	333	17,231
2001	13,054	3,369	311	16,734
2002	13,438	3,309	344	17,092
2003	13,607	2,952	384	16,944
2004	13,924	3,005	398	17,327
2005	13,996	2,977	258	17,231
2006	14,478	3,066	204	17,748
2007	14,707	3,211	227	18,145
2008	N/A	N/A	N/A	18,984
2009	N/A	N/A	N/A	19,009
2010	N/A	N/A	N/A	19,384
2011	18,542	1,851	159	20,552
2012	19,125	1,734	144	21,003
2013	18,184	1,295	104	19,583
2014	16,114	1,003	72	17,189

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Table 26

LOUISIANA STATE WELL COMPLETION BY TYPE AND BY REGION
Excluding OCS

	YEAR	OFFSHORE	SOUTH	NORTH	TOTAL
C R O U I D L E	2000	10	51	77	138
	2001	11	92	97	200
	2002	5	91	89	185
	2003	1	106	53	160
	2004	2	106	69	177
	2005	1	86	113	200
	2006	4	137	164	305
	2007	3	125	149	277
	2008	5	101	228	334
	2009	1	63	90	154
	2010	9	114	167	290
	2011	4	122	144	270
	2012	3	258	422	683
	2013	3	123	267	393
2014	9	126	225	360	
N A T G U A R S A L	2000	21	166	359	546
	2001	20	279	426	725
	2002	15	215	249	479
	2003	15	194	383	592
	2004	7	186	649	842
	2005	9	197	769	975
	2006	6	190	826	1,022
	2007	5	104	923	1,032
	2008	9	97	984	1,090
	2009	3	39	707	749
	2010	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	
D H R O Y L E	2000	9	98	154	261
	2001	10	184	205	399
	2002	4	122	147	273
	2003	6	166	134	306
	2004	10	144	105	259
	2005	12	166	142	320
	2006	5	197	165	367
	2007	3	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	

Table 27

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

DATE	BONUSES	OVERRIDE ROYALTY	RENTALS	TOTAL
1993	13.29	0.20	4.20	17.68
1994	15.31	0.19	6.15	21.65
1995	31.96	0.69	9.47	42.12
1996	39.63	-0.27	18.40	57.76
1997	38.27	0.84	25.00	64.11
1998	42.27	0.69	25.86	68.82
1999	14.17	0.45	20.27	34.89
2000	21.12	1.13	14.16	36.41
2001	29.70	1.89	13.75	45.34
2002	24.74	2.29	14.26	41.28
2003	19.54	3.36	12.93	35.83
2004	29.79	5.05	9.47	44.31
2005	35.78	2.03	13.75	51.56
2006	33.49	2.05	21.64	57.18
2007	45.91	3.35	22.59	71.85
2008	171.28	5.89	23.09	200.26
2009	17.70	4.26	25.13	47.09
2010	32.01	4.60	19.35	55.96
2011	19.48	8.42	16.36	44.27
2012	17.48	9.80	11.72	39.00
January	1.19	0.49	1.83	3.51
February	2.38	0.79	0.36	3.54
March	0.28	1.18	0.38	1.84
April	1.89	1.30	1.26	4.45
May	0.33	1.42	1.03	2.78
June	2.56	1.00	0.36	3.93
July	0.15	0.78	1.40	2.33
August	0.58	0.85	0.16	1.59
September	2.70	1.04	0.06	3.80
October	4.02	0.95	0.53	5.50
November	2.08	0.65	2.80	5.53
December	0.75	0.86	0.95	2.56
2013 Total	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

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Table 28

LOUISIANA STATE MINERAL ROYALTY REVENUE

Excluding OCS
(Million Dollars)

DATE	OIL	GAS	PLANT LIQUIDS	OTHER	TOTAL
1993	99.20	125.01	4.53	0.00	228.74
1994	85.72	102.95	4.05	0.00	192.72
1995	95.82	146.60	4.60	0.00	247.02
1996	123.51	211.31	6.72	0.00	341.54
1997	112.76	154.62	5.93	0.00	273.31
1998	68.85	121.17	2.58	0.00	192.60
1999	91.52	115.10	2.05	0.00	208.66
2000	145.80	212.71	3.46	0.00	361.97
2001	122.16	252.68	6.33	0.00	381.17
2002	100.10	165.24	8.03	0.00	273.37
2003	127.61	288.91	9.31	0.00	425.83
2004	143.84	274.64	14.82	0.00	433.30
2005	149.97	279.03	10.51	0.00	439.50
2006	201.71	287.24	14.23	0.00	503.19
2007	288.57	305.62	18.98	0.00	613.18
2008	372.30	419.94	32.16	0.00	824.41
2009	210.54	153.86	14.91	0.00	379.31
2010	272.57 r	162.50 r	22.52 r	0.00	457.59 r
2011	381.35 r	172.74 r	32.48 r	0.00	586.57 r
2012	377.40 r	121.09 r	24.81 r	0.00	523.30 r
January	34.42 r	12.74 r	2.34 r	0.00	49.50 r
February	30.58	11.27 r	2.30 r	0.00	44.15 r
March	33.91 r	13.96 r	2.14 r	0.00	50.00 r
April	32.06 r	14.12 r	2.17 r	0.00	48.35 r
May	32.54 r	16.16 r	2.37 r	0.00	51.07 r
June	30.75 r	14.09 r	2.04 r	0.00	46.89 r
July	33.95 r	13.13 r	2.14 r	0.00	49.23 r
August	34.84 r	12.08 r	2.24 r	0.00	49.15 r
September	33.04 r	13.00 r	2.51 r	0.00	48.55 r
October	29.06 r	11.85 r	2.60 r	0.00	43.52 r
November	26.67 r	11.44 r	2.55 r	0.00	40.66 r
December	29.10 r	13.66 r	2.37 r	0.00	45.13 r
2013 Total	380.93 r	157.50 r	27.76 r	0.00	566.19 r
January	26.53	14.01	2.35	0.00	42.88
February	25.87	16.65	2.62	0.00	45.15
March	30.65	15.76	2.21	0.00	48.61
April	28.05	14.77	2.26	0.00	45.08
May	30.24	15.64	2.14	0.00	48.02
June	30.32	14.59	2.02	0.00	46.93
July	29.42	11.90	1.73	0.00	43.05
August	27.73	12.18	1.81	0.00	41.72
September	24.13 p	12.30 p	1.96 p	0.00	38.39 p
October	23.60 p	11.78 p	1.43 p	0.00	36.81 p
November	24.73 p	12.73 p	2.16 p	0.00	39.62 p
December	23.76 p	11.87 p	1.38 p	0.00	37.00 p
2014 Total	325.05 p	164.16 p	24.05 p	0.00	513.27 p

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Table 29

LOUISIANA STATE MINERAL SEVERANCE TAX REVENUE⁸

Excluding OCS
(Million Dollars)

DATE	OIL	GAS	OTHER MINERALS	SEVERANCE TOTAL
1993	283.68	107.32	1.76	392.76
1994	229.40	114.58	2.02	346.00
1995	233.37	114.58	1.85	349.80
1996	270.36	98.60	1.88	370.84
1997	257.13	118.27	1.85	377.25
1998	148.96	120.98	1.40	271.34
1999	171.29	102.48	1.82	275.60
2000	337.51	104.33	1.50	443.34
2001	281.95	165.77	1.65	449.38
2002	235.84	173.51	1.33	410.67
2003	316.70	152.13	1.70	470.53
2004	359.77	216.73	1.73	578.23
2005	439.00	243.62	1.61	681.50
2006	506.31	331.40	1.69	839.41
2007	529.75	354.11	1.67	885.52
2008	842.94	293.66	1.65	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
January	61.51	-0.89	0.17	60.78
February	64.98	-6.51	0.09	58.57
March	68.14	7.63	0.09	75.86
April	58.09	10.10	0.12	68.31
May	65.92	11.82	0.10	77.84
June	63.22	12.37	0.15	75.74
July	63.44	13.79	0.11	77.33
August	62.53	11.70	0.13	74.35
September	66.86	8.43	0.11	75.40
October	65.51	10.25	0.15	75.91
November	63.20	9.78	0.10	73.07
December	58.36	10.98	0.06	69.41
2013 Total	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	N/A	N/A	N/A	N/A
December	N/A	N/A	N/A	N/A
2014 Total	574.60	117.69	1.00	693.29

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Table 30

STATE REVENUE FROM LOUISIANA'S OUTER CONTINENTAL SHELF¹³
(Dollars)

YEAR	RENTALS	BONUSES	ROYALTIES	OTHERS REVENUE	GOMESA	TOTAL
1986	610,567	1,912,734	66,176,203	0		68,699,504
1987	148,578	3,150,519	11,043,115	574,520,000		588,862,212
1988	153,561	5,528,006	8,708,079	2,520,000		16,909,646
1989	175,817	2,890,298	7,163,105	2,520,000		12,749,220
1990	430,198	5,570,375	6,239,368	2,520,000		14,759,941
1991	303,824	2,220,094	8,461,261	2,520,000		13,505,179
1992	258,787	1,189,989	6,405,279	5,880,000		13,734,055
1993	235,250	965,504	7,373,550	5,880,000		14,454,304
1994	1,016,932	1,913,682	11,780,932	5,880,000		20,591,546
1995	255,213	890,002	8,012,718	5,880,000		15,037,933
1996	292,445	4,666,400	12,283,395	5,880,000		23,122,240
1997	686,051	5,689,689	11,855,454	8,400,000		26,631,194
1998	412,229	1,744,928	9,621,860	8,400,000		20,179,017
1999	357,379	241,659	6,284,879	8,400,000		15,283,917
2000	321,695	1,268,244	12,690,937	15,254,978		22,680,876
2001	303,675	2,148,111	30,454,058	7,735,941		40,641,785
2002	94,841	0	11,768,383	28,363		11,891,587
2003	284,563	2,842,662	26,447,045	21,775		29,596,045
2004	490,745	7,620,500	30,145,237	6,613		38,256,482
2005	374,717	2,521,931	27,995,948	7,849		30,900,445
2006	494,362	5,947,411	24,325,787	1,304,257		32,071,817
2007	196,129	-2,695,489	25,498,932	89,134		23,088,706
2008	412,813	6,196,386	36,547,175	2,607,022		45,763,396
2009	339,802	463,332	21,433,896	80,201	6,347,321	28,664,552
2010	355,697	2,892,749	19,321,141	35,844	699,757	23,305,188
2011	268,106	0	20,325,825	93,441	222,725	20,910,097
2012	N/A	N/A	N/A	N/A	80,770	19,845,947
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

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

Table 31

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

YEAR	FEDERAL OCS¹³	FEDERAL ONSHORE¹³	STATE BOUNDARIES	TOTAL
1984	0	905,000	1,329,965,030	1,330,870,030
1985	0	795,000	1,164,969,360	1,165,764,360
1986	68,699,504	555,000	832,406,385	901,660,889
1987	588,862,212	517,000	746,675,897	1,336,055,109
1988	16,909,646	545,000	660,959,699	678,414,345
1989	12,749,220	452,000	678,301,987	691,503,207
1990	14,759,941	542,000	779,963,703	795,265,644
1991	13,505,179	328,000	751,117,246	764,950,425
1992	13,734,055	376,000	680,527,788	694,637,843
1993	14,454,304	782,000	639,182,812	654,412,032
1994	20,591,546	532,000	560,371,998	581,495,544
1995	15,037,933	728,000	638,942,698	654,708,631
1996	23,122,240	943,209	770,137,601	794,203,050
1997	26,631,194	817,329	714,672,685	742,121,208
1998	20,179,017	996,000	532,755,940	553,930,957
1999	15,283,917	1,276,465	519,144,200	535,704,582
2000	22,680,876	1,024,730	839,883,694	863,589,300
2001	40,641,785	1,481,176	875,887,102	918,010,063
2002	11,891,587	730,156	725,323,377	737,945,120
2003	29,596,045	1,182,451	932,191,569	962,970,065
2004	38,256,482	1,364,965	1,055,838,962	1,095,460,408
2005	30,900,445	1,569,882	1,166,491,860	1,198,962,188
2006	32,071,817	1,170,670	1,395,971,977	1,429,214,465
2007	23,088,706	940,888	1,545,321,941	1,569,351,535
2008	45,763,396	3,703,240	2,162,918,035	2,212,384,671
2009	28,664,552	914,421	1,097,717,147	1,127,296,119
2010	23,305,188	3,123,211	1,253,724,962	1,280,153,361
2011	20,910,097	17,982,455	1,403,961,976	1,442,854,528
2012	19,845,947	6,914,439	1,433,806,818	1,460,567,204
2013	24,533,076	2,607,490	1,470,140,340 r	1,497,280,907 r
2013	20,586,591	3,417,220	1,249,441,899 e	1,273,445,710 e

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

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

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

Table 32

**REVENUE TO FEDERAL GOVERNMENT COLLECTED FROM OIL AND GAS
LEASES IN THE LOUISIANA OUTER CONTINENTAL SHELF¹²**
(Area beyond the state's 3-mile offshore boundary)
(Dollars)

YEAR	BONUS PAYMENTS	RENTAL PAYMENTS	OTHER REVENUES	PRODUCTION ROYALTIES	TOTAL^a COLLECTION
1979	2,521,190,635	7,328,999	1,105,865	1,344,995,442	3,874,620,941
1980	2,676,927,673	7,361,904	1,277,987	1,866,737,837	4,552,305,401
1981	3,308,009,881	8,205,515	1,211,959	2,825,271,285	6,142,698,640
1982	1,110,172,751	7,288,316	1,349,850	3,166,294,042	4,285,104,959
1983	3,796,644,766	13,620,158	2,540,294	2,764,348,600	6,577,153,818
1984	1,154,495,009	16,323,567	2,010,462	3,195,995,282	4,368,824,320
1985	830,710,260	33,756,447	2,139,530	2,940,519,737	3,807,125,974
1986	113,731,609	34,110,029	3,199,547	2,006,205,199	2,157,246,384
1987	247,344,486	52,115,828	19,239,027	1,803,208,740	2,121,908,081
1988	388,730,457	35,752,757	8,727,373	1,571,981,500	2,005,192,087
1989	386,710,637	48,498,402	26,261,190	1,618,163,065	2,079,633,294
1990	421,375,632	55,568,777	16,028,740	2,068,487,831	2,561,460,980
1991	276,234,849	59,126,732	15,444,167	1,857,392,914	2,208,198,662
1992	53,716,797	49,087,621	33,533,897	1,848,599,157	1,984,937,472
1993	61,454,861	29,268,366	119,445,091	2,009,644,653	2,219,812,971
1994	256,271,643	30,003,884	141,190,812	1,888,953,102	2,316,419,441
1995	296,254,733	62,526,069	19,803,444	1,764,875,791	2,143,460,037
1996	24,330,068	53,231,380	40,394,227	2,549,759,516	3,154,940,691
1997	1,169,790	55,761,920	65,651,370	2,857,126,443	3,789,383,151
1998	9,207,972	51,518,286	-14,452,431	2,267,502,514	2,313,776,341
1999	1,169,790	40,463,226	49,219,184	2,228,250,265	2,319,102,465
2000	83,630,219	32,710,256	167,647,231	3,045,847,943	3,329,835,649
2001	160,037,859	30,078,009	177,773,259	5,126,344,201	5,494,233,328
GULF OF MEXICO TOTAL					
2001	632,482,979	188,455,045	3,126,962	6,674,371,634	7,498,436,619
2002	138,423,162	153,303,576	3,252,702	3,841,164,517	4,136,143,958
2003	1,147,014,322	245,963,859	4,983,819	4,535,938,009	5,933,900,009
2004	523,416,154	214,303,045	2,570,343	4,607,776,092	5,348,065,634
2005	518,426,651	221,784,370	1,897,501	5,313,350,455	6,055,458,976
2006	865,262,735	224,006,816	2,839,550	6,514,658,836	7,606,767,938
2007	373,930,998	200,993,255	3,166,689	6,441,214,179	7,019,305,120
2008	6,818,747,137	231,026,391	3,105,849	7,850,622,155	14,903,501,532
2009	1,181,075,491	226,229,847	3,013,594	4,161,415,445	5,571,734,377
2010	979,569,294	236,631,251	-3,531,170	3,743,286,144	4,955,955,519
2011	36,751,111	219,119,868	2,153,134	5,960,501,525	6,218,525,638
2012	663,714,729	217,669,757	31,841,893	5,626,212,490	6,539,438,869
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

^a Total collection, including state 8G shares.

See footnote in Appendix B.

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Table 33

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

YEAR	North	South Onshore	South Offshore	Federal OCS	Total Louisiana	TOTAL US
1992	125	417	126	1,643	2,311	23,745
1993	108	382	149	1,880	2,519	22,957
1994	108	391	150	1,922	2,571	22,457
1995	108	387	142	2,269	2,906	22,351
1996	128	382	148	2,357	3,015	22,017
1997	136	427	151	2,587	3,301	22,546
1998	101	357	97	2,483	3,038	21,034
1999	108	384	108	2,442	3,042	21,765
2000	97	310	122	2,751	3,280	22,045
2001	87	341	136	3,877	4,441	22,446
2002	75	335	91	4,088	4,589	22,677
2003	66	314	72	4,251	4,703	21,891
2004	58	304	65	3,919	4,346	21,371
2005	68	299	65	3,852	4,284	21,757
2006	68	312	48	3,500	3,928	20,972
2007	76	326	56	3,320	3,778	21,317
2008	60	277	51	3,388	3,776	19,121
2009	55	269	46	3,570	3,940	20,682
2010	104	274	46	3,914	4,338	23,267
2011	103	264	50	4,438	4,855	26,544
2012	100	300	63	4,504	4,967	30,529

See footnotes on Appendix B

Figure 15

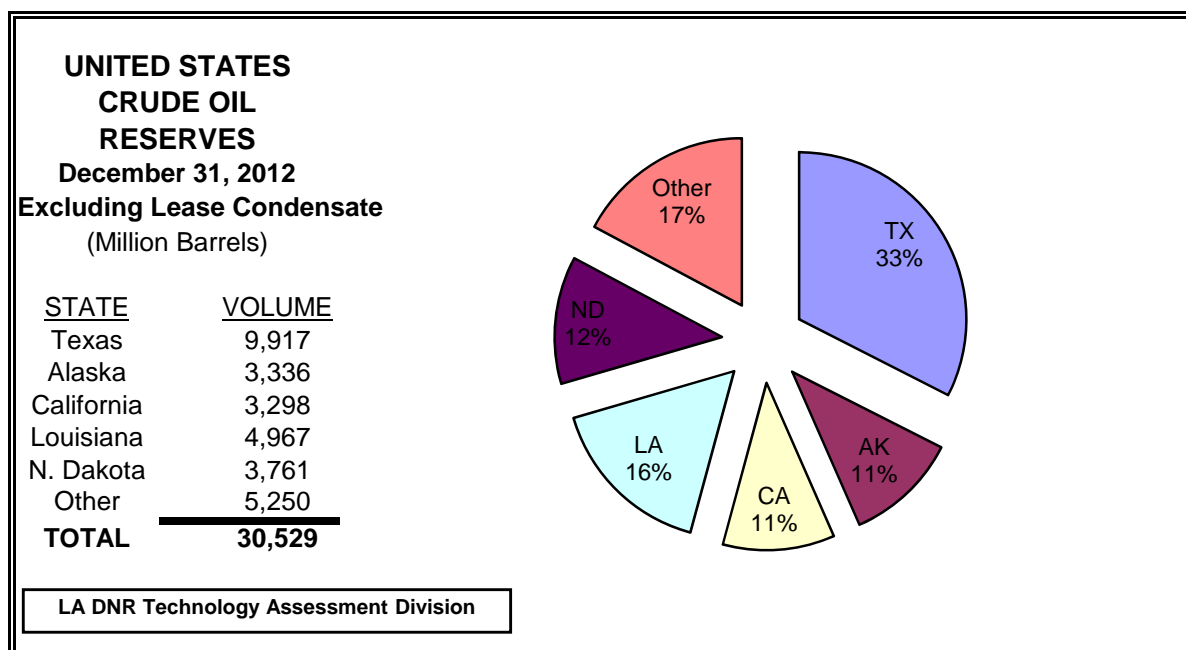


Table 34

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

YEAR	North	South Onshore	South Offshore	Federal OCS	Total Louisiana	TOTAL US
1992	19	151	8	226	404	1,226
1993	19	133	9	235	396	1,192
1994	21	123	9	233	386	1,147
1995	24	136	11	305	476	1,197
1996	24	127	11	422	584	1,307
1997	30	134	12	433	609	1,341
1998	23	138	16	435	612	1,336
1999	25	134	15	435	609	1,295
2000	22	130	17	437	606	1,333
2001	27	141	19	325	512	1,398
2002	19	107	11	300	437	1,346
2003	19	82	11	251	363	1,215
2004	21	66	9	205	301	1,221
2005	23	72	9	228	332	1,218
2006	29	65	10	185	289	1,339
2007	31	69	11	180	291	1,415
2008	27	64	8	151	250	1,433
2009	26	74	10	134	244	1,633
2010	27	68	11	129	235	1,914
2011	33	64	11	129	237	2,406
2012	38	70	13	98	219	2,874

See footnotes on Appendix B

Figure 16

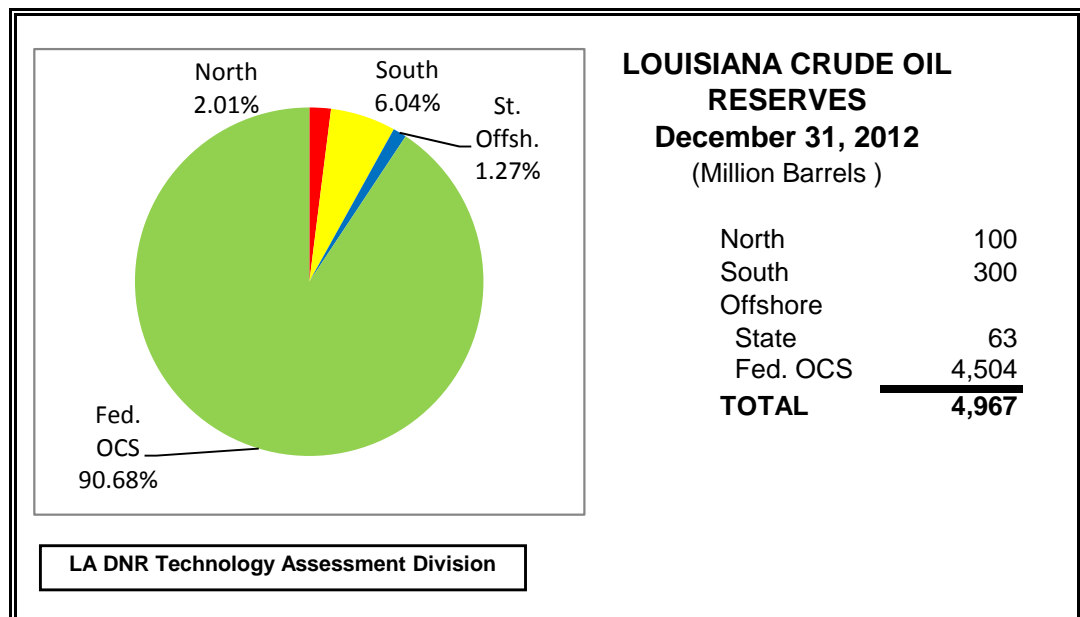


Table 35

LOUISIANA ESTIMATED DRY NATURAL GAS PROVED RESERVES⁹

As of December 31st of Each Year
(Billion Cubic Feet, at 14.73 psia and 60 degrees Fahrenheit)

YEAR	North	South Onshore	South Offshore	Federal OCS	Total Louisiana	TOTAL US
1992	2,311	6,693	776	19,653 c	29,433 c	165,015
1993	2,325	5,932	917	19,383 c	28,557 c	162,415
1994	2,537	6,251	960	20,835 c	30,583 c	163,837
1995	2,788	5,648	838	21,392 c	30,666 c	165,146
1996	3,105	5,704	734	21,856 c	31,399 c	166,474
1997	3,093	5,855	725	21,934 c	31,607 c	167,223
1998	2,898	5,698	551	20,774 c	29,921 c	164,041
1999	3,079	5,535	628	19,598 c	28,840 c	167,406
2000	3,298	5,245	696	19,788 c	29,027 c	177,427
2001	3,881	5,185	745	19,721 c	29,532 c	183,460
2002	4,245	4,224	491	18,500 c	27,460 c	186,946
2003	5,074	3,746	506	16,728 c	26,054 c	189,044
2004	5,770	3,436	382	14,685 c	24,273 c	192,513
2005	6,695	3,334	418	13,665 c	24,112 c	204,385
2006	6,715	3,335	424	11,824 c	22,298 c	211,085
2007	6,344	3,323	378	11,090 c	21,135 c	237,726
2008	7,876	2,799	898	10,450 c	22,023 c	244,656
2009	17,146	2,844	701	9,362 c	30,053 c	272,509
2010	26,030	2,876	371	8,896 c	38,173 c	304,625
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

^c Includes Federal Offshore Alabama

Figure 17

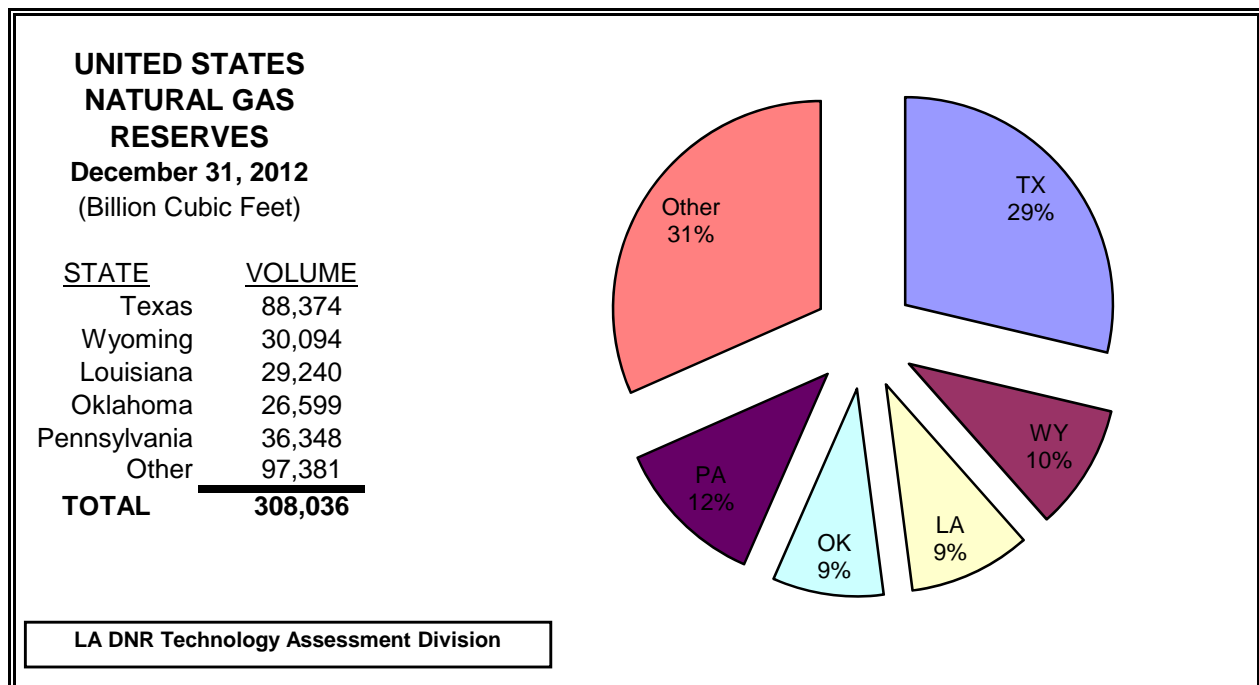


Table 36

**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
1992	41	229	47	246 c	563 c	6,225
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

See footnotes on Appendix B

Figure 18

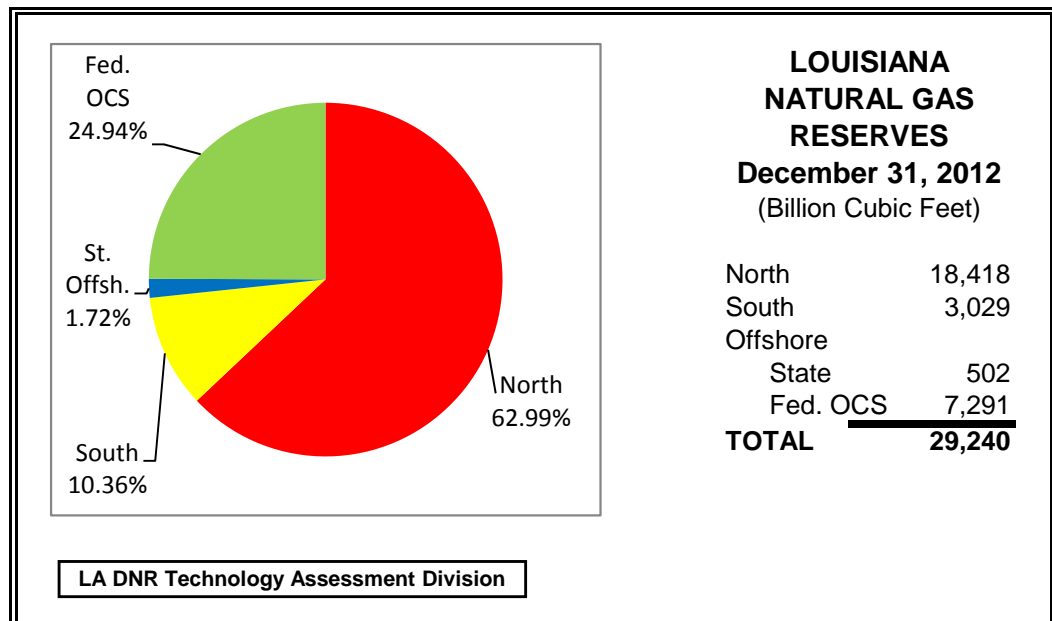


Table 37

LOUISIANA NONAGRICULTURAL EMPLOYMENT¹

DATE	OIL & GAS PRODUCTION	CHEMICAL INDUSTRY	PETROLEUM MANUFACTURING	ALL PIPELINE*	TOTAL EMPLOYMENT
1992	45,869	30,349	12,543	1,095	1,583,423
1993	44,422	30,419	12,728	1,078	1,613,577
1994	44,885	30,014	13,037	1,014	1,671,087
1995	44,279	30,168	11,603	932	1,721,651
1996	46,885	30,096	11,262	789	1,757,619
1997	51,559	29,935	11,038	792	1,797,225
1998	54,875	30,196	10,984	702	1,837,505
1999	44,645	28,898	11,046	693	1,846,026
2000	45,714	28,335	10,345	724	1,872,494
2001	47,009	27,337	10,643	2,417	1,868,902
2002	43,839	25,694	10,566	2,306	1,848,656
2003	42,339	24,558	10,395	2,334	1,851,570
2004	40,249	23,516	9,958	2,122	1,866,870
2005	41,179	23,269	10,240	2,179	1,843,237
2006	44,394	22,188	10,310	2,347	1,810,667
2007	46,764	22,612	10,764	2,454	1,869,965
2008	49,990 r	22,772 r	11,225 r	2,543 r	1,889,138 r
2009	47,500 r	22,529 r	11,356 r	2,463 r	1,856,385 r
2010	47,916	22,533	11,423	2,667	1,833,888
2011	49,239	23,168	11,163	2,778	1,846,761
January	52,355	22,940	11,111	2,909	1,838,591
February	53,112	22,953	11,154	2,908	1,851,018
March	52,804	22,900	11,165	2,909	1,862,599
April	51,871	22,912	11,193	2,914	1,878,015
May	52,321	22,942	11,152	2,920	1,886,088
June	52,165	23,158	11,245	2,908	1,877,109
July	49,901	23,154	11,329	2,874	1,841,163
August	50,202	23,174	11,387	2,847	1,854,854
September	49,640	23,045	11,376	2,839	1,864,619
October	49,225	22,923	11,327	2,770	1,881,120
November	49,183	23,030	11,400	2,772	1,892,618
December	48,772	23,213	11,473	2,779	1,892,006
2012 Average	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

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

See footnote in Appendix B.

Figure 19

LOUISIANA ENERGY CONSUMPTION BY SOURCE

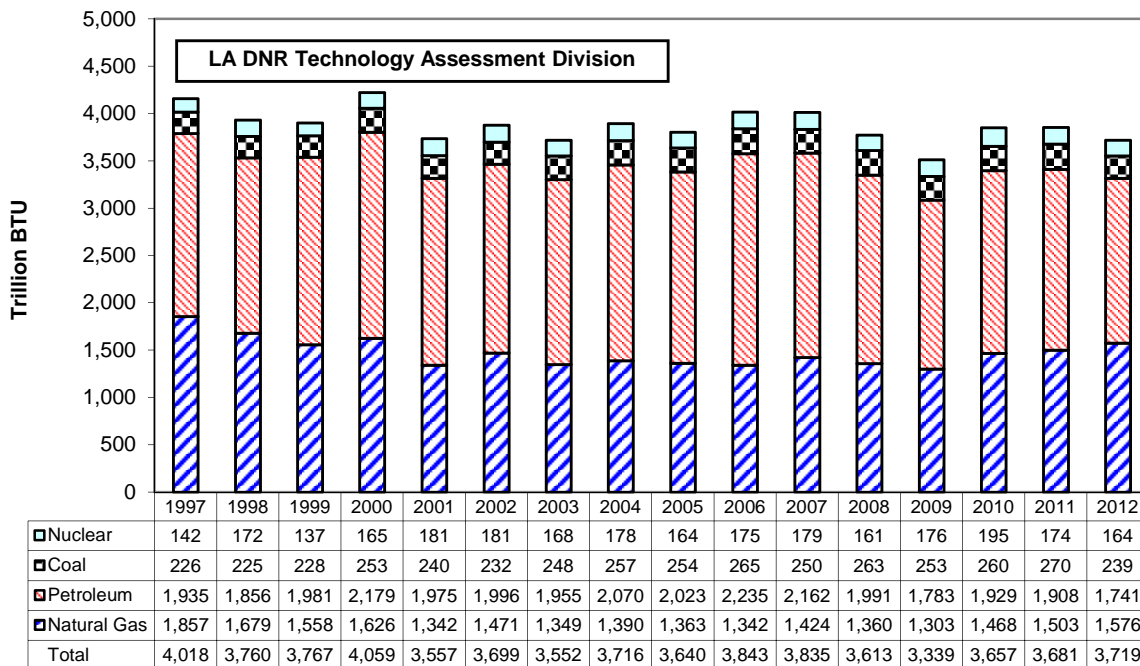


Figure 20

LOUISIANA REFINERY CRUDE OIL INPUT BY SOURCE

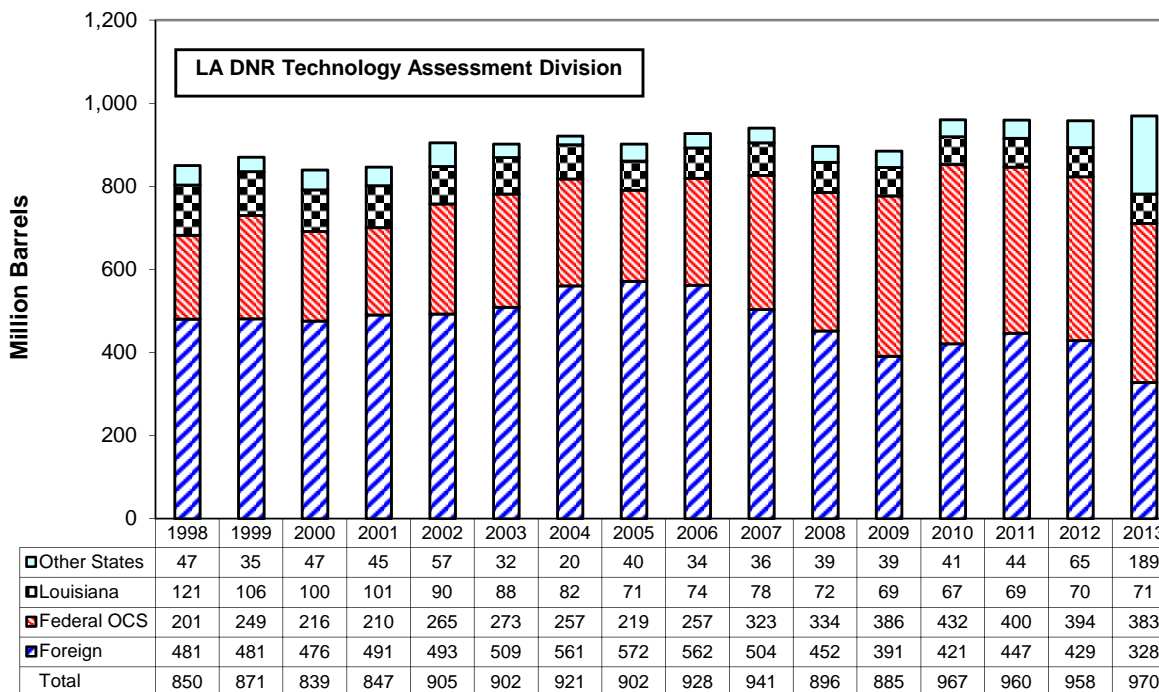


Table 38

LOUISIANA ENERGY CONSUMPTION ESTIMATES BY SOURCE¹¹

Year	Total Energy (TBTU)	Total Natural Gas (BCF)	Total Petroleum (MBBLS)	Total Coal (MST)	Total Nuclear (Million KWH)	Hydroelectric Power (Million KWH)
1972	3,042	1,940	205,568	0	0	0
1973	3,270	2,010	231,763	0	0	0
1974	3,333	2,008	242,545	0	0	0
1975	3,066	1,789	230,872	0	0	0
1976	3,506	2,044	260,930	0	0	0
1977	3,888	2,191	299,549	79	0	0
1978	4,037	2,249	312,231	172	0	0
1979	3,936	1,978	351,467	118	0	0
1980	3,730	1,794	345,640	111	0	0
1981	3,723	1,782	351,404	1,363	0	0
1982	3,384	1,556	329,383	3,724	0	0
1983	3,151	1,413	307,978	6,154	0	0
1984	3,248	1,594	283,675	6,855	0	0
1985	3,036	1,386	280,304	9,217	2,457	0
1986	3,198	1,439	292,730	10,459	10,637	0
1987	3,240	1,501	286,809	10,391	12,324	0
1988	3,311	1,446	300,896	12,848	13,785	0
1989	3,408	1,556	297,765	12,471	12,391	0
1990	3,480	1,588	304,516	12,547	14,197	656
1991	3,463	1,525	312,517	12,965	13,956	656
1992	3,584	1,551	329,450	13,674	10,356	656
1993	3,627	1,579	334,556	13,676	14,398	1,232
1994	3,753	1,586	358,274	14,100	12,779	972
1995	3,781	1,679	350,162	13,357	15,686	952
1996	3,856	1,616	374,722	12,534	15,765	964
1997	4,018	1,661	361,782	13,874	13,511	1,036
1998	3,760	1,569	348,208	13,891	16,428	1,063
1999	3,767	1,495	381,195	13,953	13,112	802
2000	4,059	1,537	428,363	15,737	15,796	532
2001	3,557	1,307	377,607	14,934	17,336	732
2002	3,699	1,426	383,119	14,676	17,305	891
2003	3,552	1,308	362,328	15,592	16,126	892
2004	3,716	1,346	384,677	16,059	17,080	1,099
2005	3,640	1,310	373,980	15,856	15,676	811
2006	3,843	1,293	413,583	16,410	16,735	713
2007	3,835	1,377	399,732	15,524	17,078	827
2008	3,613	1,314	369,658	16,409	15,371	1,064
2009	3,339	1,266	336,444	15,736	16,782	1,236
2010	3,657	1,434	361,683	16,240	18,639	1,109
2011	4,055	1,475	359,100	16,800	16,600	1,000
2012	3,909	1,553	329,069	14,894	15,659	1,021

e Estimated r Revised p Preliminary

TBTU = Trillion BTU

BCF = Billion Cubic Feet

KWH = Kilowatt-hours

MBBLS = Thousand Barrels

MST = Thousand Short Tons

See footnote in Appendix B.

Table 39

LOUISIANA REFINERY'S CRUDE OIL STATISTICS

DATE	AVERAGE STOCK ON HAND (Barrels)	DAILY AVERAGE RUNS TO STILL (Barrels)	LICENSED REFINERIES
1994	15,126,534	2,150,403	19
1995	14,325,305	2,109,245	19
1996	14,462,108	2,252,573	19
1997	14,275,221	2,257,275	19
1998	14,965,117	2,312,239	19
1999	15,467,674	2,414,781	17
2000	14,818,774	2,334,842	16
2001	15,425,670	2,480,357	17
2002	16,335,210	2,470,556	18
2003	15,246,004	2,469,756	17
2004	15,938,390	2,543,087	18
2005	16,217,856	2,458,189	18
2006	16,741,544	2,528,319	17
2007	16,108,022	2,687,658	17
2008	16,248,826	2,440,984	18
2009	13,019,604	2,412,848	19
2010	14,183,752	2,632,282	19
2011	13,473,779	2,743,681	19
2012	13,596,335	2,754,173	18
January	14,364,769	2,706,359	18
February	14,439,472	2,601,033	18
March	14,692,762	2,840,433	18
April	16,234,046	2,807,230	18
May	15,168,569	2,808,455	18
June	14,133,242	2,802,042	18
July	15,408,690	2,834,578	18
August	15,281,737	2,852,228	18
September	14,885,331	2,711,994	18
October	14,595,337 r	2,349,010 r	18
November	13,782,022 r	2,699,359 r	18
December	12,346,047 r	2,997,598 r	18
2013 Total	14,611,002 r	2,750,860 r	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 e	2,802,211 e	18
November	14,585,406 e	2,909,195 e	18
December	14,545,704 e	2,690,270 e	18
2014 Total	14,269,084 e	2,823,586 e	18

e Estimated r Revised p Preliminary



Exxon-Mobil Refinery - Baton Rouge

Figure 21

LOUISIANA LIGNITE PRODUCTION BY MINE SOURCE
(Thousand Tons Shipped)

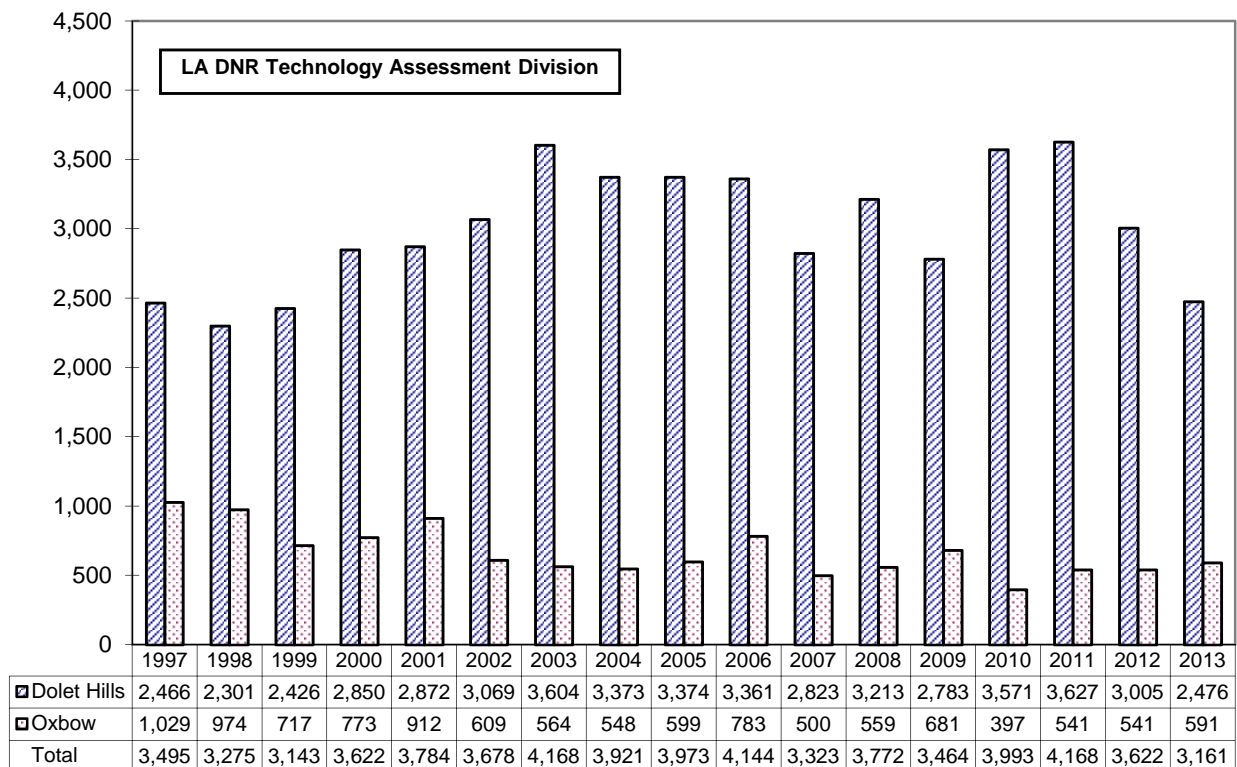


Table 40

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

YEAR	COAL	LIGNITE	OIL	GAS	NUCLEAR	TOTAL
1974	0	0	5,034	34,472	0	39,506
1975	0	0	3,257	35,967	0	39,224
1976	0	0	7,773	37,343	0	45,116
1977	0	0	13,255	35,196	0	48,451
1978	0	0	14,568	36,935	0	51,503
1979	0	0	8,259	38,396	0	46,655
1980	0	0	4,787	40,952	0	45,739
1981	1,529	0	2,634	39,947	0	44,110
1982	4,998	0	940	35,594	0	41,532
1983	8,377	0	356	28,311	0	37,044
1984	9,830	0	140	29,360	0	39,330
1985	13,968	0	100	27,736	2,457	44,261
1986	12,642	2,884	419	26,202	10,637	52,784
1987	12,176	2,926	60	23,823	12,324	51,309
1988	14,372	4,059	272	24,286	13,785	56,774
1989	14,227	3,854	298	21,900	12,391	52,670
1990	13,890	3,910	130	26,041	14,197	58,168
1991	14,786	4,126	45	24,245	13,956	57,158
1992	15,613	4,183	483	24,554	10,356	55,188
1993	15,794	3,572	1,838	23,751	14,398	59,353
1994	15,761	4,364	680	26,586	12,779	60,170
1995	14,632	4,321	49	30,867	15,686	65,555
1996	14,630	4,002	273	23,972	15,765	58,643
1997	16,453	4,499	646	26,010	13,511	61,120
1998	16,131	4,631	600	28,318	16,428	66,107
1999	16,386	4,780	397	30,162	13,112	64,837
2000	14,484 *	N/A	625	26,696	15,796	57,601
2001	10,917 *	N/A	1,722	20,402	17,336	50,378
2002	12,259 *	N/A	68	25,086	17,305	54,922 *
2003	11,020 *	N/A	1,008	15,094	16,126	43,485 *
2004	11,324 *	N/A	3,694	15,139	17,080	47,604 *
2005	11,416 *	N/A	3,378	13,688	15,676	44,158 *
2006	11,545 *	N/A	1,757	10,854	16,735	40,891 *
2007	10,736 *	N/A	1,977	13,872	17,078	43,523 *
2008	11,213 *	N/A	1,901	14,680	15,371	43,164 *
2009	11,025 *	N/A	1,460	14,325	16,782	43,592 *
2010	11,226 *	N/A	2,891	18,924	18,639	51,681 *
2011	11,860 *	N/A	4,378	22,071	16,615	54,924 *
2012	11,163 *	N/A	2,701	22,525	15,659	52,048 *
2013	9,843 *	N/A	4,476	18,449	16,954	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

See footnotes on Appendix B

APPENDICES

AbbreviationsA-1

Data SourcesB-1

GlossaryC-1

Gas Production at 14.73 psiaD-1

Louisiana Energy Briefs and TopicsE-1



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

Appendix A

Abbreviations

BCF	Billion Cubic Feet
BTU	British Thermal Unit
DNR	Louisiana Department of Natural Resources
DOE	United States Department of Energy
DOI	United States Department of the Interior
EIA	Energy Information Administration, DOE
FOB	Free on Board
GOM	Gulf of Mexico
KWH	Kilowatt-hours
MBBLS	Thousand Barrels
MCF	Thousand Cubic Feet
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

Gas Production at 14.73 psia

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Appendix D-1

LOUISIANA STATE GAS PRODUCTION, WET AFTER LEASE SEPARATION

Natural Gas and Casinghead Gas, Excluding OCS

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

DATE	NORTH	SOUTH	OFFSHORE	TOTAL
1993	367,510,962	1,160,338,473	126,526,532	1,654,375,967
1994	361,971,515	1,090,345,158	130,967,154	1,583,283,827
1995	374,569,365	1,067,857,751	139,240,110	1,581,667,226
1996	423,597,332	1,085,724,307	162,694,485	1,672,016,124
1997	450,692,967	1,028,512,775	164,180,018	1,643,385,760
1998	437,854,747	1,028,913,898	147,211,205	1,613,979,851
1999	393,199,782	976,555,159	118,149,642	1,487,904,583
2000	389,046,189	998,183,657	109,700,568	1,496,930,414
2001	398,669,527	1,013,161,682	113,437,548	1,525,268,757
2002	394,821,438	894,110,994	100,203,563	1,389,135,995
2003	424,829,404	861,626,563	85,083,840	1,371,539,808
2004	484,946,605	822,311,081	69,498,690	1,376,756,377
2005	548,641,901	707,489,823	54,557,630	1,310,689,355
2006	583,308,435	725,075,949	68,620,414	1,377,004,798
2007	623,710,233 r	685,832,067 r	72,913,093 r	1,382,455,393 r
2008	697,750,463 r	603,273,453 r	85,617,262 r	1,386,641,178 r
2009	980,199,338 r	502,117,650 r	76,362,017 r	1,558,679,004 r
2010	1,730,359,431 r	418,927,455 r	69,763,746 r	2,219,050,633 r
2011	2,564,801,480 r	405,562,700 r	71,224,611 r	3,041,588,791 r
2012	2,562,277,825 r	383,358,791 r	78,332,468 r	3,023,969,084 r
January	189,843,199 r	33,322,924 r	6,459,346 r	229,625,469 r
February	168,397,180 r	31,036,841 r	5,634,054 r	205,068,074 r
March	178,660,776 r	34,694,058 r	6,147,693 r	219,502,527 r
April	168,791,345 r	32,507,341 r	5,589,944 r	206,888,630 r
May	169,784,897 r	35,678,290 r	5,704,853 r	211,168,039 r
June	160,655,123 r	33,819,507 r	5,545,969 r	200,020,599 r
July	160,682,669 r	35,077,468 r	5,592,359 r	201,352,497 r
August	152,969,365 r	34,027,698 r	5,451,919 r	192,448,981 r
September	138,433,168 r	33,735,050 r	3,021,330 r	175,189,548 r
October	139,002,151 r	31,960,084 r	4,843,812 r	175,806,048 r
November	134,230,743 r	32,436,217 r	4,242,261 r	170,909,221 r
December	139,204,349 r	33,311,394 r	4,688,824 r	177,204,567 r
2013 Total	1,900,654,964 r	401,606,873 r	62,922,364 r	2,365,184,201 r
January	138,122,994	31,020,830	4,401,442	173,545,266
February	124,010,863	28,693,500	4,343,512	157,047,875
March	134,151,099	32,592,999	4,783,081	171,527,179
April	129,838,557	31,908,772	4,424,690	166,172,019
May	133,305,692	32,516,106	4,818,658	170,640,457
June	132,787,149	31,213,336	3,989,620	167,990,105
July	130,801,623	31,434,780	2,595,482	164,831,884
August	125,707,965	30,402,638	3,747,370	159,857,972
September	116,268,441	29,860,277	3,823,215	149,951,933
October	116,765,105	29,695,338	3,818,431	150,278,874
November	123,719,804 p	30,321,603 p	3,579,719 p	157,621,125 p
December	121,917,218 p	30,144,637 p	3,498,089 p	155,559,945 p
2014 Total	1,527,396,511 p	369,804,815 p	47,823,308 p	1,945,024,634 p

e Estimated r Revised p Preliminary

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

Appendix D-2

LOUISIANA TOTAL GAS PRODUCTION, WET AFTER LEASE SEPARATION

Natural Gas and Casinghead Gas

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

DATE	ONSHORE	OFFSHORE		TOTAL
		State	Federal OCS ¹²	
1993	1,527,849,435	126,526,532	3,386,808,671	5,041,184,638
1994	1,452,316,673	130,967,154	3,492,406,781	5,075,690,608
1995	1,442,427,115	139,240,110	3,636,068,016	5,217,735,242
1996	1,509,321,639	162,694,485	3,783,483,306	5,455,499,430
1997	1,479,205,742	164,180,018	3,901,964,998	5,545,350,758
1998	1,466,768,646	147,211,205	3,890,978,799	5,504,958,650
1999	1,369,754,941	118,149,642	3,913,456,139	5,401,360,722
2000	1,387,229,846	109,700,568	3,837,150,457	5,334,080,871
2001	1,411,831,209	113,437,548	3,895,134,261	5,420,403,019
2002	1,288,932,431	100,203,563	3,527,116,066	4,916,252,060
2003	1,286,455,968	85,083,840	3,342,004,232	4,713,544,040
2004	1,307,257,686	69,498,690	2,897,440,676 e	4,274,197,053 e
2005	1,256,131,724	54,557,630	2,229,362,826 e	3,540,052,181 e
2006	1,308,384,384	68,620,414	2,089,462,261 e	3,466,467,059 e
2007	1,309,542,300	72,913,093	2,062,554,663 e	3,445,010,056 e
2008	1,301,023,916	85,617,262	1,677,562,129 e	3,064,203,307 e
2009	1,482,316,988 r	76,362,017	1,761,781,308 e	3,320,460,313 e r
2010	2,149,286,886 r	69,763,746 r	1,668,703,852 e	3,887,754,485 e r
2011	2,970,364,180 r	71,224,611 r	1,357,345,079 e r	4,398,933,870 e r
2012	2,945,636,616 r	78,332,468 r	1,133,375,505 e r	4,157,344,589 e r
January	223,166,123 r	6,459,346 r	93,190,719 e	322,816,189 e
February	199,434,020 r	5,634,054 r	81,996,276 e	287,064,350 e
March	213,354,834 r	6,147,693 r	88,029,922 e	307,532,449 e
April	201,298,686 r	5,589,944 r	86,407,973 e	293,296,602 e
May	205,463,187 r	5,704,853 r	85,559,052 e	296,727,092 e
June	194,474,630 r	5,545,969 r	77,060,904 e	277,081,504 e
July	195,760,137 r	5,592,359 r	84,863,274 e	286,215,771 e
August	186,997,063 r	5,451,919 r	85,018,791 e	277,467,772 e
September	172,168,218 r	3,021,330 r	84,873,756 e	260,063,303 e
October	170,962,236 r	4,843,812 r	79,706,001 e	255,512,049 e
November	166,666,960 r	4,242,261 r	83,079,608 e	253,988,829 e
December	172,515,743 r	4,688,824 r	85,294,250 e	262,498,817 e
2013 Total	2,302,261,837 r	62,922,364 r	929,786,276 e	3,294,970,477 e
January	169,143,824	4,401,442	79,669,500 e	253,214,766 e
February	152,704,363	4,343,512	73,073,737 e	230,121,612 e
March	166,744,098	4,783,081	79,329,122 e	250,856,301 e
April	161,747,329	4,424,690	79,582,125 e	245,754,144 e
May	165,821,799	4,818,658	84,398,650 e	255,039,107 e
June	164,000,485	3,989,620	82,245,819 e	250,235,924 e
July	162,236,402	2,595,482	82,875,407 e	247,707,291 e
August	156,110,603	3,747,370	85,491,702 e	245,349,674 e
September	146,128,718	3,823,215	80,757,947 e	230,709,879 e
October	146,460,443	3,818,431	75,393,413 e	225,672,287 e
November	154,041,407 p	3,579,719 p	N/A	157,621,125 p
December	152,061,855 p	3,498,089 p	N/A	155,559,945 p
2014 Total	1,897,201,326 p	47,823,308 p	802,817,422 e	2,747,842,056 e p

e Estimated r Revised p Preliminary

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

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

Appendix D-3

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

YEAR	LOUISIANA	TEXAS	CALIFORNIA	TOTAL
1969	1,822,544,152	127,096,983	4,845,851	1,954,486,985
1970	2,273,147,052	133,300,405	12,229,147	2,418,676,604
1971	2,634,014,045	127,357,909	15,671,479	2,777,043,433
1972	2,881,364,748	147,156,460	10,033,581	3,038,554,789
1973	3,055,628,252	148,673,638	7,286,549	3,211,588,439
1974	3,349,170,882	159,979,402	5,573,642	3,514,723,926
1975	3,332,169,075	122,572,765	3,951,633	3,458,693,473
1976	3,499,865,919	92,582,425	3,475,201	3,595,923,545
1977	3,647,513,694	86,943,285	5,526,469	3,739,983,448
1978	4,149,731,158	231,857,451	5,269,758	4,386,858,368
1979	4,158,521,732	511,590,610	5,540,606	4,675,652,948
1980	4,013,707,456	624,642,529	6,018,184	4,644,368,168
1981	4,106,494,612	730,275,835	13,018,920	4,849,789,367
1982	3,803,740,070	858,020,303	18,107,445	4,679,867,818
1983	3,173,892,371	850,817,216	24,652,314	4,049,361,901
1984	3,578,740,589	931,293,587	47,292,436	4,557,326,612
1985	3,116,884,507	834,926,527	65,851,130	4,017,662,165
1986	2,927,832,280	978,370,557	60,261,186	3,966,464,023
1987	3,180,107,212	1,204,488,343	55,902,749	4,440,498,305
1988	3,096,881,645	1,178,422,567	50,152,326	4,325,456,538
1989	3,006,576,077	1,165,112,959	51,809,130	4,223,498,166
1990	3,706,324,064	1,348,075,368	50,973,576	5,105,373,008
1991	3,289,968,620	1,184,936,500	52,894,097	4,527,799,217
1992	3,338,101,465	1,239,389,554	56,337,793	4,701,108,883
1993	3,386,808,671	1,027,937,761	53,194,699	4,544,502,364
1994	3,492,406,781	1,014,204,140	54,633,354	4,669,972,144
1995	3,636,068,016	908,520,055	55,887,350	4,711,732,699
1996	3,783,483,306	972,873,764	68,121,164	5,054,719,057
1997	3,901,964,998	965,334,787	74,813,429	5,111,087,682
1998	3,890,978,799	867,606,779	76,486,583	4,885,443,089
1999	3,913,456,139	814,124,878	79,367,732	5,034,470,230
2000	3,837,150,457	886,473,041	77,598,107	5,018,433,562
2001	3,895,134,261	916,020,487	72,367,542	5,248,963,271
	GULF OF MEXICO		PACIFIC	TOTAL
	CENTRAL	WESTERN		
2002	3,580,828,493	1,019,741,703	69,174,162	4,699,918,283
2003	3,392,897,697	1,087,114,884	59,258,478	4,593,381,866
2004	2,941,564,138	1,121,137,433	55,749,584	4,187,036,121
2005	1,973,860,605	788,940,947	55,171,229	2,819,465,782
2006	2,165,245,866	795,608,571	41,216,237	3,002,354,380
2007	2,137,362,345	648,316,715	46,427,556	2,878,983,938
2008	1,738,406,351	491,513,872	45,801,259	2,417,579,275
2009	1,825,680,112	476,309,942	42,054,700	2,527,203,879
2010	1,729,226,790	420,991,965	42,025,119	2,317,635,691
2011	1,406,575,211	346,020,589	37,311,573	1,899,997,494
2012	1,174,482,389	316,906,416	27,807,980	1,566,615,311
2013	1,057,375,548	260,072,973	27,104,774	1,353,995,364

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

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

Appendix D-4

UNITED STATES NATURAL GAS AND CASINGHEAD GAS PRODUCTION³ (Billion Cubic Feet (BCF) at 14.73 psia and 60 degrees Fahrenheit)*

DATE	GROSS	WET AFTER LEASE SEPARATION	MARKETED	DRY	GROSS IMPORTS
1993	22,725	19,209	18,982	18,095	2,350
1994	23,581	19,938	19,710	18,821	2,624
1995	23,743	19,790	19,506	18,598	2,841
1996	24,114	20,084	19,812	18,854	2,937
1997	24,213	20,122	19,865	18,902	2,994
1998	24,108	20,064	19,961	19,024	3,152
1999	23,823	19,915	19,805	18,832	3,586
2000	24,174	20,289	20,198	19,182	3,782
2001	24,501	20,667	20,570	19,616	3,977
2002	23,941	19,984	19,921	18,964	4,015
2003	24,119	20,072	19,974	19,099	3,944
2004	23,970	19,615	19,517	18,591	4,259
2005	23,457	19,046	18,927	18,051	4,341
2006	23,507	19,539	19,382	18,476	4,186
2007	24,591	20,340	20,019	19,089	4,608
2008	25,636	21,279	21,112	20,159	3,984
2009	26,057	21,813	21,648	20,624	3,751
2010	26,816	22,548	22,382	21,316	3,741
2011	28,479	24,195	24,036	22,902	3,469
2012	29,542	25,501	25,283	24,033	3,138
January	2,552 r	2,159 r	2,142 r	2,029 r	278 r
February	2,308 r	1,961 r	1,944 r	1,842 r	237 r
March	2,543 r	2,163 r	2,145 r	2,031 r	248 r
April	2,477 r	2,111 r	2,094 r	1,984 r	221 r
May	2,530 r	2,184 r	2,166 r	2,052 r	234 r
June	2,418 r	2,103 r	2,087 r	1,977 r	237 r
July	2,559 r	2,230 r	2,212 r	2,096 r	236 r
August	2,540 r	2,229 r	2,208 r	2,092 r	236 r
September	2,453 r	2,147 r	2,129 r	2,016 r	244 r
October	2,557 r	2,229 r	2,211 r	2,095 r	220 r
November	2,512 r	2,190 r	2,173 r	2,058 r	219 r
December	2,556 r	2,196 r	2,179 r	2,064 r	273 r
2013 Total	30,005 r	25,902 r	25,691 r	24,334 r	2,883 r
January	2,644	2,239	2,218	2,100	295
February	2,374	2,014	1,997	1,889	245
March	2,661	2,260	2,241	2,115	234
April	2,581	2,205	2,185	2,059	201
May	2,671	2,305	2,284	2,155	207
June	2,601	2,244	2,225	2,095	202
July	2,634	N/A	2,308	2,172	201
August	2,680	N/A	2,355	2,218	207
September	2,672	N/A	2,285	2,152	202
October	2,780	N/A	2,378	2,239	221
November	N/A	N/A	N/A	N/A	N/A
December	N/A	N/A	N/A	N/A	N/A
2014 Total	26,297	13,266	22,476	21,195	2,214

e Estimated r Revised p Preliminary

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

Appendix E
Louisiana Energy Topics

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LOUISIANA GAS SHALES AND ECONOMIC IMPACTS

by
Manuel Lam

The Louisiana gas shale resources have transformed the state energy outlook in a few short years. Louisiana shale formations are located in Northern, Northwest, and Central Louisiana.

- The Lower Smackover Brown Dense formation is an unconventional oil and gas reservoir found in Southern Arkansas and Northern Louisiana. The formation ranges in vertical depths from 8,000 to 11,000 feet and appears to be laterally extensive over a large area ranging in thickness from 300 to 550 feet. Industry says it is too early to tell how much of the hard-to-reach oil is recoverable, but some have speculated that the formation could hold more than 1 billion barrels of oil and some gas.
- The Haynesville-Bossier, or Haynesville, formation is a layer of sedimentary rock more than 10,000 feet below the surface of the Earth that runs through Northwestern Louisiana, Northeastern Texas, and the southwestern tip of Arkansas. This formation is an unconventional dry natural gas field that was once considered too costly to explore, but rising energy costs and newer technology and processes have changed that. Some industry experts believe the Haynesville shale could ultimately produce as much as 30 to 40 trillion cubic feet of natural gas. Chesapeake Energy is the major leaseholder and producer in the Haynesville, and others operators such as BHP Billiton Petro, EXCO, Encana, QEP Energy, and SWEPI LP have acquired significant positions and are increasing production. The Cotton Valley tight gas formation is located just above the Haynesville shale in Louisiana and Texas, and is also a major target for companies operating in this area. The depth of the Cotton Valley formation is roughly 7,800 to 10,000 feet. Although it is mainly a natural gas play, some oil has been produced in parts of the Cotton Valley.
- Central Louisiana is currently home to three important shale plays: The Tuscaloosa Marine Shale (TMS), the Louisiana Eagleford Shale, and the Austin Chalk. While the first two shale plays are in the early stages of development the results are positive, with the Indigo Minerals well producing 500 barrels per day. The Austin Chalk is a proven oil and gas producing zone. The TMS is an unconventional resource play that has been estimated to contain over 7 billion barrels of potential oil production and some gas production. It has been suggested that the TMS has some of the same characteristics and geological age as the Eagle Ford shale located in Southern Texas. The TMS potential area stretches across a large portion of Central Louisiana into the Louisiana Florida parishes and into Mississippi.

The Haynesville Shale area produced 2.07 trillion cubic feet (TCF) of dry natural gas in 2012 and a few thousand barrels of oil. This was about 70% of Louisiana natural gas production in 2012, excluding Louisiana Federal Gulf of Mexico areas. From the initial development of the Haynesville shale area in 2007 to October 2013, more than 2,500 wells were drilled in this area, of which, 2,318 wells are producers, and estimates are that only 25% of its resources have been uncovered. The Haynesville Shale area is one of three top producers of natural gas shale in the U.S.

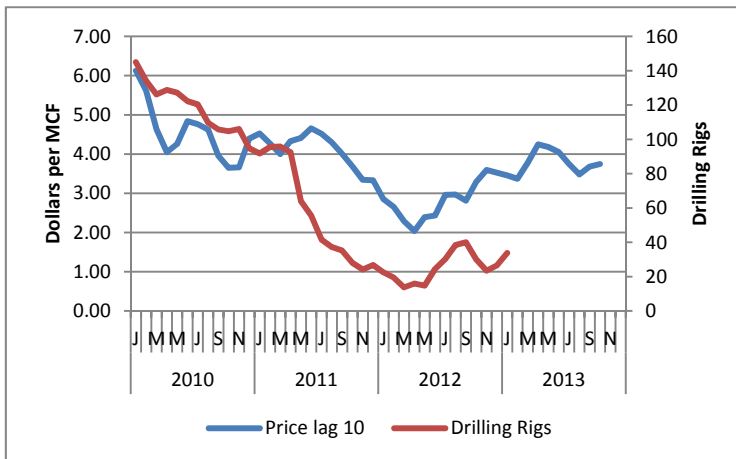
Some industry observers say the Haynesville play remains at a disadvantage since it produces mostly natural gas, and it has one of the highest costs of drilling among shale gas plays in the U.S. It has a

friendly and understanding regulatory environment, citizens in the area are relatively comfortable with horizontal drilling, abundant surface fresh water, and its wells have a higher Estimated Ultimate Recovery (EUR) than wells in other U.S. shale plays.

Meanwhile, the Brown Dense shale area, like the Tuscaloosa Marine shale, is projected to be able to produce both oil and gas. Because these areas are in a very early stage of development and production potential is not established, it is harder for them to compete for resources with more developed oil shale like the Balkan, Eagle Ford or Permian Basin. They lack the contractual obligation that contributed to the fast development of Haynesville. It means that these shale areas will have a slower developing schedule than other similar shale areas in the U.S.

David Hughes, a geoscientist and fellow at the Post Carbon Institute, in his Maryland talk, said that Haynesville production falls 52% in a well's first year and could drop to 95% by year three. These fast declines will not stop drilling; it means that, in order to keep the same amount of domestic natural gas flowing, drillers will need to drill faster and faster to compensate for the declines from each well and lower performance new wells as sweet spots become scarce.

What gas price will bring the operators back in full force in the play? A majority of analysts say \$5 gas



will bring them back, but it's not going to return instantaneously. As shown in the graph, it takes 8 to 10 months for drilling to respond to rising prices and the price needs to have long term stability. A sudden peak caused by weather or other disruptions will not do the trick. A new report from Barclays Capital said prices from \$4.50 to \$5 would be sufficient to get producers back in the field. Better yet, Barclays said, they would still be low enough to preserve a cost advantage in the U.S. relative to other manufacturing economies. It forecast prices at \$4.35 in 2015 and \$4.75 thereafter.

Barclays is projecting rising demand in power generation as natural gas continues to displace coal in that sector, in the industrial sector, in transportation, and in exports.

The average drilling cost per well is falling, historically an average Haynesville gas well costs \$9.9 million. Recently, Exco reported cost reduction to an average of \$7.8 million per well in De Soto Parish by improving its drilling times using new drilling bits, stimulation costs, and overall capital efficiency. Also helping spur the resurgence of drilling in gas shale despite low gas prices are new developments which are reducing costs, such as longer laterals through the fracking process (the average drilled lateral had been 7,100 feet, but this year it's lengthened to 10,000 feet), faster drilling methods, longer lasting drilling bits, better reservoir information, and other techniques.

U.S. shale gas made up around 30 percent of the country's total natural gas supply in 2011, and production of the fuel almost quadrupled between 2007 and 2011, according to the Department of Energy. The abundance of shale gas resources in the U.S. has revived U.S. manufacturing, especially the petrochemical industry. Huge capital investments are planned in the midstream and downstream energy-related chemicals value chains.

In Louisiana, the Haynesville gas production, the extensive natural gas pipeline infrastructure, and the redevelopment of conventional gas producing areas has raised the expectation that dozens of new manufacturing facilities will be built and several of the existent ones will be expanded in the southern part of the state, mostly along the Mississippi River from Baton Rouge to New Orleans and around Lake Charles, and companies such as Cheniere, Freeport-McMoRan and Sempra Energy plan to export liquefied natural gas (LNG) from expanded facilities in Cameron Parish or the Gulf of Mexico. These will create thousands of new permanent jobs and thousands more in temporary construction jobs. This growth will spark the startup of smaller companies, and others in the community, such as retail, realtors, homebuilders, restaurants, and grocery stores, will also benefit from it. The following is a list of announced facilities:

Gas to Liquid Fuels Facilities

- Sasol, a world leader in the commercial production of liquid fuels and chemicals from natural gas, announced in December 2012 the investment of \$16 billion to \$21 billion at its Westlake site in Calcasieu Parish,
- G2X Energy, a Houston company that is committed to converting low-cost natural gas into higher value transportation fuels, announced in January 2013 plans for a \$1.3 billion natural gas-to-gasoline facility at the Port of Lake Charles in Calcasieu Parish,
- Juniper GTL LLC, a Texas-based petrochemical company, announced in September it will invest \$100 million to convert a dormant steam methane reformer into a natural gas to liquids facility in the Westlake, Calcasieu Parish,

Gas to Chemical Feedstock/Product Facilities

- CF Industries, the second largest nitrogen fertilizer producer in the world and the third largest phosphate fertilizer producer among public companies, announced in November 2012 its plan to invest \$2.1 billion to expand the capacity of its facilities in Donaldsonville, Ascension Parish,
- South Louisiana Methanol LP announced in February 2013 it will build and operate a \$1.3 billion methanol producing facility at the Port of South Louisiana District in St. James Parish,
- Methanex Corporation, the world leader in the supply, distribution, and marketing of methanol, announced it will relocate 2 methanol plants from Chile, South America to Geismar and Gonzales in Ascension Parish. The combined projects represent a \$1.1 billion investment,
- EuroChem, a fertilizer company headquartered in Moscow, Russia, announced in July 2013 its intention to build a \$1.5 billion ammonia and urea production plant in either Iberville Parish or St. John the Baptist Parish.
- Axiall a leading chemical and building products company which operates major manufacturing facilities in Lake Charles and Plaquemine announced in December 2013 a possible investment of \$3 billion in cooperation with a partner to build a world-scale ethane cracker and related ethylene derivatives plant somewhere in Louisiana

LNG Facilities

LNG (liquefied natural gas) is natural gas, predominantly methane, that has been cooled to about -260°F at normal pressure to condense the gas into a liquid and shrinks its volume for easier storage or shipment. Louisiana is first in the U.S. in LNG import capacity (42.6% of U.S. import capacity) with terminals at Lake Charles, Sabine and Hackberry; these import terminals have been idle as a result of the natural gas shale boom. The picture of the U.S. gas supply, which turned a few years

back from scarcity into overabundance today, caused these companies to switch direction from planned to profit, from gasification of imported LNG to export domestic produced natural gas, by adding a natural gas liquefaction and export terminal to existing facilities at a cost of \$1.5 to \$10 billion, depending on its size. The following facilities are approved to export LNG from imported ones and also have received approval to export liquefied domestic gas to countries with a Free Trade Agreement (FTA) with the U.S.:

- Sabine Pass LNG terminal is located along the Sabine Pass River on the border between Texas and Louisiana in Cameron, Louisiana. Its import terminal commenced service in April 2008 and has a total send-out capacity of 4.0 Bcfd. It was the first U.S. LNG export terminal to receive approval to sell U.S. LNG to non-FTA countries on Sept. 12, 2012, and the only facility that has approval from FERC to build a gas liquefaction plant (as of Sept. 2013). The others have applied to FERC,
- Lake Charles LLC - Trunkline LNG import terminal commenced service in July 1981. It is located in the Lake Charles Harbor and Terminal District, Calcasieu, LA. When operating at peak capacity, it can send out natural gas at a maximum rate of 2.1 Bcfd. It became the third U.S. LNG export terminal to receive approval to sell U.S. LNG to non-FTA countries on Aug. 7, 2013,
- Cameron LNG terminal is located along the Calcasieu Channel in Hackberry Cameron, LA. Its import terminal commenced service in July 2009 and has a total send out capacity of 1.5 Bcfd.
- Freeport-McMoRan plans on existing gas processing facilities at Main Pass Energy Hub to be used as a gas deep-water port for liquefied natural gas. This facility will receive and store LNG, and condition natural gas for liquefaction and export, utilizing on-site floating liquefaction vessels. It does not have gasification capability.

2014 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 second largest producer of natural gas in the U.S., if the federal Outer Continental Shelf (OCS) production is excluded. Louisiana is also second in per capita energy consumption. More than 231,000 wells have been drilled searching for oil and gas in Louisiana since the first commercial oil well was drilled in 1901 in Jennings. The Louisiana OCS oil and gas production volumes are greater than in any other federally regulated offshore areas in the U.S.

Here are 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 gas started producing natural gas, making gas a predominate factor in new production. In 2010, oil production slowly reversed its decline trend due to production from Louisiana oil shale formations and enhanced recovery in mature fields. In 2014, oil production is expected to resume its decline rate due to falling oil prices and cheaper production cost in other U.S. oil shale fields.

Production Projections

Table 1. Louisiana Historical and Projected Crude Oil Productions

	<u>Date</u>	<u>Base Case</u> (Barrels)	<u>% Change</u>	<u>Low Case</u> (Barrels)	<u>High Case</u> (Barrels)
Actual	FY2006/07	76,896,150	11.65%	N/A	N/A
Actual	FY2007/08	77,057,739	0.21%	N/A	N/A
Actual	FY2008/09	68,786,639	-10.73%	N/A	N/A
Actual	FY2009/10	67,400,937	-2.01%	N/A	N/A
Actual	FY2010/11	68,345,942	1.40%	N/A	N/A
Actual	FY2011/12	70,765,829	3.54%	N/A	N/A
Actual	FY2012/13	71,969,286	1.70%	N/A	N/A
Projected	FY2013/14	70,607,123	-1.89%	67,954,235	72,827,688
Projected	FY2014/15	69,138,919	-2.08%	63,277,733	73,646,076
Projected	FY2015/16	68,232,120	-1.31%	61,754,269	73,349,575
Projected	FY2016/17	67,344,123	-1.30%	60,277,549	73,069,081
Projected	FY2017/18	66,475,459	-1.29%	58,834,160	72,789,950

The Louisiana state oil production, excluding federal OCS, showed an average decline of 2.0% per year over the past ten years, but actual year-to-year change varies widely, as shown in the above table.

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 9.83% decline in FY2008/09. A plunge in oil prices in FY2009/10 delayed production recovery from weather disasters. The delayed recovery and new production from enhanced oil recovery in old oil fields caused production to increase in FY2010/11. Continuous production from enhanced oil recovery fields, new production from oil shale formations, and relatively high oil prices caused production to increase in FY2011/12. In FY2012/13, the production increased less than expected due to falling oil prices. 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 above \$80 per barrel and no major weather disruptions occur. The above table lists the projections for the next five years. If prices go over \$100 for an extended period, the projections will be closer to the high case, and if the Tuscaloosa Marine shale or the Brown Dense shale productions take off, the above oil production projections will be too conservative.

Table 2. Louisiana Historical and Projected Natural Gas Productions

	<u>Date</u>	<u>Base Case</u> (MCF)	<u>% Change</u>	<u>Low Case</u> (MCF)	<u>High Case</u> (MCF)
Actual	FY2006/07	1,353,183,804	5.54%	N/A	N/A
Actual	FY2007/08	1,373,035,785	1.47%	N/A	N/A
Actual	FY2008/09	1,380,499,436	0.54%	N/A	N/A
Actual	FY2009/10	1,794,427,190	29.98%	N/A	N/A
Actual	FY2010/11	2,598,723,291	44.82%	N/A	N/A
Actual	FY2011/12	3,080,524,805	18.54%	N/A	N/A
Actual	FY2012/13	2,714,117,013	-11.89%	N/A	N/A
Projected	FY2013/14	2,060,335,554	-24.09%	2,071,164,875	2,226,367,026
Projected	FY2014/15	1,945,147,018	-5.59%	1,798,658,744	2,111,310,335
Projected	FY2015/16	1,888,429,951	-2.92%	1,739,962,900	2,056,779,611
Projected	FY2016/17	1,833,348,024	-2.92%	1,682,787,125	2,003,196,540
Projected	FY2017/18	1,779,892,836	-2.92%	1,627,491,480	1,951,019,314

Louisiana state gas production, excluding federal OCS, from FY2001/02 thru FY2006/07 declined an average of 1.55% per year. Similar to oil, gas production varies from year-to-year, reflecting the severity of weather patterns. In FY2006/07, the Haynesville Shale dry gas field 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 11.98% caused by a drop in drilling activities. The above table 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 \$3.50 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 has recovered to 40 rigs, caused by rising gas prices and an expected future demand increase from new chemical plants and export.

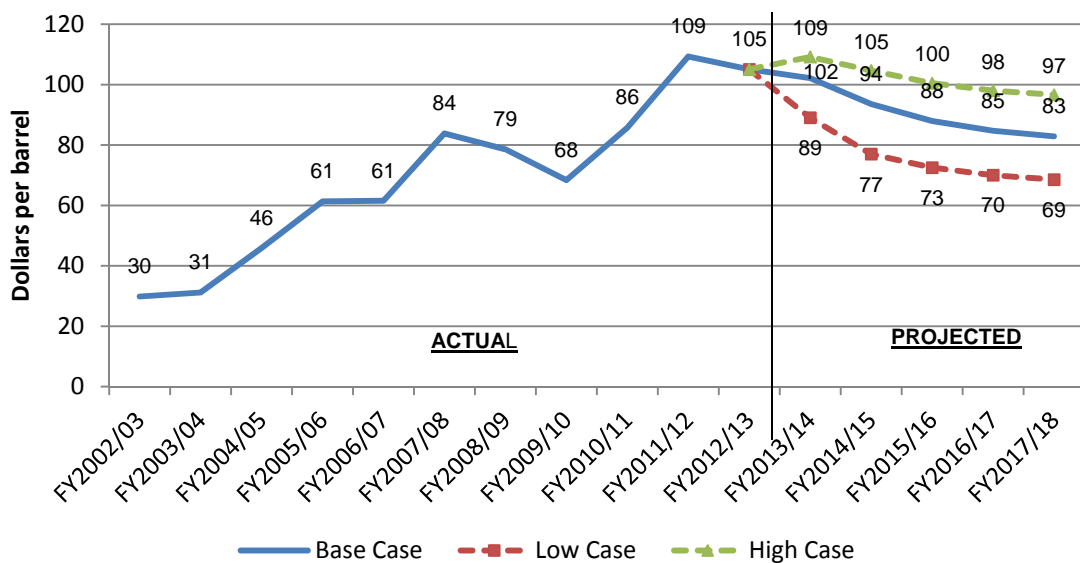
Factors that contribute to the year-to-year deviations in oil and gas production are:

- 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 1. Louisiana Crude Oil Historical and Projected Prices



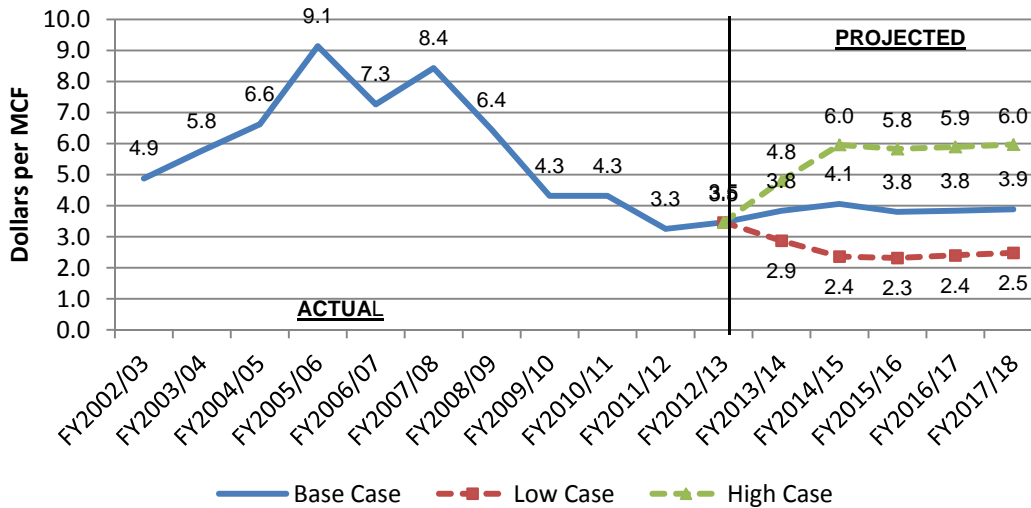
Louisiana crude oil price is over \$100 per barrel in the spot market at the last week of February 2014 due to weather demand. It is expected to drop when the Seaway and TransCanada pipeline are fully

operational, moving crude oil from Cushing, OK to the Gulf Coast refineries, more production from shale formations, 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 26:1. Oil prices have risen rapidly, while gas prices are falling, because Asian countries are consuming more oil than gas as they recover from recent recession, and the political unrest in African and Islamic countries are disrupting oil supply more heavily than gas supply. Gas has less mobility than oil in international trade because it requires special vessels and infrastructure (pipelines, compression stations, LNG terminals, etc.). Gas prices are cyclical, regional, controlled by supply and demand, and lack infrastructure for international trade. They are driven by factors such as weather, demand for gas not satisfied by pipeline systems, availability of spot supplies, and competing fuel prices. Others factors that could affect prices are storage levels, curtailments, market changes, new consumption, and NAFTA (North American Free Trade Agreement). Gas prices are also affected by psychological factors. Often the expectation of soft prices is enough to bring them about, and a good dose of cold winter weather will usually erase much of the psychological element of low gas prices and prices will move higher.

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 November 2013 world LNG estimated landed prices. Gas prices are \$15.65 per MMBTU in Japan and Korea, \$15.25 per MMBTU in China, \$13.75 per MMBTU in India, \$10.40 per MMBTU in Belgium, \$10.90 per MMBTU in Spain, \$14.65 per MMBTU in Brazil, and \$3.15 per MMBTU in the U.S. (Lake Charles). The low price in the U.S. is caused by the over supply of gas from shale plays.

Figure 2. Louisiana Natural Gas Historical and Projected Prices



Louisiana annual average gas price is expected to be around \$4 per MMBTU in the near future, and to increase to around \$5 per MMBTU when demand increases from newly built plants in the state and LNG export terminals became operational.

Tight Oil: A Primer

by

Edward O'Brien, Economist

What is it?

Tight oil is conventional oil which is found within reservoirs with low permeability. The oil contained within these structures typically will not flow without assistance. With the advancement of horizontal drilling technology over the past ten years, coupled with the improvements to hydraulic fracturing technology, tight oil has become more accessible in recent years, making it economically feasible to extract. Extracting tight oil involves a multi-stage hydraulic fracturing process, expanding the space between the pores in the rocks (permeability) so that the trapped liquid hydrocarbons are allowed to flow. Although progress has been made with extracting this tight oil, the question of Estimated Ultimate Recovery (EUR) from tight oil still remains. Estimated ultimate recovery (EUR) is an approximation of the quantity of oil or gas that is potentially recoverable or has already been recovered from a reserve or well. For tight oil, the EUR is generally accepted as between 10 and 30 percent.

Tight oil is where oil is trapped within tiny pores inside rock formations. In order for the oil to be extracted, there needs to be a way to free that oil from that rock. One way which this is happening is through hydraulic fracturing. Hydraulic fracturing is a technique in which typically water is mixed with sand and chemicals, and the mixture is injected at high pressure into a well to create fractures. When hydraulic fracturing happens, a pathway for the oil to flow throughout the rock is created, and thus, the oil has the ability to flow. Tight oil usually has low to medium viscosity (the ability for a liquid to flow), and when freed, is able to be harvested easier than oil with a high viscosity. To expand the impact of the hydraulic fracturing, horizontal drilling is used. Horizontal drilling employs drilling a well from the surface to a subsurface location just above the target reservoir, then changing the well from the vertical well used to drill down to a level into the ground to a horizontal level, expanding the area in which the well can reach. The combination of horizontal drilling and hydraulic fracturing allows drillers to extract the oil more efficiently than only traditional vertical drilling.

These technological developments have allowed oil resources, which were once thought to be unrecoverable, are now recoverable, increasing growth in United States oil production. The United States Energy Information Administration's (EIA) forecast in 2010 predicted 5.8 million barrels of oil produced daily domestically in 2013; however, since the further development in tight oil, especially in North Dakota and Texas, the most recent EIA forecast shows 7.3 million barrels a day were produced in May, 2013, the most since 1988. It is forecasted that the United States will see additional gains of 3.9 million barrels of production a day through 2018, pushing the total production capacity to 11.2 million barrels a day, or 67% of the projected demand in 2018 being domestically produced. The EIA has also stated that the United States could be the world's global leader in production by 2020, based on technological developments that allow the exploitation of the tight oil.

Where is it?

The major tight oil plays within the United States are the Bakken in North Dakota and Eagle Ford in Texas. The Bakken play (which includes the Three Forks formation) has an EUR of 11 billion barrels of oil locked up in the tight oil throughout North Dakota, Lower Saskatchewan and Eastern

Montana, according to Lynn Helms, director of the North Dakota Department of Mineral Resources, the high estimate provided by the EIA. Eagle Ford, located in southern Texas, has an estimate between 7 to 10 billion barrels of EUR, according to the USGS. In addition to those two major plays, other tight oil plays within the United States include Niobrara (Colorado), Avalon (Texas/New Mexico), Wolfcamp (Texas/New Mexico), Barnett (Texas), Monterey (California), and in Louisiana, the Tuscaloosa Marine Shale. Tight oil is deeper than conventional oil plays, usually between 2,000 feet and 20,000 feet, depending on where the structures are located. As one would imagine, the deeper the tight oil, the more expensive it is to produce from those plays.

Table 1.

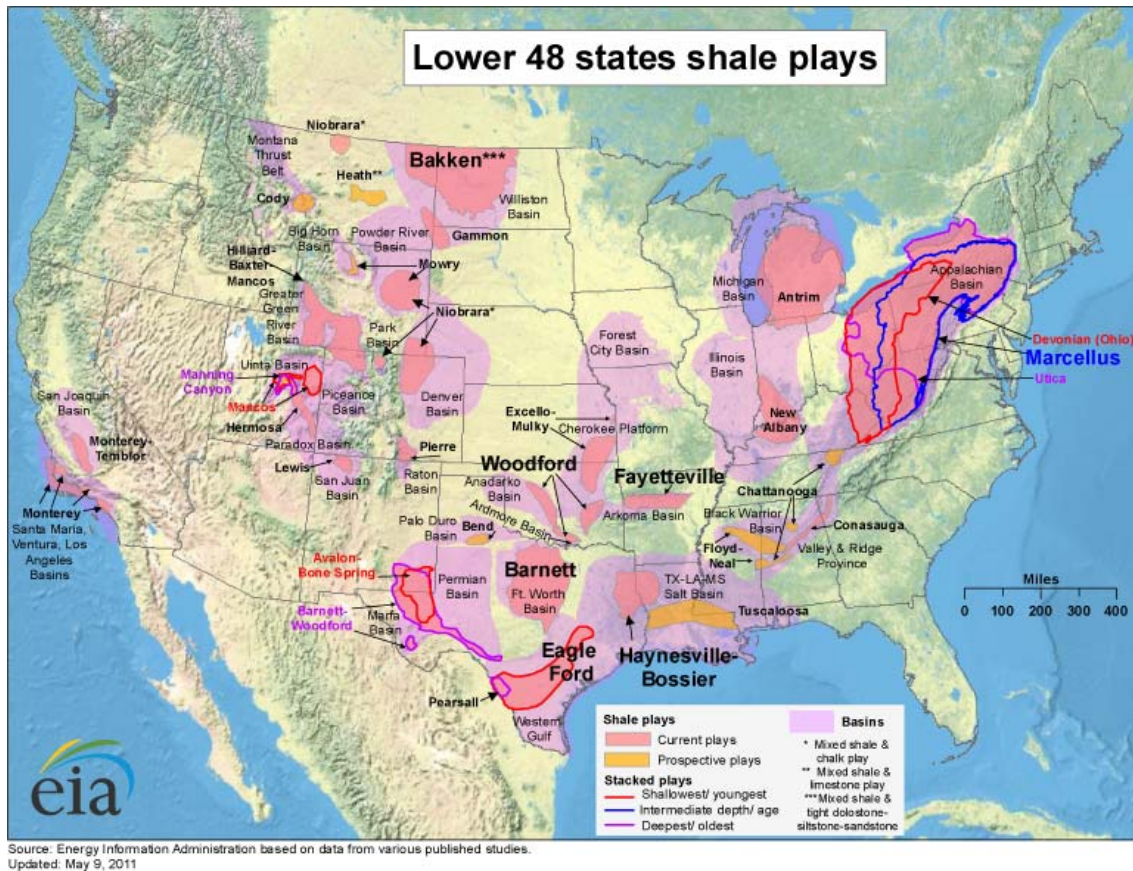
United States Tight Oil Supply Prices		
Play	State	Cost
Monterey	CA	\$36
Eagle Ford	TX	\$49
Bakken	ND	\$50
Wolfcamp	TX	\$55
Granite Wash	OK	\$57
Wolfcamp	NM	\$58
Granite Wash	TX	\$64
Avalon & Bone Spring	TX	\$65
Niobrara	CO	\$66
Avalon & Bone Spring	NM	\$69
Tuscaloosa	MS	\$69
AB-Bakken	MT	\$70
Three Forks/Sanish	ND	\$76
Elm Coulee	MT	\$85
Tuscaloosa	LA	\$92

Source: Rodgers Oil & Gas Consulting

How much is there?

The EIA “Technically Recoverable Shale Oil Resources” data lists the United States as having 48 billion barrels of recoverable shale oil reserves, as of July 2013, although estimates differ on how

Figure 1.



much oil is contained within the tight oil formations. In that same report, the EIA increased the global from the 2011 of 32 billion barrels of EUR shale oil to 345 billion barrels, a 1078% increase. With the development of new technology, tight oil (including shale oil) has become more exploitable, increasing not just the global reserves, but also the reserves in North America and the United States. BP stated in its annual statistical review that U.S. oil output rose by 13.9% to 8.905 million b/d in 2012 from 7.868 million b/d in 2011. This represented 9.6% of the world's total. The growth of oil output in the U.S. was the fastest in the world, according the BP statistical review.

Focusing on the United States, Bakken and Eagle Ford account for 82% of the oil produced from horizontal wells in the United States in 2011. U.S. tight oil production increased from an average 0.2 million barrels per day in 2000 to an average of 1.9 million barrels per day in 2012, or an 850% increase for that period. With an estimated 100 billion barrels of oil in the Bakken, with an EUR of between 10% and 30%, it is not out of the question that Ms. Helms was accurate in forecasting 11 billion barrels of recoverable oil from that region, which could ultimately be an extremely conservative estimate. As for Eagle Ford, there is a conservative estimate of 7 billion barrels of recoverable oil, out of an estimated 25 billion barrels of oil in the shale formation. One reason for the Eagle Ford play having a higher percentage of recoverable oil is a greater permeability than other shale oil fields. Other major fields include the Permian Basin, which has an estimated 100 billion barrels in oil shale, of which 15 billion barrels are technically recoverable. In Louisiana, there is an estimated 7 billion barrels of oil in the Tuscaloosa Marine Shale, with an estimated EUR of 700 million barrels. Under south Louisiana, from Slidell to Lake Charles, the Tuscaloosa Marine Shale is amassed from 12,000 to 16,000 feet down, the depth contributing to economic limit of \$92 per barrel, or the cost of extracting the shale oil from the ground.

Technology used to sever the oil shale from the ground is expanding. According to Edward Morse, global head of commodities research for Citigroup, from a April 27, 2013 New York Times article, "The most optimistic of people believe that we've only seen the beginning of a burst of technological innovation, and if you look back from 2020 to fracking techniques in 2013, by 2020 you'll think these are sort of feudal times". Taking the developments in technology into account, one can theorize that the amount of EUR should increase in the future, adding addition EUR to the total amount of shale oil which can be recovered. If today's estimate of 48 billion barrels represents just 10% of oil shale under the United States, with more development of technology, it is not unreasonable for that number to increase in upcoming years. One improvement which could be made is to somehow discover a method to slow the decline in production from oil shale wells, which is between 40% and 65% after the first year.

Looking Forward

With the resurgence of drilling in the oil patch, United States oil production has increased since 2008, to a level which exceeds production last seen in the 1980s. This increase of production, due to the exploitation of tight oil in the United States (mainly the Bakken and Eagle Ford shale) is projected to continue for the foreseeable future. With a conservative estimate of 11.2 million barrels per day produced in the United States in 2018 (projected by the EIA), tight oil has allowed the United States to expand oil production to a point which rivals many OPEC nations. The United States is currently importing oil at the lowest rate in more than 20 years. This trend is expected to continue for at least the next 15 years. In addition to the proven tight oil, new estimations on various tight oil deposits are being made. With improvements being made in technology, it is not out of the

realm of possibility for the current 10%-30% recovery to increase to 20%-40%, increasing the total EUR.

Figure 2.

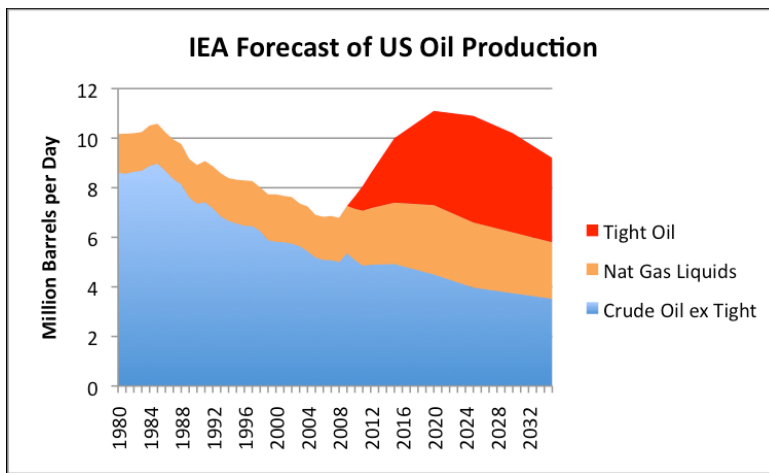
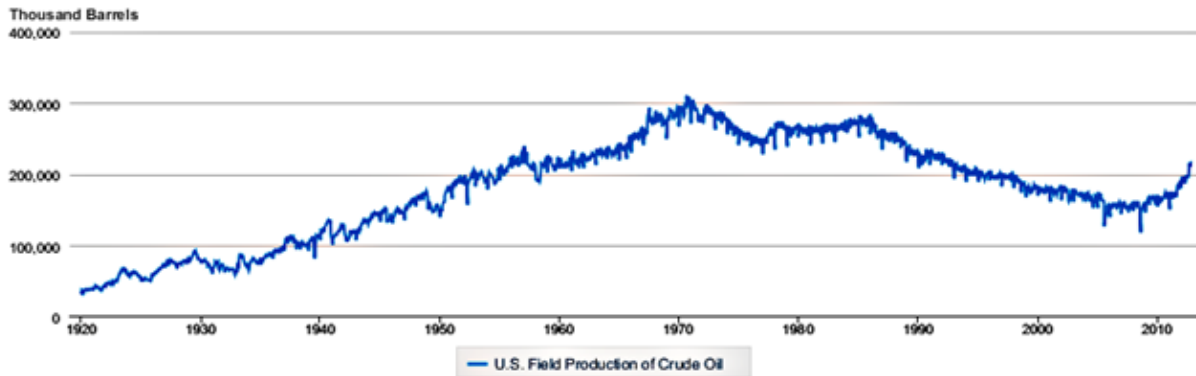


Figure 3.

U.S. Field Production of Crude Oil



Source: U.S. Energy Information Administration

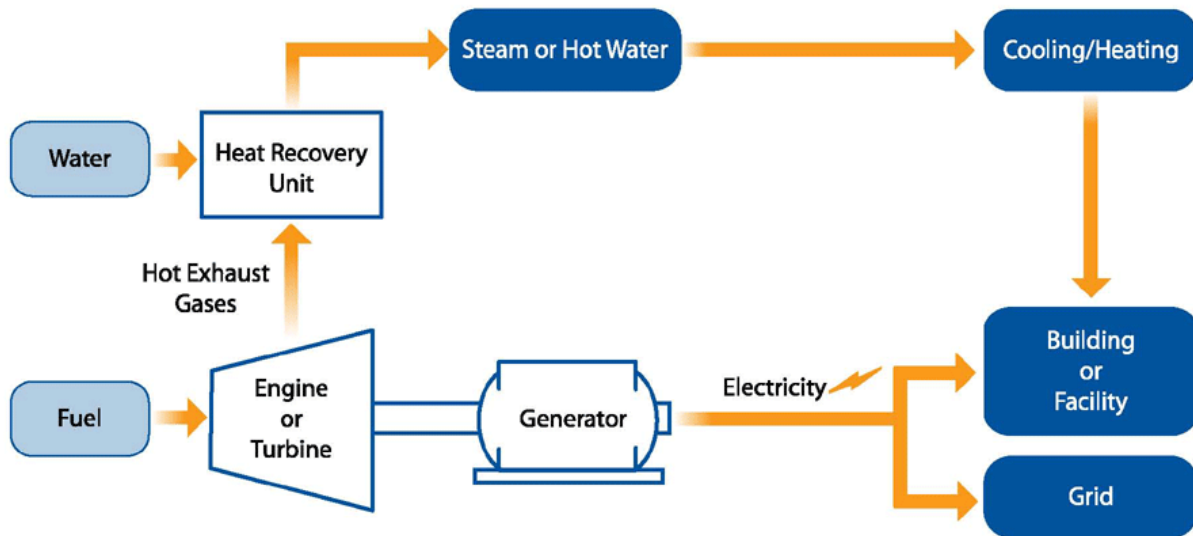
COMBINED HEAT AND POWER IN LOUISIANA

by
Patty Nussbaum

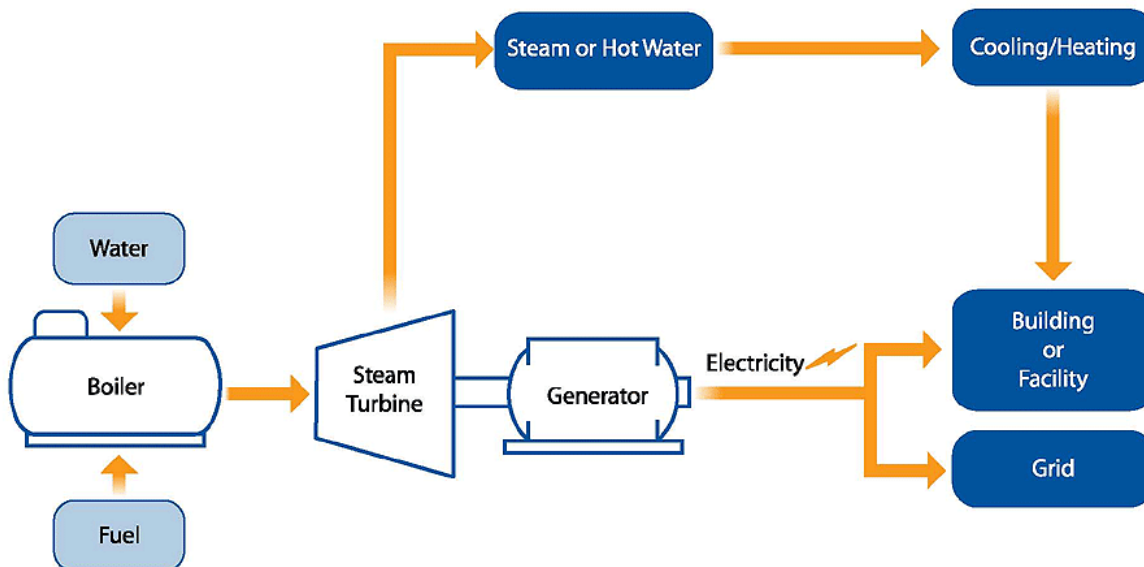
Combined heat and power (CHP), is the simultaneous production of electricity and heat from a single fuel source (natural gas, biomass, biogas, coal, waste heat, or oil).

Two common CHP system configurations are:¹

- Gas turbine or engine with heat recovery unit



- Steam boiler with steam turbine



¹ U S Department of Environmental Protection (<http://www.epa.gov/chp/basic/index.html>)

Gas turbines/engines are ideally suited for large industrial or commercial CHP applications which require substantial amounts of electricity and heat. Steam turbine-based CHP systems are typically used in industrial processes, where solid fuels (biomass or coal) or waste products are available to use as fuel for the boiler.

CHP plays an important role in meeting the United States' energy needs as well as in reducing the environmental impact of power generation. However, there is an under-investment in industrial energy efficiency and CHP. In August 2012 President Obama, by executive order, set a “goal of deploying 40 gigawatts of new, cost effective industrial CHP in the United States by the end of 2020.”

In the Louisiana Legislature’s 2012 Regular Session a House Resolution (HR 167) “does hereby urge and request the Department of Natural Resources, in conjunction with the Public Service Commission, to adopt rules and regulations to establish guidelines for equipping critical government facilities with a combined heating and power system if the expected energy savings exceed the expected costs.”

The Louisiana Department of Natural Resources established an interagency agreement with LSU to review CHP technologies, benefits, and costs; characterize CHP systems currently operating in the state; estimate the technical and economic potential for expansion of CHP installations over the next 15 years; and assess the regulatory environment surrounding CHP and the barriers to CHP development. The study is due to be completed in mid 2014.

Dr. David Dismukes, Center for Energy Studies, Louisiana State University, gave a presentation at the Electric Power 2014 Conference in New Orleans in April relating to the CHP study. Following are a few of the highlights.

- There are 35 CHP facilities in Louisiana. 13 of these facilities are large (greater than 100 MW) and account for 86 percent of total capacity.
- In Louisiana CHP capacity totals 6,300 MW with chemical manufacturing accounting for about 80 percent of total CHP capacity.
- Most capacity was developed after 1990.
- The bulk of the potential CHP market is in the chemical and refining sectors.
- Identified 92 facilities with the technical potential for CHP with just 28 deemed cost-effective.
- Past CHP policy/market barriers have historically centered around three problems:
 - Lack of price transparency
 - Having an open and objective transmission operation, planning, and longer-run development process
 - Lack of market institutions to support expanded sales of CHP output into wholesale markets.
- The current Louisiana “industrial renaissance,” coupled with Entergy’s recent move to the MISO should help to alleviate many of the perceived developer problems associated with in-state CHP expansion.

LOUISIANA, AN ENERGY CONSUMING STATE: AN UPDATE USING 2012 DATA

by
Manuel Lam

Louisiana ranks high among the states in overall energy consumption. Louisiana remained 4th in total energy consumption in 2012 compared to the previous year. Louisiana is 2nd in per capita energy consumption for 2012. 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.

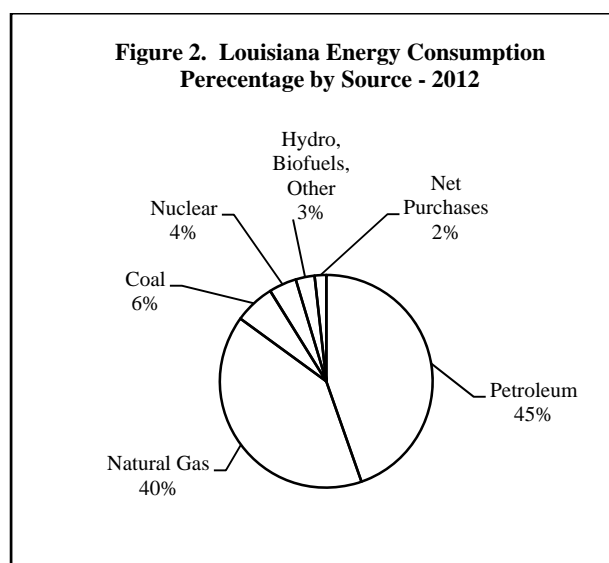
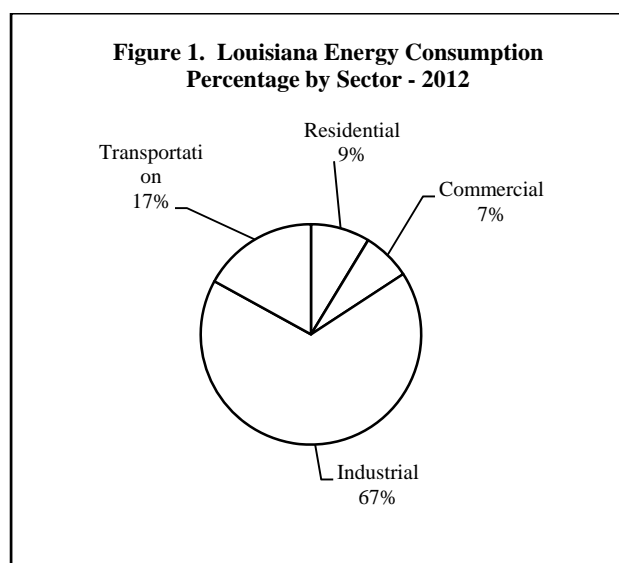


Table 1 shows where Louisiana ranks among the states in various energy consumption categories and lists the top energy consuming state for each category.

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 2012. The energy balance is calculated both inclusive and exclusive of Louisiana's OCS oil and gas production.

Table 1. Louisiana Energy Consumption Rankings Among the States - 2012

Category	Rank	TBTU	#1 State (TBTU)
Residential	24	339.2	Texas (1,599.0)
Commercial	21	277.5	California (1,553.9)
Industrial	2	2,628.2	Texas (6,258.4)
Transportation	13	663.7	California (2,943.2)
Coal	25	238.8	Texas (1,498.9)
Natural Gas	3	1,576.0	Texas (3,992.0)
Petroleum	3	1,740.5	Texas (6,015.3)
Electricity	17	289.1	Texas (1,247.0)
Total	4	3,908.6	Texas (12,281.9)
Per Capita (MBTU)	2	854.9	Wyoming (945.4)

Table 2. Louisiana Energy Balance - 2012 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	412.2 TBTU ⁴ (71.1 MMBBL)	1,740.5 TBTU (329.1 MMBBL)	-1,328.3 TBTU	1,036.5 TBTU
	LOUISIANA OCS OIL ²	2,364.8 TBTU ⁴ (407.7 MMBBL)			
NATURAL GAS:	STATE GAS ³	3,021.0 TBTU ⁴ (2.965 TCF)	1,576.0 TBTU (1.553 TCF)	1,445.0 TBTU	2,576.9 TBTU
	LOUISIANA OCS GAS ³	1,131.9 TBTU ⁴ (1.111 TCF)			
COAL:	LIGNITE	47.7 TBTU (3.622 MMSTON)	238.8 TBTU (14.9 MMSTON)	-191.1 TBTU	-191.1 TBTU
NUCLEAR ELECTRIC POWER		164.1 TBTU (15.7 Billion kWh)	164.1 TBTU (15.7 Billion kWh)	0.0 TBTU	0.0 TBTU
HYDROELECTRIC, BIOFUELS & OTHER		111.9 TBTU	111.9 TBTU	0.0 TBTU	0.0 TBTU
NET INTERSTATE PURCHASES OF ELECTRICITY INCLUDING ASSOCIATED LOSSES			68.9 TBTU	-68.9 TBTU	-68.9 TBTU
<hr/>					
TOTALS:	EXCLUDING LOUISIANA OCS	3,756.9 TBTU	3,900.2 TBTU	-143.3 TBTU	
	INCLUDING LOUISIANA OCS	7,253.6 TBTU	3,900.2 TBTU		3,353.4 TBTU

The Louisiana energy balance for 2012 shows that the state consumed 143.3 more TBTUs of energy than it produced if Louisiana OCS production is not included. If Louisiana OCS production is included, the state is a net producer of energy by 3,353.4 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

SELECTED LOUISIANA ENERGY STATISTICS

Among the 50 states, Louisiana’s rankings (in 2013, unless otherwise indicated) were:

PRIMARY ENERGY PRODUCTION

(Including Louisiana OCS*)

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

REFINING AND PETROCHEMICALS

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

PRIMARY ENERGY PRODUCTION

(Excluding Louisiana OCS)

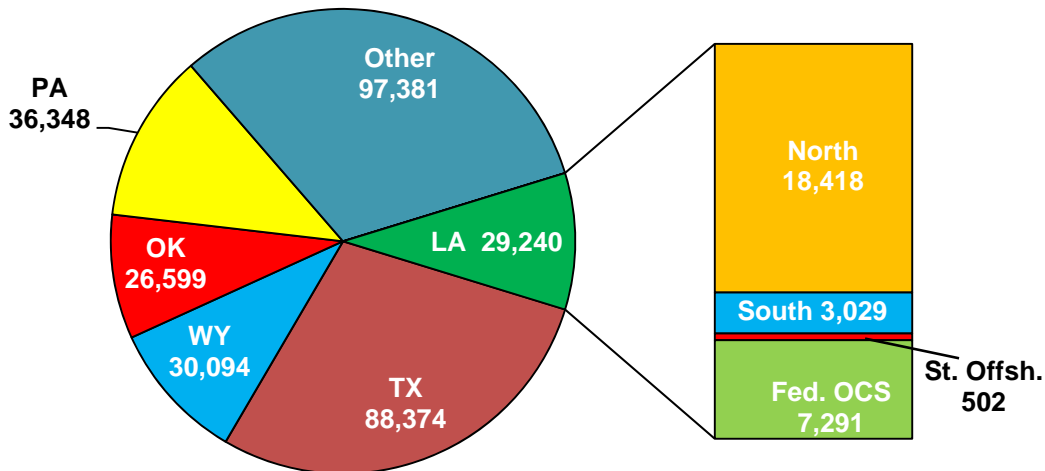
- 7th in crude oil
- 3rd in natural gas
- 5th in dry natural gas proved reserves
- 10th in crude oil proved reserves
- 17th in coal
- 17th in nuclear electricity

ENERGY CONSUMPTION (2012)

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

Figure 1

2013 U.S. Natural Gas Reserves (Billion Cubic Feet)

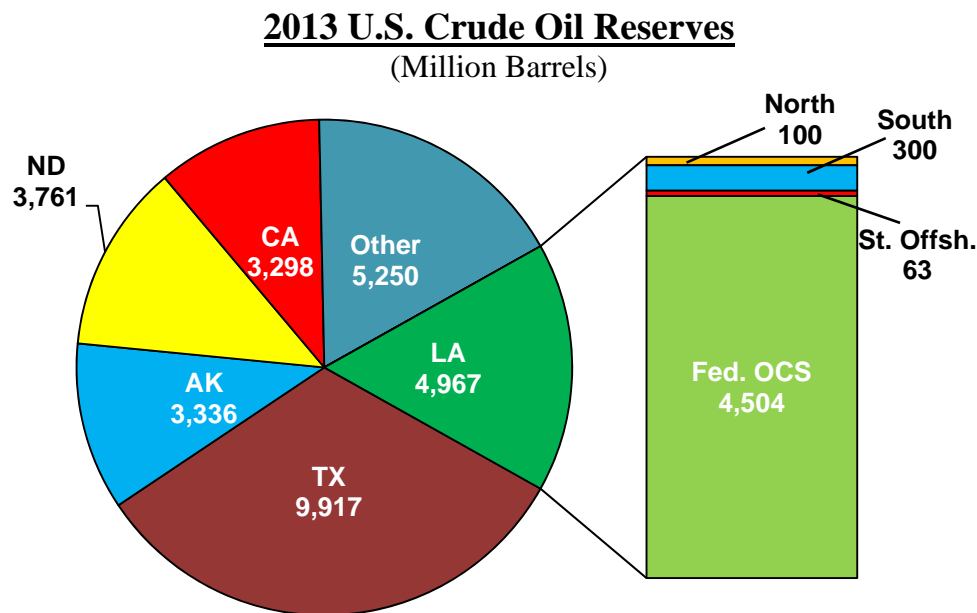


PRODUCTION

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 and in 2013, it fell to 2.32 TCF, or a 21.8% 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 and in 2013, it increased to 72 mmbbls. The recent oil production increase comes mostly from mature fields using new recovery techniques, and high crude oil prices. If oil prices fall below \$105 per barrel, production will decrease from the present level, but if the Tuscaloosa Marine Shale or the Brown dense shale productions take off, state oil production will continue to surge.

Figure 2



Louisiana OCS (federal) territory 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 2013.

In 2013, Louisiana OCS territory produced 14.5% and the state territory produced 2.7% of the U.S. oil domestic production. The Louisiana OCS produced 4.1% and the state territory produced 9.2% of the natural gas produced in the U.S.

Louisiana OCS gas production peaked at 4.07 TCF per year in 1979, declined to 2.95 TCF in 1989, recovered to 3.84 TCF in 1999, fell to 2.02 TCF in 2007, fell to 1.65 TCF in 2008, rose to 1.73 TCF in 2009, fell to 1.32 TCF in 2011, fell to 1.11 TCF in 2012, and fell to 0.91 TCF in 2013.

Louisiana OCS crude oil and condensate production first peaked at 388 mmbbls per year in 1972, and then declined to 246 mmbbls in 1989. The production rose from 264 mmbbls in 1990 to 508 mmbbls in 2002, due to the development of deep water drilling. In 2007, production dropped to 427 mmbbls, in 2008 it dropped to 385 mmbbls, in 2009 production increased to 528 mmbbls, in 2010 it fell to 520 mmbbls, in 2012 it fell to 408 mmbbls, and in 2013 it fell to 395 mmbbls. The roller coaster ride in oil production can be attributed to weather events, production mishaps, and a drilling moratorium.

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 2010/11, it was \$1.31 billion or 14% of state income, in FY 2011/12, it was \$1.40 or 14% of state income; in FY 2012/13, it was \$1.37 billion or 13% of the state income, and in FY 2013/14, it was around \$1.34 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

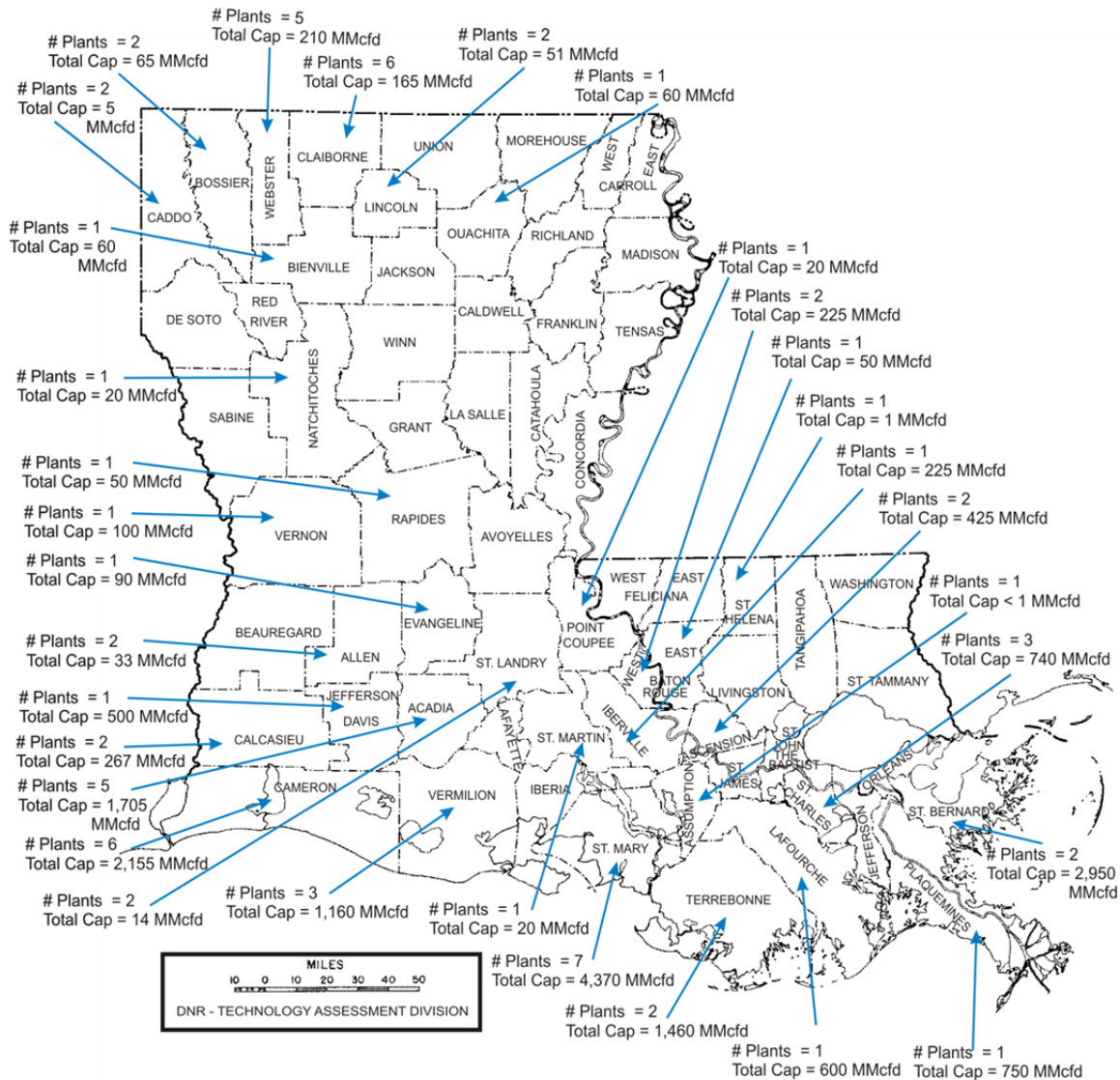
Drilling permits issued on state controlled territory peaked at 7,631 permits in 1984 and declined to a low of 1,017 permits in 1999. Since 2000, the annual number of drilling permits issued has been on a roller coaster ride. In 2007, permits increased to 2,150, in 2008, they increased to 2,374 permits, in 2009, permits decreased to 1,365, in 2010, they increased to 1,956 permits, in 2012, they decreased to 1,581 permits, and in 2013, they decreased to 1,578.

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

The average active rotary rig count for Louisiana, excluding OCS, reached a high of 386 active rigs in 1981 and fell to 76 active rigs in 2002. In 2008, there were an average of 117 active rigs, the count fell to 113 rigs in 2009, it increased to 166 active rigs in 2010 because of Haynesville run up, and in 2012, it decreased to 81 active rigs caused by a decrease in gas prices, and in 2013, it decreased to 61 rigs, due to competitions from shale gas formations with high liquids contents and low gas price. The lowest year average between 1981 and 2010 was 64 active rigs in 1993.

The annual average active rotary rig count for Louisiana OCS reached a high of 109 rigs in 2001 and it is in a downward trend; it was 70 rigs in 2006, 50 rigs in 2008, and 26 rigs in 2010. After the moratorium, the trend reversed; in 2012, it increased to 43 rigs and in 2013, it increased to 47 rigs. The lowest year average between 1981 and 2010 was 23 active rigs in 1992.

Figure 3
Louisiana Gas Plants and Total Capacity by Parish
 As of January 1, 2014



State total: 69 plants, 18,546.3 MMcfd

Data source: Oil & Gas Journal

COMPRESSED NATURAL GAS (CNG) - FUEL STATIONS IN LOUISIANA

by

Patricia Nussbaum, P.E.

Louisiana produces about 30% of the nation's clean burning and abundant natural gas. Compressed Natural Gas (CNG) is a fossil fuel, but it is domestically produced so CNG prices have risen more slowly than oil prices. A rough comparison in gasoline gallon equivalents at the time this article was written shows CNG at about \$2 and traditional gasoline at about \$4.

CNG is considered an alternative fuel under the Energy Policy Act of 1992. The horsepower, acceleration, and cruise speed of natural gas vehicles (NGVs) are comparable with those of conventional vehicles. Burning CNG instead of gasoline reduces carbon monoxide emissions, carbon dioxide emissions, nitrogen oxide emissions, and emits little particulate matter.

Light-duty vehicles typically operate in dedicated or bi-fuel modes. On the vehicle, CNG is stored in tanks. The driving range of natural gas vehicles is generally less than that of conventional gasoline vehicles because of the lower energy density of natural gas. The United States has an extensive natural distribution system, however, natural gas fueling stations are limited.

On the U. S. Department of Energy - Energy Efficiency and Renewable Energy, Alternative Fuels Data Center (<http://www.afdc.energy.gov>) there is an alternative fueling station locator. The locator (<http://www.afdc.energy.gov/locator/stations/>) can be used to find CNG fueling stations near an address or ZIP code, or along a route in the United States. Below is a list of the stations in Louisiana and a picture from the locator.

Cities with Compressed Natural Gas (CNG) Stations in Louisiana from the U. S. Department of Energy – Energy Efficiency and Renewable Energy *Alternative Fuels Data Center*:

1. Alexandria – Chevron (6016 Old Boyce Highway)
2. Baton Rouge – Lavigne Oil Co. (8968 South Choctaw Drive)
3. Baton Rouge - Lavigne Oil Co. (4837 Florida Boulevard)
4. Bossier – City of Bossier (4520 Barksdale Boulevard)
5. Bossier City – Bossier City Refueling Station (2580 East Texas Street)
6. Coushatta – Red River-Encana (1392 Highway 84 East)
7. Frierson – Relay Station Red River Oil & Gas (6797 Highway 175)
8. Houma – Gaubert's Texaco (551 South Van Avenue)
9. Kenner – Clean Energy – New Orleans International Airport (1017 Airline Drive)
10. Lafayette – Apache (515 East Verot School Road)

11. Lafayette – Lafayette (1515 East University Avenue)
12. Mansfield – Chevron (796 Washington Avenue)
13. Natchitoches – Shop A Lot (201 Highway 3175)
14. Shreveport – Time-it-Lube (6828 Pines Road)
15. Shreveport – Shreveport – 1731 Kings Street at Linwood)
16. Shreveport – Freedom Fuel – (501 West 70th Street)

Alternative Fueling Station Locator – CNG Stations Louisiana



Source: DOE Alternative Fuels Data Center (<http://www.afdc.energy.gov>)

U. S. STATE ENERGY PROGRAM (SEP)

by

Patricia Nussbaum, P. E.

The State Energy Program originated in the early 1970s. The program, administered by the U. S. Department of Energy, provides cost-shared resources to the states for allocation by the State Energy Office (SEO). There are 56 State and Territory Energy Offices. The Louisiana State Energy Office is housed in the Technology Assessment Division within the Louisiana Department of Natural Resources (www.dnr.louisiana.gov).

SEP Mission and Goals¹

- Support the public and private sectors
- Strengthen America's competitive position and energy security
- Provide high value programs and projects that facilitate the private sector delivery of energy innovation
- Maximize energy, environmental, and economic benefits
- Increase market acceptance of energy efficiency and domestic energy resources
- Use innovative approaches to reach market segments and meet policy goals

The program is funded through congressional appropriations, Petroleum Violation Escrow (PVE), program income, Office of Energy Efficiency and Renewable Energy (EERE) programs for special projects, and leveraged funds. DOE estimates that each \$1 of SEP funds is leveraged by \$10.71 of state and private funds. The 30-year SEP program is authorized at \$125 million. The program received \$50 million in Fiscal Year 2014 appropriations.

States file a grant application that describes energy goals and proposed activities, source of funds, budget and monitoring. States must comply with the DOE and other Federal regulations and procedures governing financial awards. These documents address program regulations, prohibited use of SEP Funding, allowable costs and expenditures and minimum required program activities. The SEO is tasked with monitoring, record keeping and reporting.

The Louisiana Energy Office, in addition to being the conduit for federal program money, is the state's clearinghouse for information regarding alternative energy sources and energy efficiency for stakeholders ranging from homeowners to all levels of government. The Energy Office provides advisory assistance to the Louisiana Secretary of Natural Resources on energy use, efficiency, supply, and alternatives. The SEO provides assistance regarding legislation related to energy conservation and energy standards in Louisiana.

Two of the more popular programs funded through the state energy program were the Home Energy Rebate Program (HERO) and the Energy Star appliance rebate program. The HERO program provided cash rebates to homeowners for energy retrofits. The Appliance Rebate Program offered rebates to consumers to help defray the cost of energy efficient appliances.

¹ NASEO SEP in Brief (http://www.naseo.org/Data/Sites/1/documents/programs/sep/documents/NASEO_SEP_In_Brief.pdf)

Table 1. State Energy Program (SEP) At-A-Glance	
Objective	To promote energy conservation and efficiency and reduce energy demand by developing and implementing comprehensive State energy conservation plans supported by Federal financial and technical assistance.
Eligible Applicants	The States, the District of Columbia, and territories of the United States.
Program Regulations	DOE <i>Code of Federal Regulations</i> , Title 10, Part 420, Part 600, and Office of Management and Budget (OMB) Circulars.
Funding	Congressional appropriations, Petroleum Violation Escrow (PVE), State funds, program income, Office of Energy Efficiency and Renewable Energy (EE) end-use sector programs (for special projects), and leveraged funds.
Prohibited uses of SEP Funding	<ul style="list-style-type: none"> • Construction or repair of mass transit systems or exclusive bus lanes, buildings, or structures • Purchase land, buildings, or structures or to pay interest on construction • Subsidize fares for public transportation • Subsidize utility rate demonstrations or State tax credits for energy conservation or renewable energy measures • Conduct or purchase equipment to conduct research, development, or demonstration of energy efficiency or renewable energy techniques and technologies not commercially available. However, demonstrations of commercially available energy efficiency or renewable energy techniques and technologies are permitted.
Allowable Costs and Expenditures	As defined in OMB Circulars A-21, A-87, and A-122 and cited in 10 CFR 600.127 and 10 CFR 600.222.
Minimum Required Program Activities	Establish mandatory lighting efficiency standards for public buildings; promote the availability and use of car pools, van pools, and public transportation; establish mandatory standards and policies affecting procurement practices; mandatory thermal efficiency standards for new and renovated buildings; traffic laws that permit right turns at red traffic lights and left turns from a one-way to a one-way street or adopt model codes for local governments to mandate such measures; and procedures to ensure effective coordination among local, State, and Federal energy efficiency, renewable energy, and alternative transportation fuel programs.
Special Projects	States may apply for funding made available to support activities aimed at improving the energy efficiency of the buildings, industrial, transportation, and utility sectors and the Federal Energy Management Program (FEMP).
Application Requirements and Program Assurances	States must submit an Annual Application and a State Plan/Master File (prepared and updated as required) that describes energy conservation, efficiency and renewable energy goals, proposed activities, source of funds, budget, progress, and monitoring activities.
Reporting Requirements	States must file quarterly reports that account for funds and program status.
Audits	States are responsible for obtaining independent nonfederal audits.

Source: State Energy Program Operations Manual (January 2003):

http://www.naseo.org/data/sites/1/documents/programs/sep/documents/SEP_Operations_Manual-2003.pdf

CLEAN CITIES - A NATIONAL NETWORK OF LOCAL COALITIONS

by

Patricia Nussbaum, P.E.

Clean Cities was established in 1992 and works to reduce the use of petroleum in transportation. The Energy Policy Act of 1992 required some vehicle fleets to acquire alternative fuel vehicles. Alternative fuels include natural gas, propane, electricity, E85, biodiesel and hydrogen. DOE created Clean Cities to provide resources - informational, technical and financial - to the fleets. Clean Cities is a network of local coalitions. Each coalition is led by a coordinator who tailors activities for the communities they serve. Louisiana has two coalitions. Each coalition has an annual goal to increase petroleum savings by 16%. Stakeholders are composed of:

- Businesses
- Fuel Providers
- Vehicle Fleets
- State and Local Government Agencies
- Community Organizations

Geographic Coverage of Clean Cities Coalitions



Louisiana Clean Fuels Coalition

(<http://www.afdc.energy.gov/cleancities/coalition/baton-rouge>)

Area: 41,675 sq. mi.

Boundaries:

Parishes (counties): Acadia, Allen, Ascension, Assumption, Avoyelles, Beauregard, Bienville, Bossier, Caddo, Calcasieu, Caldwell, Cameron, Catahoula, Claiborne, Concordia, DeSoto, East Baton Rouge, East Carroll, East Feliciana, Evangeline, Franklin, Grant, Iberia, Iberville, Jackson, Jefferson Davis, Lafayette Consolidated Government, Lafourche, LaSalle, Lincoln, Livingston, Madison, Morehouse, Natchitoches, Ouachita, Pointe Coupee, Rapides, Red River, Richland, Sabine, St. Helena, St. James, St. Landry, St. Martin, St. Mary, Tensas, Terrebonne, Union, Vermillion, Vernon, Washington, Webster, West Baton Rouge, West Carroll, West Feliciana, Winn

Designated: April 12, 2000

Coordinators: Ann Shaneyfelt and Lauren Lambert-Tompkins

Southeast Louisiana Clean Fuels Partnership Coalition

(<http://www.afdc.energy.gov/cleancities/coalition/southeast-louisiana>)

Area: 5,050 sq. Mi.

Boundaries:

Parishes (counties): Jefferson, Orleans (includes the City of New Orleans), Plaquemines, St. Bernard, St. Charles, St. John the Baptist, St. Tammany, Tangipahoa

Designated: March 26, 2008

Coordinator: Rebecca Otte

Clean Cities is funded and managed by the U.S. Department of Energy. The Louisiana State Energy Office also provides funding through the state energy program. Clean Cities Coalition activities include documenting, analyzing, and publishing data from fleets and industry partners. The Clean Cities Coalitions meet their objectives through workshops, meetings, training sessions, and vendor shows.

Clean Cities has a goal of saving 2.5 billion gallons of petroleum by 2020. They use three strategies to achieve that goal. The first is to replace petroleum with alternative fuels. The second is to reduce petroleum consumption by improving fuel efficiency. The third strategy is to eliminate petroleum use through idle reduction and fuel saving.

More information about the program as well as access to the map shown in a screen shot on page one can be found on the U. S. Department of Energy Website (<http://www1.eere.energy.gov/cleancities/>).

HYBRID VEHICLES: IS THE ADDITIONAL EXPENSE OF A HYBRID WORTH THE EXTRA MONEY?

by

Edward L. O'Brien, III, M.Econ, MBA

With the price of gasoline dropping below \$3 nationally for the first time in the last 200 weeks, the efficiency of hybrid vehicles has been much publicized. But what is the true cost of purchasing a hybrid? Is a hybrid more economical than a traditional vehicle in the long run?

The main difference between gas and hybrid cars is the way the engine functions. A hybrid car combines a gasoline-powered engine with an electric motor, while a traditional vehicle gets its power from the engine only. In a hybrid, a complex system of electronic and mechanical controls manages the engine and motor to obtain the best efficiency for different driving conditions. Hybrid electric vehicles are powered by an internal combustion engine and an electric motor, which uses energy stored in batteries. The extra power provided by the electric motor allows for a smaller engine. Additionally, the battery can power auxiliary loads like sound systems and headlights and reduce engine idling when stopped. Together, these features result in better fuel economy without sacrificing performance.

To calculate the true cost of a vehicle, the main variables need to be ascertained. First, the price of the vehicle needs to be obtained. Hybrids tend to have a higher price tag than their regular complements, but they can often come with greater incentives from the dealers so the consumer will have greater financial motivation to purchase, which averaged \$3,400 in 2013. One needs to look at the amount of miles driven. For this study, the average miles driven in a year from the National Highway Traffic Safety Administration (NHTSA) for 2013, or 13,476 miles, was used. Another variable, which contrasts from vehicle to vehicle, would be the average gas mileage per vehicle. The price of gas also needs to be calculated. This study used the 2013 national average price of \$3.49 per gallon (based on AAA unleaded regular gas information). Finally, the cost of insurance needs to be factored. Edmunds.com reports that some insurers charge more for the hybrid, due to costlier repairs, while some insurers charge the same as a regular engine. For this study, Insure.com calculated the difference in premiums for gas and hybrid vehicles, and for the hybrids used in this study, the average difference was \$240 more for the hybrid. The expected lifespan of the vehicle is 5 years.

$$P_c - In + \sum \left(\left(\frac{\text{Miles Driven}}{MPG} \right) * P_g \right) + \sum P_m + \sum Ins = \text{Cost of Vehicle}$$

Where:

P_c = Price of car

In = Incentives

P_g = Price of gas

P_m = Price of Maintenance

Ins = Insurance

When inputting the average vehicle cost into the equation, the normal internal combustion vehicle and the hybrid were compared, and only vehicles that are offered by the factory with both the hybrid and normal options were compared. Looking at the top ten most popular models in the US, according to

Autos.com February 2014 sales numbers, five of those models had a hybrid option. The make, model, price, and miles per gallon for both the standard vehicle and the hybrid are located in Table 1.

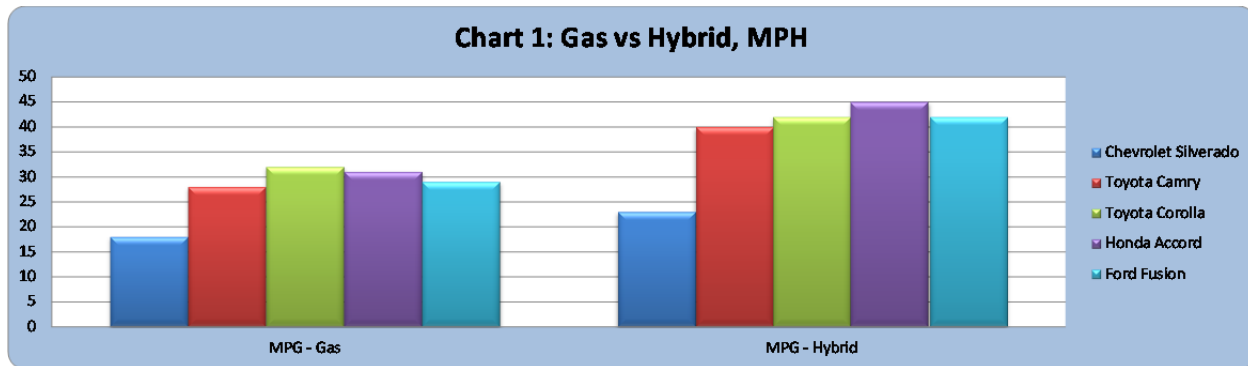
Table 1. Auto.com's Most Purchased Vehicles with a Hybrid Option

		MPG - Gas	MPG - Hybrid	MSRP - Gas	MSRP - Hybrid
Chevrolet	Silverado	18	23	\$38,440	\$41,135
Toyota	Camry	28	40	\$26,310	\$29,778
Toyota	Corolla	32	42	\$16,800	\$20,100
Honda	Accord	31	45	\$23,525	\$32,695
Ford	Fusion	29	42	\$24,979	\$31,270

Source: <http://blogs.cars.com/kickingtires/2014/03/top-10-best-selling-cars-february-2014.html>

For each model in Table 1, the hybrid sells at a premium, ranging from \$2,695 for the Chevrolet Silverado, to \$9,170 for the Honda Accord, with an average difference of \$4,985. The \$2,695 difference for the Chevrolet Silverado represents a 7.0% increase in price, whereas the \$9,170 difference for the Honda Accord represents a 39.0% increase in price. The average difference between the price of a normal internal combustion engine and a hybrid from the vehicles in Table 1 is 20.8%.

Table 1 also includes the mile-per-gallon (MPG) comparison for both the standard combustion engine vehicles and their hybrid counterpart. The increase for the hybrid power MPG ranges from 5 MPG for the Chevrolet Silverado, which represents a 27.8% increase, to 14 MPG for the Honda Accord, which is a 45.2% increase in MPG. The average increase in MPG efficiency for the representative hybrids in this study was 11 MPG, or 38.4%, greater efficiency. The comparison between the MPG for gas and hybrid are on Chart 1.



Source: www.fueleconomy.gov/

Table 2 focuses on the cost of gasoline, which each type of vehicle uses over a given year. Using the NHTSA average of 13,476 miles driven in a year, the gallons used for the vehicles were calculated by dividing the average by MPG for each, then, to obtain the cost of those gallons, multiplying it by the 2013 average price of \$3.49. The Chevrolet Silverado had the largest yearly cost savings, at \$568 per year for the hybrid, while the Toyota Corolla had the least amount of cost savings, at \$350 per year for their version of a hybrid vehicle. The limited gains between the hybrid option and the normal vehicle can be attributed to greater efficiency for the traditional vehicle in the past few years, with the smaller spread between the hybrid and traditional vehicles being a result of the gains in efficiency.

Table 2. Annual Cost Savings – MPG

	Average Miles Driven 2013	MPG - Gas	MPG - Hybrid	Average Price Per Gallon 2013	Gallons Used - Gas	Gallons Used - Hybrid	Fuel Cost - Gas	Fuel Cost - Hybrid	Difference (Per Year)
Chevrolet Silverado	13,476	18	23	\$3.49	749	586	\$2,613	\$2,045	\$568
Toyota Camry	13,476	28	40	\$3.49	481	337	\$1,680	\$1,176	\$504
Toyota Corolla	13,476	32	42	\$3.49	421	321	\$1,470	\$1,120	\$350
Honda Accord	13,476	31	45	\$3.49	435	299	\$1,517	\$1,045	\$472
Ford Fusion	13,476	29	42	\$3.49	465	321	\$1,622	\$1,120	\$502

Source: Department of Natural Resources Technology Assessment Division

Compiling all the data together, the 5-year total cost for each version of the vehicle is obtained. Because the overall 5-year total price of ownership is dependent on gas prices, the average 2013 price of \$3.49 per gallon was standardized for all 5 years involved in the study. Table 3 features the 5-year cost comparison for the hybrid and gas vehicles at \$3.49 gasoline. The Chevrolet Silverado had the most savings of \$2,338.05, with a total ownership cost of \$60,574.23 for the normal engine, and \$58,236.18 for the hybrid, or a hybrid discount of 4.01%, whereas the Honda Accord had a difference of \$4,617.01, or a hybrid premium of 10.31%. The average hybrid premium was 1.00% for the vehicles involved with this report. Each hybrid premium is listed in Table 4. Vehicles that incurred the most 5-year benefit for this report were the Chevrolet Silverado, the Toyota Camry, and the Toyota Corolla, each with an overall 5-year savings, while the Honda Accord and the Ford Fusion each incurred a premium for total cost of hybrid ownership.

Table 3. Total 5-Year Costs

	Total 5 Year Cost Gas	Total 5 Year Cost Hybrid	Difference
Chevrolet Silverado	\$60,574.23	\$58,236.18	(\$2,338.05)
Toyota Camry	\$43,778.44	\$42,533.91	(\$1,244.53)
Toyota Corolla	\$33,218.63	\$32,575.96	(\$642.67)
Honda Accord	\$40,180.68	\$44,797.69	\$4,617.01
Ford Fusion	\$42,157.83	\$43,745.96	\$1,588.12

Source: Department of Natural Resources Technology Assessment Division

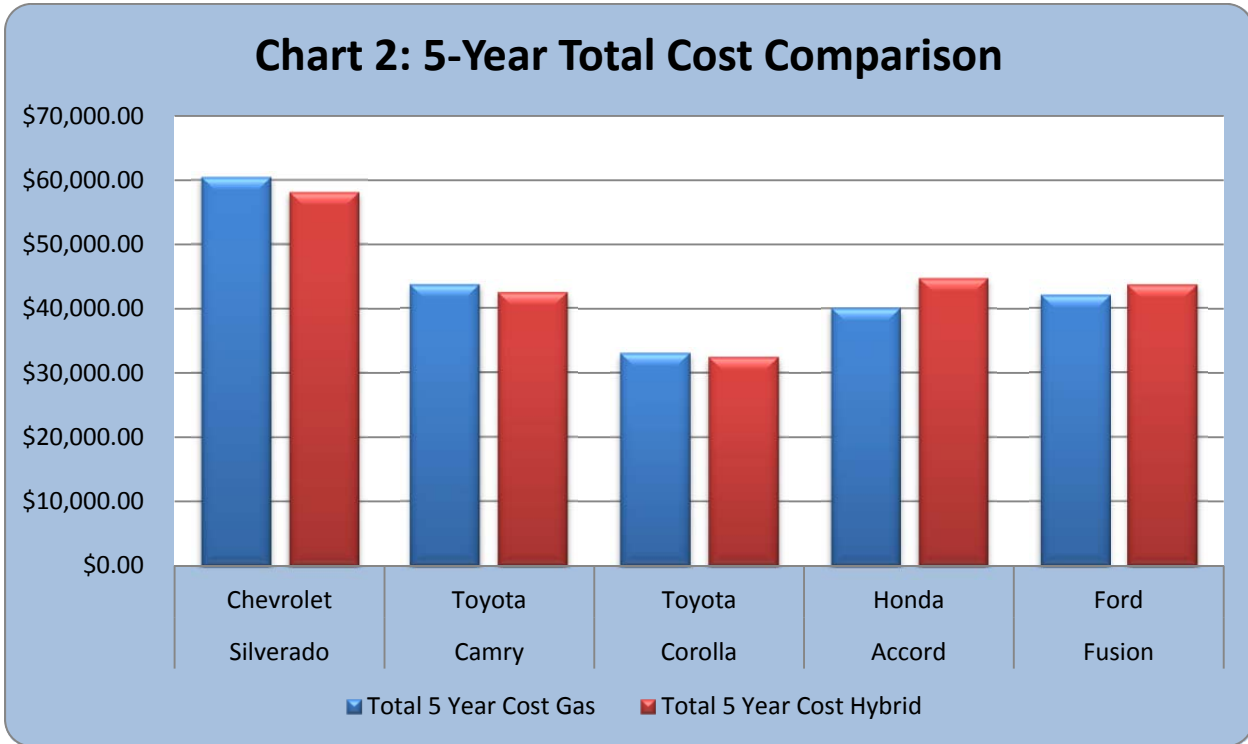
Table 4. Hybrid Premium

	Hybrid Premium
Chevrolet Silverado	-4.01%
Toyota Camry	-2.93%
Toyota Corolla	-1.97%
Honda Accord	10.31%
Ford Fusion	3.63%

Source: Department of Natural Resources Technology Assessment Division

Although there is a gain of fuel efficiency, there is also a premium for hybrid ownership, negating some of the per mile cost savings of the hybrid. This long-term price of the vehicle can decrease, though, with additional incentives from the manufacturer. The most dependent part of the equation is the price of gasoline, for which \$3.49 was used in this report. A lower price point for gasoline would make the hybrid even less economical, whereas a higher gasoline price would make the hybrid more economical.

Consumers looking into purchasing a hybrid should be cautious for not all hybrids have the same benefits. Some vehicles, such as the Silverado, have an economic benefit over the 5-year span of ownership, whereas others have a premium for ownership. However, with more efficient non-hybrid vehicles being produced and falling gasoline prices, the economic benefits of the hybrid vehicles may be less than the perceived benefits.



Source: Department of Natural Resources Technology Assessment Division

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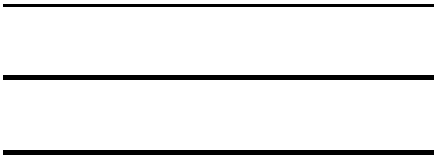
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