

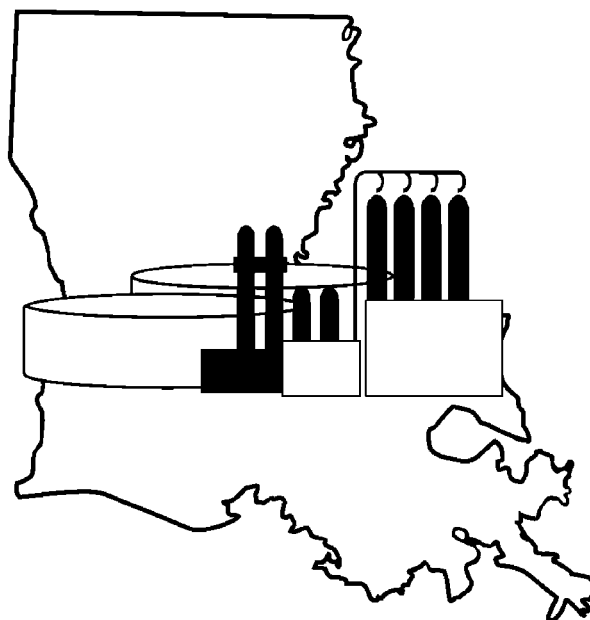
# ***LOUISIANA CRUDE OIL REFINERY SURVEY REPORT***

***Seventeenth Edition***

***2008 Survey***

By Bryan Crouch, P.E.

***Refining, Alternative Energy & Power Systems Program***



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## *Foreword*

Since 1989, the Technology Assessment Division of the Louisiana Department of Natural Resources (DNR) has periodically conducted surveys of Louisiana crude oil refineries. The results of the survey are compiled into a report focusing on developments that have occurred since the previous survey. These include an overview of the general direction of the industry and updated information on the current status of refinery ownership, mailing addresses, operating status, and key personnel. Tabulated statistical data, charts, and graphs relating to oil production, refinery crude oil sources, refinery margins, capacities, operating rates, and product slate are also presented. Information on both operating and non-operating refineries that are still intact is included.

Due to budget constraints and the resulting reorganization of personnel within the Technology Assessment Division, this will be the last survey for the foreseeable future. The previous survey was published in August 2008.

The time period covered by DNR's current survey is July 1, 2007 – June 30, 2008, and is designed to complement the petroleum statistics published by the Energy Information Administration (EIA). DNR gratefully acknowledges permission to use the latest *Oil and Gas Journal* Worldwide Refining Survey results to provide another independent dataset for comparison.

The operating refining capacities, operating rates, and product slate statistics presented in this report are prepared from data supplied by survey respondents. The information on the non-operating refineries is obtained from their owners, trustees, or management personnel and is current within a few weeks of publication. The data used to construct the charts and graphs on oil production, refinery margins, and crude oil sources is obtained from DNR's database.

The principal terms and phrases used in this report are the same as those used in EIA publications. The definitions of these terms can be found on page 5 of this report. The slight difference in meaning between *operable* and *operating*, when used to specify capacity or utilization rate, has caused some confusion. "Operable" refers to the maximum amount of crude oil capacity that a refinery can utilize to process crude oil in its atmospheric stills; "operating" refers to the amount of crude oil capacity actually utilized. See page 5 for detailed definitions.

The Department of Natural Resources uses the information in this report to enhance the economic development efforts of the State by:

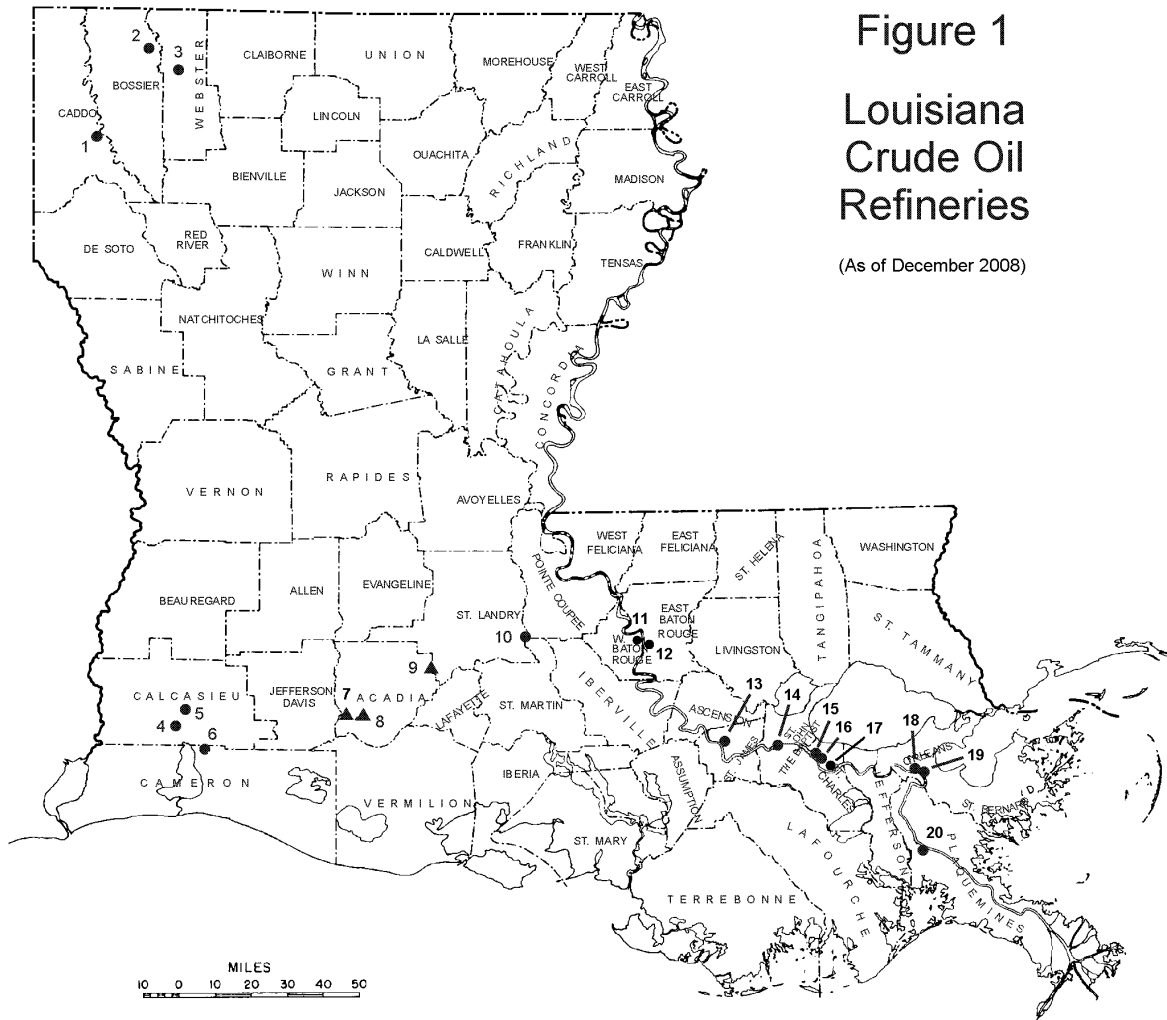
- Developing information on State and Federal energy policies that affect the oil and gas production and refining industries located in the State;
- Helping crude suppliers locate refining sources and refined petroleum product buyers locate sources of supply;
- Assisting new industries desiring to site facilities near refineries; and,
- Providing information to parties evaluating refineries for possible purchase.

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Figure 1

# Louisiana Crude Oil Refineries

(As of December 2008)



**OPERATING REFINERIES** ●

**NON-OPERATING REFINERIES** ▲

- 1 Calumet Shreveport - Shreveport
- 2 Calumet Lubricants - Princeton
- 3 Calumet Lubricants - Cotton Valley
- 4 Citgo Petroleum - Lake Charles
- 5 ConocoPhillips - Lake Charles
- 6 Calcasieu Refining - Lake Charles
- 10 Alon Refining - Krotz Springs
- 11 Placid Refining - Port Allen
- 12 ExxonMobil - Baton Rouge
- 13 Motiva Enterprises - Convent
- 14 Marathon Petroleum - Garyville
- 15 Motiva Enterprises - Norco
- 16 Valero Refining - Norco
- 17 Shell Chemical - St. Rose
- 18 Murphy Oil U.S.A. - Meraux
- 19 Chalmette Refining - Chalmette
- 20 ConocoPhillips - Belle Chase

- 7 Lazarus Energy - Jennings
- 8 Quantum Fuel & Refining - Egan
- 9 Lazarus Energy - Church Point

## *Discussion*

### *Overview*

Louisiana is a primary energy producing state with 458 million barrels in crude reserves (2007), ranking it 7<sup>th</sup> among the states (3<sup>rd</sup> if the Louisiana portion of the federal outer continental shelf (OCS) is included). Louisiana ranks 4<sup>th</sup> among the states in crude oil production (1<sup>st</sup> if Louisiana OCS is included), with an estimated 72.5 million barrels produced in 2008. The Louisiana OCS territory is the most extensively developed and matured OCS territory in the United States. The Louisiana OCS territory has produced approximately 88.1% of the 17.3 billion barrels of crude oil and condensate produced in the U.S. through the end of 2008.

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

All refineries and refining companies are not created equal. There are small refineries and large ones. Some are quite complex, while others are relatively simple. A number are part of major, integrated oil companies, and some are independent.

In addition to refining, integrated oil companies are engaged in all other aspects of the petroleum industry which range from the exploration of crude oil to the marketing of finished petroleum products.

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

Major oil companies dominate the refining industry. The top 10 U.S. refiners, all of them major, integrated oil companies, account for about 75% of the total domestic refinery charge capacity. Most of these have operations in Louisiana, either as wholly owned facilities such as the Baton Rouge ExxonMobil refinery or as part owners or joint ventures such as Motiva Refineries in Norco and Convent.

Many refineries are primarily fuels refineries, some are lube stock refineries, and others are petrochemical refineries. The Shell oil refinery in St. Rose is a good example of a petrochemical refinery. All of its products are raw feed for a chemical plant. Table 2 (pg. 8 & 9) clearly shows the focus and product slate of the refiners in Louisiana.

Besides the level of vertical integration of a refiner and the product mix of a refinery, industry analysts also look at capacity and complexity.

A "complexity factor" is assigned to each process unit of a refinery based on its relative construction cost. The atmospheric crude distillation unit is assigned a value of one. For

example, the cost of a fluidized catalytic cracker is six times greater than an atmospheric crude distillation unit of the same capacity, so its unit complexity factor is six.

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

EIA statistics show total U.S. petroleum consumption in 2008 dropped 5.7% to 19.498 million barrels per day (bpd). Finished motor gasoline dropped 3.2% to 8,989 thousand bpd, jet fuel dropped 5.1% to 1,539 thousand bpd, and overall distillate fuel dropped 6% to 3,945 thousand bpd in 2008.

According to DNR’s survey, the Louisiana refinery operating rate was 91.1% for this survey period with little idle capacity. Figure 3 (pg. 20) compares Louisiana Gulf Coast, Texas Gulf Coast, and total U.S. refinery operating rates since 1985. The operating capacity for Louisiana refineries was 3,071,216 barrels per calendar day (bcd), a 3.23% increase from DNR’s previous survey. Table 1 (pg. 7) shows the details of operating capacity and throughput changes between DNR’s two most recent surveys. Figure 2 (pg. 19) shows the historical Louisiana and U.S. operating capacity since 1955. Regular gasoline accounted for 34.8% of Louisiana refinery production. A complete listing of Louisiana refinery products is shown in Table 2 (pg. 9).

As reported in the *Oil & Gas Journal’s* 2008 Worldwide Refinery Report, world wide refining capacity increased by nearly 300,000 bcd to 85.603 million bcd (MMbcd), setting a new record for the seventh year in a row. The increase was over double the increase in 2007.

The table to the right shows the ranking of the 10 largest refiners in the world according to crude capacity. There were no newcomers to the list, but some changes in positions occurred. Total SA dropped from 5<sup>th</sup> to 7<sup>th</sup>, ConocoPhillips moved from 6<sup>th</sup> to 5<sup>th</sup>, and Petroleos de Venezuela moved from 7<sup>th</sup> to 6<sup>th</sup>.

World Rank	Company	Crude Capacity (bcd)
1	ExxonMobil	5,632,000
2	Royal Dutch Shell	4,599,000
3	Sinopec	3,811,000
4	BP	3,328,000
5	ConocoPhillips	2,696,000
6	Petroleos de Venezuela SA	2,678,000
7	Total SA	2,655,000
8	Valero Energy	2,596,000
9	China National Petroleum	2,440,000
10	Saudi Aramco	2,433,000

Source: *Oil & Gas Journal*, Dec. 22, 2008

Lower crude prices translated into lower margins for Gulf Coast refineries in 2008. After 3 straight years with margins over \$12 per barrel, they fell to a little over \$9 per barrel for 2008. Figure 7 (pg. 25) shows historical Gulf Coast refinery margins as reported in the *Oil & Gas Journal*. In 1999, the *Oil & Gas Journal* switched data sources from Wright Killen to Muse Stancil. Both sources trend similarly, but differ in value due to different assumptions about refinery operations. Wright Killen refining margins are gross cash margins before depreciation, taxes, and financial charges, based on actual refinery yields and crude oil and wholesale product prices. Wright Killen estimates fixed costs, excluding most corporate expenses for such activities as research and development, and variable costs based on regional refinery

configurations. Details about the methodology used by Muse Stancil are explained in the January 15, 2001 edition of the *Oil & Gas Journal*.

### ***Hurricane Gustav***

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

### ***Operating Refinery Recent Changes***

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

The identity and location of each of the operating refineries is shown on the map in Figure 1 (pg. 1). Mailing addresses and contacts are listed in Table 7 (pg. 26). Physical locations are listed in Table 8 (pg. 27), and name histories are listed in Table 9 (pg. 28).

### ***Non-Operating Refinery Recent Changes***

There were no changes in the status of any non-operating refineries for this survey period.

The identity and location of each of the non-operating refineries is shown on the map in Figure 1 (pg. 1). Mailing addresses and contacts are listed in Table 10 (pg. 29). Physical locations, last known crude capacity, date last operated, and present status are described in Table 11 (pg. 30), and name histories are listed in Table 12 (pg. 31).

## ***Definitions***

***Barrels per calendar day*** - The amount of input that a distillation facility can process under usual operating conditions. The amount is expressed in terms of capacity during a 24-hour period and reduces the maximum processing capability of all units at the facility under continuous operation (see Barrels per Stream Day) to account for the following limitations that may delay, interrupt, or slow down production:

The capability of downstream facilities to absorb the output of crude oil processing facilities of a given refinery. No reduction is made when a planned distribution of intermediate streams, through other than downstream facilities, is part of a refinery's normal operation;

The types and grades of inputs to be processed;

The types and grades of products expected to be manufactured;

The environmental constraints associated with refinery operations;

The reduction of capacity for scheduled downtime due to such conditions as routine inspection, maintenance, repairs, and turnaround; and

The reduction of capacity for unscheduled downtime due to such conditions as mechanical problems, repairs, and slowdowns.

***Barrels per stream day*** - The maximum number of barrels of input that a distillation facility can process within a 24-hour period when running at full capacity under optimal crude oil and product slate conditions with no allowance for downtime.

***Charge capacity*** - The input (feed) capacity of the refinery processing facilities.

***Idle capacity*** - The component of operable capacity that is not in operation and not under active repair, but capable of being placed in operation within 30 days; and capacity not in operation, but under active repair that can be completed within 90 days.

***Operable capacity*** - The amount of capacity that, at the beginning of the period, is in operation; not in operation and not under active repair, but capable of being placed in operation within 30 days; or not in operation, but under active repair that can be completed within 90 days. Operable capacity is the sum of the operating and idle capacity and is measured in barrels per calendar day or barrels per stream day. *Note: This survey uses the capacity at the **end** of the period.*

***Operating capacity*** - The component of operable capacity that is in operation at the beginning of the period. *Note: This survey uses the capacity at the **end** of the period.*

***Operable utilization rate*** - Represents the utilization of the atmospheric crude oil distillation units. The rate is calculated by dividing the gross input to these units by the operable refining capacity of the units.

***Operating utilization rate*** - Represents the utilization of the atmospheric crude oil distillation units. The rate is calculated by dividing the gross input to these units by the operating refining capacity of the units.

***Throughput*** - Is the actual barrels of crude oil processed by the atmospheric stills for the survey time period.

***Operating rate %*** - Throughput divided by 365 divided by operating capacity expressed as a percentage.

***Operable rate %*** - Throughput divided by 365 divided by operable capacity expressed as a percentage.

**Table 1**  
**Louisiana Operating Refineries <sup>1</sup>**  
**Capacity and Throughput Changes from DNR Survey <sup>2</sup>**

Refinery Name	Previous Survey Operating Capacity (bcd)	Capacity Change (bcd)	Previous Survey 12-Month Throughput (Barrels)	Throughput Change (Barrels)	Capacity Change (%)	Throughput Change (%)
Calcasieu Refining Co Lake Charles	78,000	0	25,021,052	-6,527,156	0.00	-26.09
Calumet Lubricants Co LP Cotton Valley	12,158	0	2,849,661	-114,366	0.00	-4.01
Calumet Lubricants Co LP Princeton	7,294	-136	2,585,295	34,533	-1.86	1.34
Calumet Shreveport LLC Shreveport	40,000	25,000	12,702,606	425,284	62.50	3.35
Chalmette Refining LLC Chalmette	196,000	0	62,353,600	-3,668,834	0.00	-5.88
Citgo Petroleum Corp Lake Charles	429,500	0	141,083,299	-9,602,902	0.00	-6.81
ConocoPhillips Belle Chasse	247,000	0	89,316,000	-2,809,700	0.00	-3.15
ConocoPhillips West Lake	239,000	0	87,999,331	-3,039,077	0.00	-3.45
ExxonMobil Refining & Supply Co Baton Rouge	503,000	0	182,390,500	1,861,500	0.00	1.02
Marathon Petroleum Co LLC Garyville	255,000	0	93,067,210	-2,366,182	0.00	-2.54
Motiva Enterprises LLC Convent	230,000	5,000	81,780,000	-2,623,000	2.17	-3.21
Motiva Enterprises LLC Norco	242,200	-5,800	70,818,334	13,802,634	-2.39	19.49
Murphy Oil USA Inc Meraux	120,000	5,000	38,656,055	398,945	4.17	1.03
Placid Refining Co Port Allen	56,000	2,000	19,477,226	376,143	3.57	1.93
Shell Chemical Co St. Rose	55,000	0	17,983,390	-979,733	0.00	-5.45
Alon Refining Krotz Springs Inc Krotz Springs	80,000	0	28,364,866	-3,006,533	0.00	-10.60
Valero Refining Co Norco	185,000	65,000	85,332,803	-2,840,424	35.14	-3.33
Totals	2,975,152	96,064	1,041,781,228	-20,678,868	3.23	-1.98

1. Louisiana operating refineries with no atmospheric distillation capacity were not surveyed by DNR and not included in this table. These facilities are listed in table 13.

2. Capacity change from 6/30/2007 to 6/30/2008. Throughput change from 12-month period ending 6/30/2007 to the 12-month period ending 6/30/2008.

**Table 2**  
**Louisiana Operating Refineries <sup>1</sup>**  
**Crude Capacity and Percent Product Slate**  
**June 30, 2008 DNR Survey**

Data in this table may differ from data reported elsewhere for a different time period.

Refinery Name	DNR Fac. Code	Operating capacity as of 6/30/2008 (bcd)	Operating rate (%)	Idle capacity (bcd)	Operable rate (%)	Throughput 7/1/2007 - 6/30/2008 (Barrels)
Calcasieu Refining Co Lake Charles	CLC	78,000	65.0	0	65.0	18,493,896
Calumet Lubricants Co LP Cotton Valley	CTT	12,158	61.6	0	61.6	2,735,295
Calumet Lubricants Co LP Princeton	CLM	7,158	100.3	2,342	75.6	2,619,828
Calumet Shreveport LLC Shreveport	ATL	65,000	55.3	5,500	51.0	13,127,890
Chalmette Refining LLC Chalmette	TNN	196,000	82.0	0	82.0	58,684,766
Citgo Petroleum Corp Lake Charles	CTS	429,500	83.9	0	83.9	131,480,397
ConocoPhillips Belle Chasse	STN	247,000	96.0	0	96.0	86,506,300
ConocoPhillips West Lake	CNB	239,000	97.4	0	97.4	84,960,254
ExxonMobil Refining & Supply Co Baton Rouge	EXX	503,000	100.4	0	100.4	184,252,000
Marathon Petroleum Co LLC Garyville	MRT	255,000	97.4	0	97.4	90,701,028
Motiva Enterprises LLC Convent	TXC	235,000	92.3	0	92.3	79,157,000
Motiva Enterprises LLC Norco	SHL	236,400	98.1	0	98.1	84,620,968
Murphy Oil USA Inc Meraux	MRP	125,000	85.6	0	85.6	39,055,000
Placid Refining Co Port Allen	PLC	58,000	93.8	0	93.8	19,853,369
Shell Chemical Co St. Rose	INT	55,000	84.7	0	84.7	17,003,657
Valero Refining Co Krotz Spings	HLL	80,000	86.8	0	86.8	25,358,333
Valero Refining Co Norco	GDH	250,000	90.4	0	90.4	82,492,379
Weighted State Average			91.1		90.9	
Total La. Operating Capacity		3,071,216		7,842		1,021,102,360

**Table 2 (Continued)**  
**Louisiana Operating Refineries <sup>1</sup>**  
**Crude Capacity and Percent Product Slate**  
**June 30, 2008 DNR Survey**

Data in this table may differ from data reported elsewhere for a different time period.

DNR Fac Code	% of Total Product Slate													
	Gasoline			Other Fuels				Miscellaneous			Other Products			
	Reg	Prem	RFG	ULSD	Other Diesel	Jet/ Kero	Fuel oil	LPGs	Napth	Res/ Coke	Product 1	Product 2	Product 3	All Other
CLC					22.7	15.7		4.6	22.7		9.4 ATB/cat feed	24.5 LSVGO	0.3 mineral spirits	
CTT									77.0		21.7 gas oil	1.3 butane/ pentane		
CLM				8.0					2.0		72.0 lube oil	18.0 asphalt		
ATL	8.2	0.4		21.3	2.4	18.0	1.4	0.0		8.1	14.8 lubes	3.5 waxes	1.7 butane	21.2 Gasohol
TNN	28.5	5.2			23.0	7.5	6.6	4.4	1.3	5.6	6.1 fuel gas/FCC carbon	3.4 aromatics	8.0 gas oil	0.6 sulfur
CTS	39.7	4.4	0.0	20.9	5.1	19.5	3.3	1.3	-2.9	9.5	1.3 petrochem.	2.8 propane/ propylene	2.3 lubes, waxes	-6.3 vacuum gas oil, butane
STN	30.6	4.2			32.7	8.7	-1.0	4.3		6.7	7.2 gasoline blendstock	4.2 chemicals	2.2 vacuum gas oil	0.2 sulf., diesel blendstock
CNB	31.3				33.2	11.4		1.1		9.6	11.5 lube oil feed stock	1.9 ref. grade propylene		
EXX	15.7	4.0	15.7		13.4	11.9	3.1	2.0	0.7	4.3	20.6 petrochem. feedstock	4.0 fuel gas, sulfur	2.2 lubes, waxes	2.4 LCC, process gas oil
MRT	39.2	2.8		36.0				6.8	0.4	5.7	5.6 asphalt	3.0 dry gas	0.5 sulfur	
TXC	44.6			25.1		10.8	10.9	1.5			3.9 propylene	1.5 export gas	0.9 sulfur	0.8 other
SHL	39.0	10.8		16.1		11.5	3.0	6.7	2.1	5.7	1.1 cat feed	1.7 fuel gas	1.6 normal butane	0.5 gasoline bldsk., misc.
MRP	37.1	7.8		19.5	20.4		10.8	0.5		1.4	2.0 propane/ propylene	0.5 sulfur	0.2 n-butane	
PLC	45.1	1.0		22.6	4.1	11.8	7.2	0.2	1.0		3.9 propylene	1.8 light-cycle oil	1.3 gas oil	
INT					26.0					13.0	61.0 olefins feed			
HLL	26.1				16.2	7.4	26.7	2.1	11.7	2.5	5.0 light-cycle oil	2.2 light straight run	0.2 fuel gas	
GDH	39.0				27.0		20.0	5.0		9.0				
Wtd %	34.8	3.8	3.2	15.9	10.6	10.6	5.8	3.4	1.1	6.5				

1. Louisiana operating refineries with no atmospheric distillation capacity were not surveyed by DNR and not included in this table. These facilities are listed in table 13.

**Table 3**  
**U.S. Department of Energy**  
**Capacity of Louisiana Operable Petroleum Refineries as of January 1, 2008**  
(Barrels per Stream Day, Except Where Noted)

Refinery Name	DNR Fac. Code	Atmospheric Crude Oil Distillation Capacity				Downstream Charge Capacity				
		Barrels per Calendar Day		Barrels per Stream Day		Vacuum Distillation	Thermal Cracking			
		Operating	Idle	Operating	Idle		Delayed Coking	Fluid Coking	Vis-Breaking	Other Gas/Oil
Calcasieu Refining Co Lake Charles	CLC	53,000	25,000	54,350	25,650	30,000	0	0	0	0
Calumet Lubricants Co LP Cotton Valley	CTT	13,020	0	14,000	0	0	0	0	0	0
Calumet Lubricants Co LP Princeton	CLM	8,300	0	8,655	0	7,000	0	0	0	0
Calumet Shreveport LLC Shreveport	ATL	42,000	0	50,000	0	27,000	0	0	0	0
Chalmette Refining LLC Chalmette	TNN	192,760	0	200,700	0	116,700	40,000	0	0	0
Citgo Petroleum Corp Lake Charles	CTS	429,500	0	440,000	0	200,000	99,000	0	0	0
ConocoPhillips Belle Chasse	STN	247,000	0	260,000	0	92,000	27,000	0	0	0
ConocoPhillips West Lake	CNB	239,400	0	252,000	0	132,000	64,000	0	0	10,600
ExxonMobil Refining & Supply Co Baton Rouge	EXX	503,000	0	524,000	0	241,100	119,800	0	0	0
Marathon Petroleum Co LLC Garyville	MRT	256,000	0	275,000	0	134,000	40,500	0	0	0
Motiva Enterprises LLC Convent	TXC	235,000	0	255,000	0	119,400	0	0	0	0
Motiva Enterprises LLC Norco	SHL	236,400	0	250,000	0	95,000	27,900	0	0	0
Murphy Oil USA Inc Meraux	MRP	120,000	0	125,000	0	50,000	0	0	0	0
Placid Refining Co Port Allen	PLC	56,000	0	58,000	0	25,000	0	0	0	0
Shell Chemical Co St. Rose	INT	55,000	0	56,000	0	28,000	0	0	0	0
Valero Refining Co <sup>1</sup> Krotz Spings	HLL	80,000	0	83,000	0	36,200	0	0	0	0
Valero Refining Co Norco	GDH	185,003	0	186,000	0	130,000	70,400	0	0	0
<b>Totals</b>		<b>2,951,383</b>	<b>25,000</b>	<b>3,091,705</b>	<b>25,650</b>	<b>1,463,400</b>	<b>488,600</b>	<b>0</b>	<b>0</b>	<b>10,600</b>

Source: Energy Information Administration, "Refinery Capacity Report 2008", Table 3

**Table 3 (Continued)**  
**U.S. Department of Energy**  
**Capacity of Louisiana Operable Petroleum Refineries as of January 1, 2008**  
(Barrels per Stream Day, Except Where Noted)

DNR Fac. Code	Downstream Charge Capacity (Continued)							
	Catalytic Cracking		Catalytic Hydrocracking			Catalytic Reforming		Fuels Solvent Deasphalting
	Fresh	Recycled	Distillate	Gas Oil	Residual	Low Pressure	High Pressure	
CLC	0	0	0	0	0	0	0	0
CTT	0	0	0	0	0	0	0	0
CLM	0	0	0	0	0	0	0	0
ATL	0	0	0	0	0	12,000	0	0
TNN	71,600	0	20,200	0	0	20,000	29,400	0
CTS	147,000	3,000	0	42,000	0	58,000	52,800	0
STN	102,000	2,000	0	0	0	0	44,600	0
CNB	50,000	0	0	0	0	44,000	0	0
EXX	241,000	0	29,000	0	0	78,000	0	0
MRT	131,000	0	0	0	0	48,000	0	34,000
TXC	92,000	0	0	0	52,000	0	40,000	0
SHL	120,000	0	0	38,000	0	40,000	22,000	0
MRP	37,000	0	0	32,000	0	32,000	0	18,000
PLC	20,000	500	0	0	0	11,000	0	7,000
INT	0	0	0	0	0	0	0	0
HLL	34,000	0	0	0	0	0	13,000	0
GDH	97,380	8,000	0	0	0	25,000	0	0
Totals	1,142,980	13,500	49,200	112,000	52,000	368,000	201,800	59,000

Source: Energy Information Administration, "Refinery Capacity Report 2008", Table 3

**Table 3 (Continued)**  
**U.S. Department of Energy**  
**Capacity of Louisiana Operable Petroleum Refineries as of January 1, 2008**

(Barrels per Stream Day, Except Where Noted)

Refinery Name	DNR Fac. Code	Downstream Charge Capacity (Continued)							
		Desulfurization (incl. Catalytic Hydrotreating)							
		Naptha/Reformer Feed	Gasoline	Kerosene/Jet Fuel	Diesel Fuel	Other Distillate	Residual	Heavy Gas Oil	Other
Calcasieu Refining Co Lake Charles	CLC	0	0	0	0	0	0	0	0
Calumet Lubricants Co LP Cotton Valley	CTT	4,750	0	0	0	0	0	0	0
Calumet Lubricants Co LP Princeton	CLM	0	0	0	8,500	0	0	0	0
Calumet Shreveport LLC Shreveport	ATL	12,000	0	0	0	14,000	0	8,000	1,200
Chalmette Refining LLC Chalmette	TNN	40,000	45,000	0	0	27,500	0	64,500	0
Citgo Petroleum Corp Lake Charles	CTS	123,000	77,000	29,000	117,500	0	0	0	0
ConocoPhillips Belle Chasse	STN	48,300	53,000	0	70,100	0	0	0	0
ConocoPhillips West Lake	CNB	50,000	38,500	24,000	55,000	0	12,500	49,000	0
ExxonMobil Refining & Supply Co Baton Rouge	EXX	78,000	130,000	0	111,000	0	0	0	122,000
Marathon Petroleum Co LLC Garyville	MRT	49,500	89,000	0	116,000	0	0	106,000	0
Motiva Enterprises LLC Convent	TXC	98,000	0	39,800	70,000	0	0	40,000	0
Motiva Enterprises LLC Norco	SHL	38,500	74,500	0	55,000	0	0	0	0
Murphy Oil USA Inc Meraux	MRP	35,000	0	18,000	34,000	0	0	12,000	0
Placid Refining Co Port Allen	PLC	11,000	0	0	18,000	0	0	0	0
Shell Chemical Co St. Rose	INT	0	0	0	0	0	0	0	0
Valero Refining Co <sup>1</sup> Krotz Spings	HLL	14,000	18,000	0	0	0	0	0	0
Valero Refining Co Norco	GDH	34,100	60,000	11,200	0	78,000	0	0	0
<b>Totals</b>		<b>636,150</b>	<b>585,000</b>	<b>122,000</b>	<b>655,100</b>	<b>119,500</b>	<b>12,500</b>	<b>279,500</b>	<b>123,200</b>

Source: Energy Information Administration, "Refinery Capacity Report 2008", Table 3

1. Acquired by Alon USA Energy, Inc. in 2008.

**Table 4**  
**U.S. Department of Energy**  
**Production Capacity of Louisiana Operable Petroleum Refineries as of January 1, 2008**  
(Barrels per Stream Day)

Refinery Name	DNR FAC. CODE	Production Capacity								
		Alkylate	Aromatics	Asphalt and Road Oil	Isomers		Lubricants	Marketable Petroleum Coke	Hydrogen (MMcfd)	Sulfur (short tons per day)
					Isobutane	Isopentane and Isohexane				
Calcasieu Refining Co Lake Charles	CLC	0	0	0	7,600	0	0	0	0	0
Calumet Lubricants Co LP Cotton Valley	CTT	0	0	0	0	500	0	0	2	0
Calumet Lubricants Co LP Princeton	CLM	0	0	2,000	0	0	7,000	0	5	3
Calumet Shreveport LLC Shreveport	ATL	0	0	6,500	0	0	12,500	0	12	35
Chalmette Refining LLC Chalmette	TNN	13,100	10,200	0	10,000	10,000	0	11,000	0	935
Citgo Petroleum Corp Lake Charles	CTS	18,000	17,200	0	0	28,000	11,000	26,500	0	640
ConocoPhillips Belle Chasse	STN	38,000	12,300	0	2,000	0	0	5,982	0	115
ConocoPhillips West Lake	CNB	6,000	0	0	0	0	0	22,500	0	440
ExxonMobil Refining & Supply Co Baton Rouge	EXX	39,700	0	0	0	0	16,300	30,831	0	800
Marathon Petroleum Co LLC Garyville	MRT	28,000	0	30,000	23,000	20,500	0	14,500	0	756
Motiva Enterprises LLC Convent	TXC	16,500	0	0	0	12,500	0	0	63	728
Motiva Enterprises LLC Norco	SHL	16,800	0	0	12,100	0	0	7,238	60	168
Murphy Oil USA Inc Meraux	MRP	8,500	0	18,000	0	0	0	0	0	180
Placid Refining Co Port Allen	PLC	4,000	0	0	0	0	0	0	0	28
Shell Chemical Co St. Rose	INT	0	0	0	0	0	0	0	0	0
Valero Refining Co <sup>1</sup> Krotz Spings	HLL	0	0	0	0	6,220	0	0	0	0
Valero Refining Co Norco	GDH	19,800	0	0	0	0	0	23,785	0	690
Totals		208,400	39,700	56,500	54,700	77,720	46,800	142,336	142	5,518

MMcfd = Million cubic feet per day

Source: Energy Information Administration, "Refinery Capacity Report 2008", Table 4

1. Acquired by Alon USA Energy, Inc. in 2008.

**Table 5: Oil & Gas Journal 2008 Worldwide Refining Survey  
Capacities of Louisiana Refineries as of January 1, 2009**

Reprinted with permission. *Oil and Gas Journal*, December 22, 2008

Refinery Name	DNR Fac. Code	Charge Capacity, Barrels per Calendar Day							
		Crude	Vacuum Distillation	Coking	Thermal Operations	Catalytic Cracking	Catalytic Reforming	Cat Hydro- cracking	Cat Hydro- treating
Calcasieu Refining Co. Lake Charles	CLC	32,000							
Calumet Lubricants Co. Cotton Valley	CTT	9,500							<sup>13</sup> 5,000
Calumet Lubricants Co. Princeton	CLM	9,500	8,500					<sup>4</sup> 8,000	
Calumet Lubricants Co. Shreveport	ATL	35,000	15,000				<sup>1</sup> 10,000	<sup>C4</sup> 8,500	<sup>1</sup> 12,000 <sup>5</sup> 7,000 <sup>13</sup> 5,000
Chalmette Refining LLC Chalmette	TNN	192,500	112,000	<sup>2</sup> 38,000		<sup>1</sup> 68,000	<sup>1</sup> 28,000 <sup>3</sup> 19,000	<sup>C1</sup> 18,500	<sup>1</sup> 39,500 <sup>7</sup> 27,000 <sup>8</sup> 62,000 <sup>12</sup> 44,000
Cit-Con Oil Corp - Lake Charles			36,100						
Citgo Petroleum Corp. Lake Charles	CTS	440,000	79,800	<sup>4</sup> 88,200		<sup>1</sup> 126,000	<sup>1</sup> 42,300 <sup>3</sup> 52,200	<sup>4</sup> 37,800	<sup>1</sup> 103,500 <sup>2</sup> 6,300 <sup>4</sup> 26,100 <sup>5</sup> 32,400 <sup>8</sup> 64,800
ConocoPhillips Belle Chasse	STN	247,000	92,000	<sup>2</sup> 26,000		<sup>1</sup> 104,000	<sup>1</sup> 43,500		<sup>1</sup> 48,000 <sup>7</sup> 68,000 <sup>12</sup> 53,000 <sup>13</sup> 32,400
ConocoPhillips Westlake	CNB	239,000	106,200	<sup>2</sup> 60,480		<sup>1</sup> 46,350	<sup>3</sup> 44,325	<sup>3</sup> 34,200	<sup>1</sup> 46,350 <sup>4</sup> 23,310 <sup>5</sup> 34,470 <sup>6</sup> 4,000 <sup>7</sup> 22,500 <sup>8</sup> 45,720 <sup>12</sup> 31,500 <sup>13</sup> 12,150
ExxonMobil Refining Supply Co. Baton Rouge	EXX	503,000	231,500	<sup>2</sup> 115,000		<sup>1</sup> 230,000	<sup>2</sup> 75,500	<sup>C1</sup> 26,500	<sup>1</sup> 75,500 <sup>2</sup> 104,000 <sup>7</sup> 105,500 <sup>11</sup> 22,000 <sup>12</sup> 97,000 <sup>13</sup> 47,500
Marathon Ashland Petroleum LLC Garyville	MRT	256,000	127,300	<sup>2</sup> 38,500		<sup>1</sup> 124,500	<sup>3</sup> 45,600		<sup>1</sup> 47,000 <sup>5</sup> 110,600 <sup>8</sup> 100,700 <sup>12</sup> 84,600
Motiva Enterprises LLC Convent	TXC	235,000	104,000		<sup>2</sup> 12,520	<sup>1</sup> 86,000	<sup>1</sup> 36,000	<sup>2</sup> 51,780	<sup>1</sup> 40,000 <sup>4</sup> 26,000 <sup>5</sup> 64,000 <sup>8</sup> 38,000 <sup>12</sup> 48,000
Motiva Enterprises LLC Norco	SHL	220,000	78,000	<sup>2</sup> 21,380		<sup>1</sup> 107,000	<sup>1</sup> 20,000 <sup>4</sup> 38,000	<sup>C1</sup> 31,000	<sup>1</sup> 38,000 <sup>5</sup> 36,000 <sup>14</sup> 49,500

See page 18 for notes and legend

**Table 5 (Cont.): Oil & Gas Journal 2008 Worldwide Refining Survey  
Capacities of Louisiana Refineries as of January 1, 2009**

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DNR Fac. Code	Production Capacity, Barrels per Calendar Day									
	Alkylation	Pol./Dim.	Aromatics	Isomerization	Lubes	Oxygenates	Hydrogen (MMcfd)	Coke (t/d)	Sulfur (t/d)	Asphalt
CLC										
CTT							<sup>a1</sup> 2.5 <sup>4</sup> 2.5			
CLM					7,500		<sup>a1</sup> 4.5 <sup>4</sup> 4.5	3		
ATL					8,000		<sup>a1</sup> 6.1 <sup>4</sup> 6.1	15		
TNN	<sup>2</sup> 12,500		<sup>1</sup> 10,000	<sup>3</sup> 10,000				2,050	920	
CTS	<sup>1</sup> 20,700		<sup>1</sup> 13,500	<sup>2</sup> 28,800	8,550 9,900	<sup>1</sup> 3,150	<sup>a1</sup> 47.7 <sup>6</sup> 10.8	3,870	567	
STN	<sup>2</sup> 38,000		<sup>1</sup> 24,600 <sup>2</sup> 7,200				<sup>7</sup> 10.4	800	85	
CNB	<sup>1</sup> 7,200	<sup>1</sup> 540					<sup>a1</sup> 15.0 <sup>4</sup> 112.0	3,600	350	
EXX	<sup>1</sup> 38,500	<sup>1</sup> 9,500			16,000		<sup>4</sup> 12.0	5,430	690	
MRT	<sup>2</sup> 26,600			<sup>1</sup> 21,900 <sup>3</sup> 19,500				2,368	686	28,500
TXC	<sup>1</sup> 14,000	<sup>2</sup> 4,000		<sup>3</sup> 12,000			<sup>1</sup> 58.0		640	
SHL	<sup>1</sup> 14,000	<sup>1</sup> 7780				<sup>1</sup> 8,000	<sup>1</sup> 50.0	1,020	140	

See page 18 for notes and legend

**Table 5 (Cont.): Oil & Gas Journal 2008 Worldwide Refining Survey  
Capacities of Louisiana Refineries as of January 1, 2009**

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Refinery Name	DNR Fac. Code	Charge Capacity, Barrels per Calendar Day							
		Crude	Vacuum Distillation	Coking	Thermal Operations	Catalytic Cracking	Catalytic Reforming	Cat Hydro- cracking	Cat Hydro- treating
Murphy Oil USA Inc. Meraux	MRP	125,000	50,000			<sup>1</sup> 37,000			<sup>2</sup> 35,000
									<sup>7</sup> 52,000
									<sup>9</sup> 12,000
									<sup>13</sup> 24,750
Placid Refining Co. LLC Port Allen	PLC	55,100	25,650			<sup>1</sup> 21,600	<sup>1</sup> 9,900		<sup>1</sup> 9,900
									<sup>5</sup> 16,200
									<sup>12</sup> 18,000
Shell Chemical Co. - St. Rose	INT	55,000	28,000						
Alon Refining Krotz Springs Inc. Krotz Springs	HLL	83,000	36,000			<sup>1</sup> 33,000	<sup>1</sup> 12,000		<sup>1</sup> 14,000
									<sup>2</sup> 4,500
Valero Energy Corp. Norco	GDH	186,000	200,000	<sup>2</sup> 70,400		<sup>1</sup> 100,000	<sup>3</sup> 25,000		<sup>2</sup> 36,000
									<sup>5</sup> 48,000
									<sup>8</sup> 35,100
									<sup>12</sup> 12,000
Totals		2,922,600	1,330,050	458,320	12,520	1,083,450	501,325	216,280	2,306,950

See page 18 for notes and legend

**Table 5 (Cont.): Oil & Gas Journal 2008 Worldwide Refining Survey  
Capacities of Louisiana Refineries as of January 1, 2009**

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DNR Fac. Code	Production Capacity, Barrels per Calendar Day									
	Alkylation	Pol./Dim.	Aromatics	Isomerization	Lubes	Oxygenates	Hydrogen (MMcfd)	Coke (t/d)	Sulfur (t/d)	Asphalt
MRP	<sup>2</sup> 8,500								1,800	
PLC	<sup>2</sup> 6,750								56	
INT										
HLL		<sup>1</sup> 2,100		<sup>3</sup> 4,500						
GDH	<sup>1</sup> 19,000							4,500	450	
Totals	205,750	23,920	55,300	96,700	49,950	11,150	342	23,638	6,402	28,500

See page 18 for notes and legend

## Legend & Notes for Table 5

### **LEGEND**

#### **Coking**

1. Fluid coking
2. Delayed coking
3. Other

#### **Thermal Processes**

1. Thermal cracking
2. Visbreaking

#### **Catalytic Cracking**

1. Fluid
2. Other

#### **Catalytic Reforming**

1. Semiregenerative
2. Cyclic
3. Continuous regen.
4. Other

#### **Catalytic Hydrocracking**

1. Distillate upgrading
2. Residual upgrading
3. Lube oil manufacturing
4. Other
- c. Conventional (high-pressure) hydrocracking:  
( $>100$  barg or 1,450 psig)
- m. Mild to moderate hydrocracking:  
( $<100$  barg or 1,450 psig)

#### **Catalytic Hydrotreating**

1. Pretreating cat reformer feeds
2. Naphtha desulfurization
3. Naphtha aromatics saturation
4. Kerosine/jet fuel desulfurization
5. Diesel desulfurization
6. Distillate aromatics saturation
7. Other distillates
8. Pretreatment of cat cracker feeds
9. Other heavy gas oil hydrotreating
10. Resid hydrotreating
11. Lube oil polishing
12. Post hydrotreating of FCC naphtha
13. Other

#### **Alkylation**

1. Sulfuric acid
2. Hydrofluoric acid

#### **Polymerization/Dimerization**

1. Polymerization
2. Dimerization

#### **Aromatics**

1. BTX
2. Hydrodealkylation
3. Cyclohexane
4. Cumene

#### **Isomerization**

1. C<sub>4</sub> feed
2. C<sub>5</sub> feed
3. C<sub>5</sub> and C<sub>6</sub> feed

#### **Oxygenates**

1. MTBE
2. ETBE
3. TAME
4. Other

#### **Hydrogen**

##### Production:

1. Steam methane reforming
2. Steam naphtha reforming
3. Partial oxidation
  - a. Third-party plant

##### Recovery:

4. Pressure swing adsorption
5. Cryogenic
6. Membrane
7. Other

### **NOTES**

#### **Capacity definitions:**

Capacity expressed in barrels per calendar day (b/cd) is the maximum number of barrels of input that can be processed during a 24-hr period, after making allowances for the following:

- (a) Types and grades of inputs to be processed.
- (b) Types and grades of products to be manufactured.
- (c) Environmental constraints associated with refinery operations.
- (d) Scheduled downtime such as mechanical problems, repairs, and slowdowns.

Capacity expressed in barrels per stream day (b/sd) is the amount a unit can process when running at full capacity under optimal feedstock and product slate conditions. An asterisk (\*) beside a refinery location indicates that the number has been converted from b/sd to b/cd using the conversion factor 0.95 for crude and vacuum distillation units and 0.9 for all downstream cracking and conversion units.

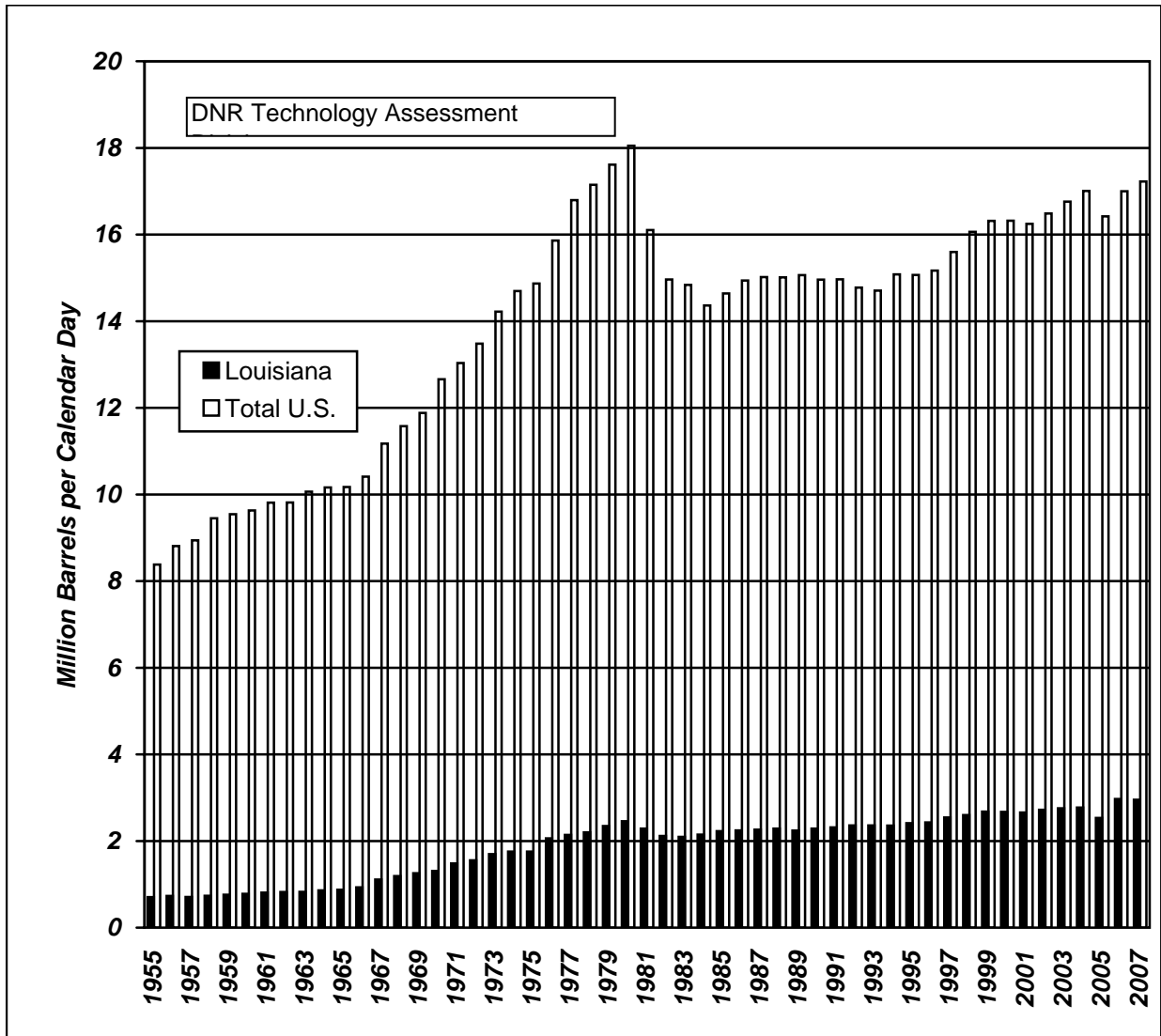
#### **Hydrogen:**

Hydrogen volumes presented here represent either generation or upgrading to 90+% purity.

#### **Catalytic reforming:**

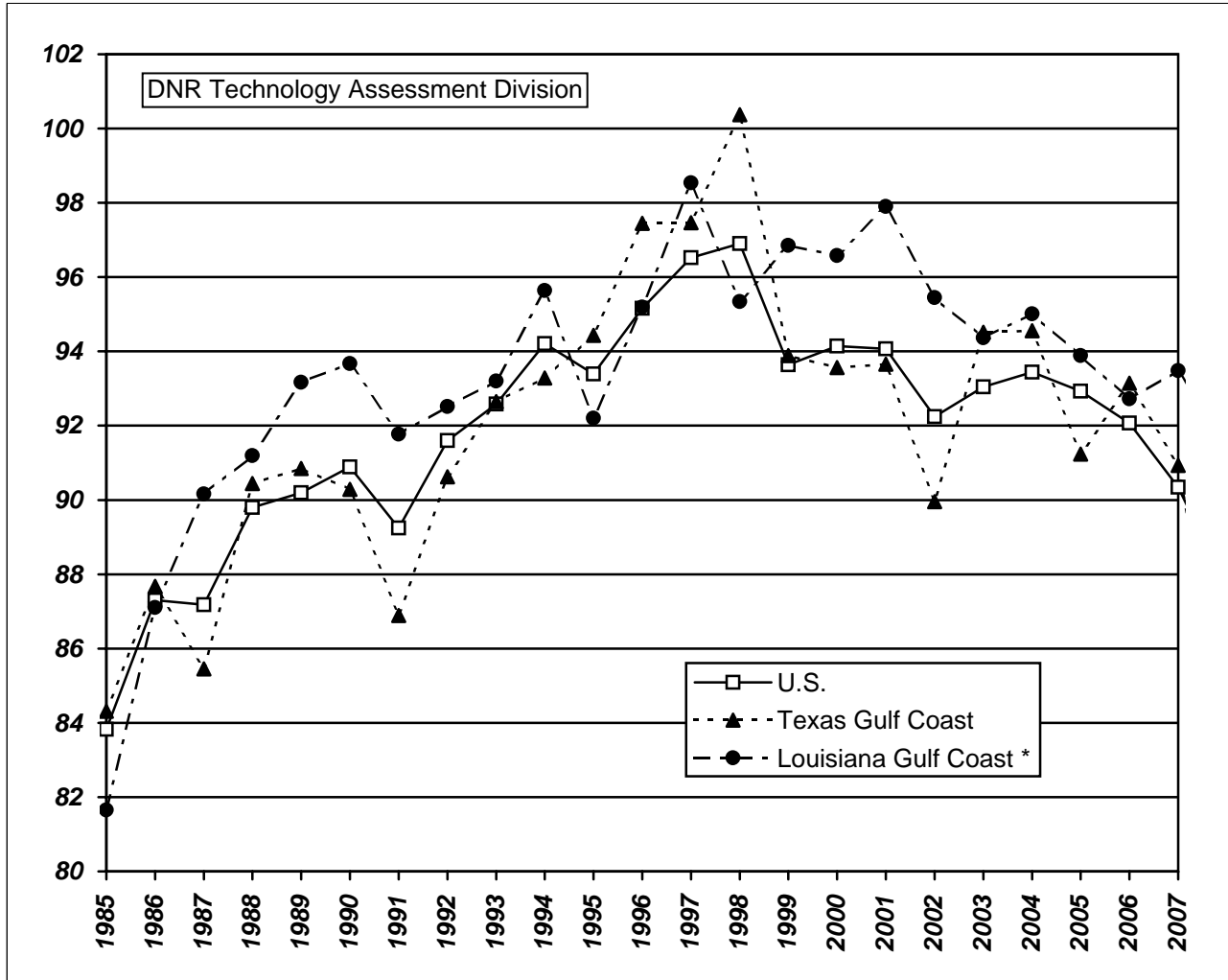
1. Semiregenerative reforming is characterized by shutdown of the reforming unit at specified intervals, or at the operator's convenience, for in situ catalyst regeneration.
2. Cyclic regeneration reforming is characterized by continuous or continual regeneration of catalyst in situ in any one of several reactors that can be isolated from and returned to the reforming operation. This is accomplished without changing feed rate or octane.
3. Continuous regeneration reforming is characterized by the continuous regeneration of part of the catalyst in a special regenerator, followed by continuous addition of this regenerated catalyst to the reactor.
4. Other includes nonregenerative reforming (catalyst is replaced by fresh catalyst) and moving-bed catalyst systems.

**Figure 2**  
**Operating Capacity of Louisiana and U.S. Refineries**



Source: 1953 - 1975: U.S. Bureau of Mines, "Petroleum Refineries in the United States and Puerto Rico" Annual  
 1976 - 1981: EIA, "Petroleum Refineries in the United States and U.S. Territories" Annual  
 1982 - 2004: EIA, "Petroleum Supply Annual, Vol. 1"  
 2005 - 2007: EIA, "Refinery Capacity Report"  
 1995: Louisiana data from DNR survey, as of June 30, 1995  
 1997: Louisiana data from DNR survey, as of June 30, 1997

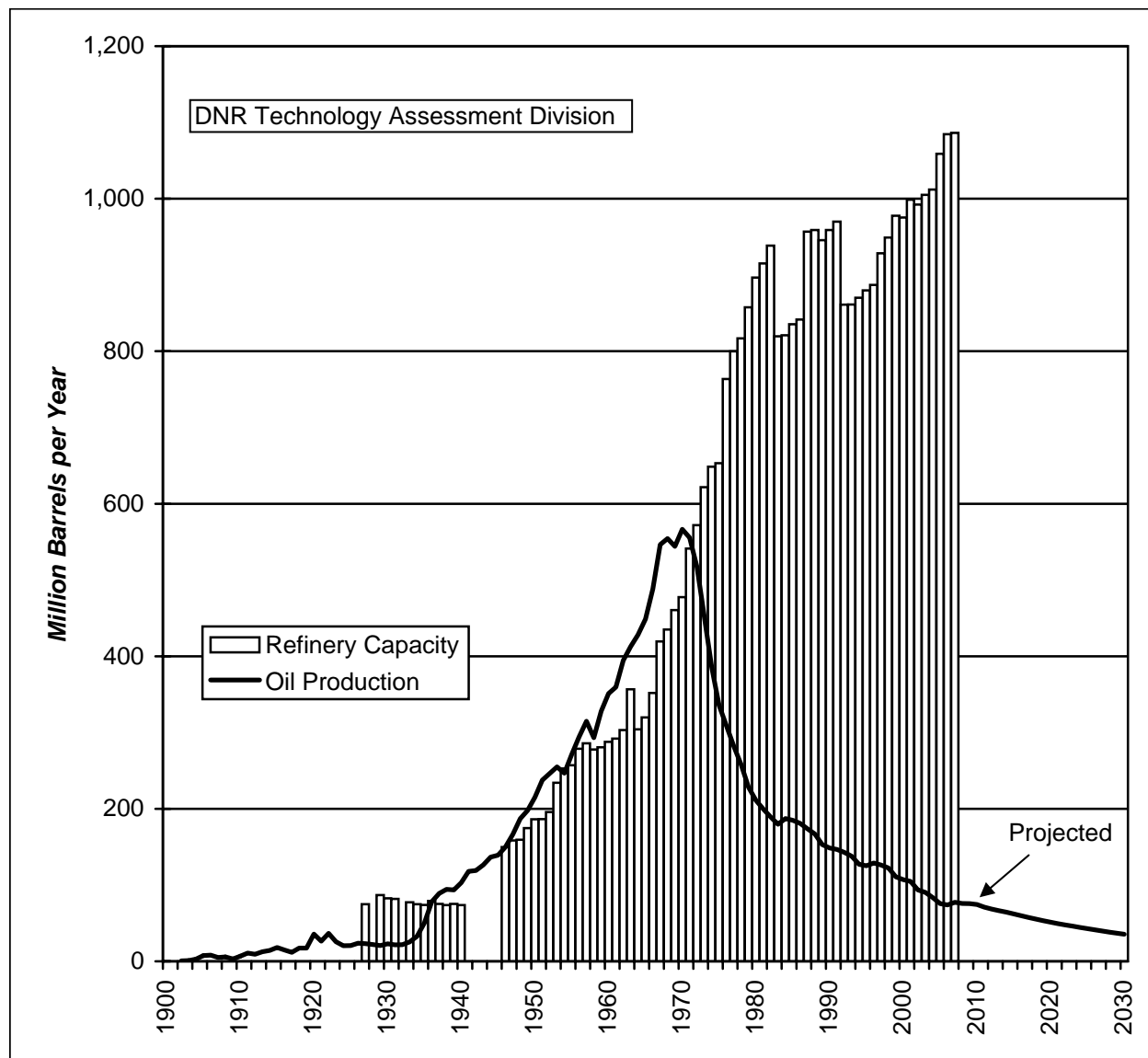
**Figure 3**  
**Operating Rates (%)**  
**U.S., Texas Gulf Coast, Louisiana Gulf Coast Refineries**



\* Louisiana Gulf Coast includes the parishes of Vernon, Rapides, Avoyelles, Pointe Coupee, West Feliciana, East Feliciana, Saint Helena, Tangipahoa, Washington, and all parishes south thereof, Mississippi counties of Pearl River, Stone, George, Hancock, Harrison, and Jackson, and Alabama counties of Mobile and Baldwin.

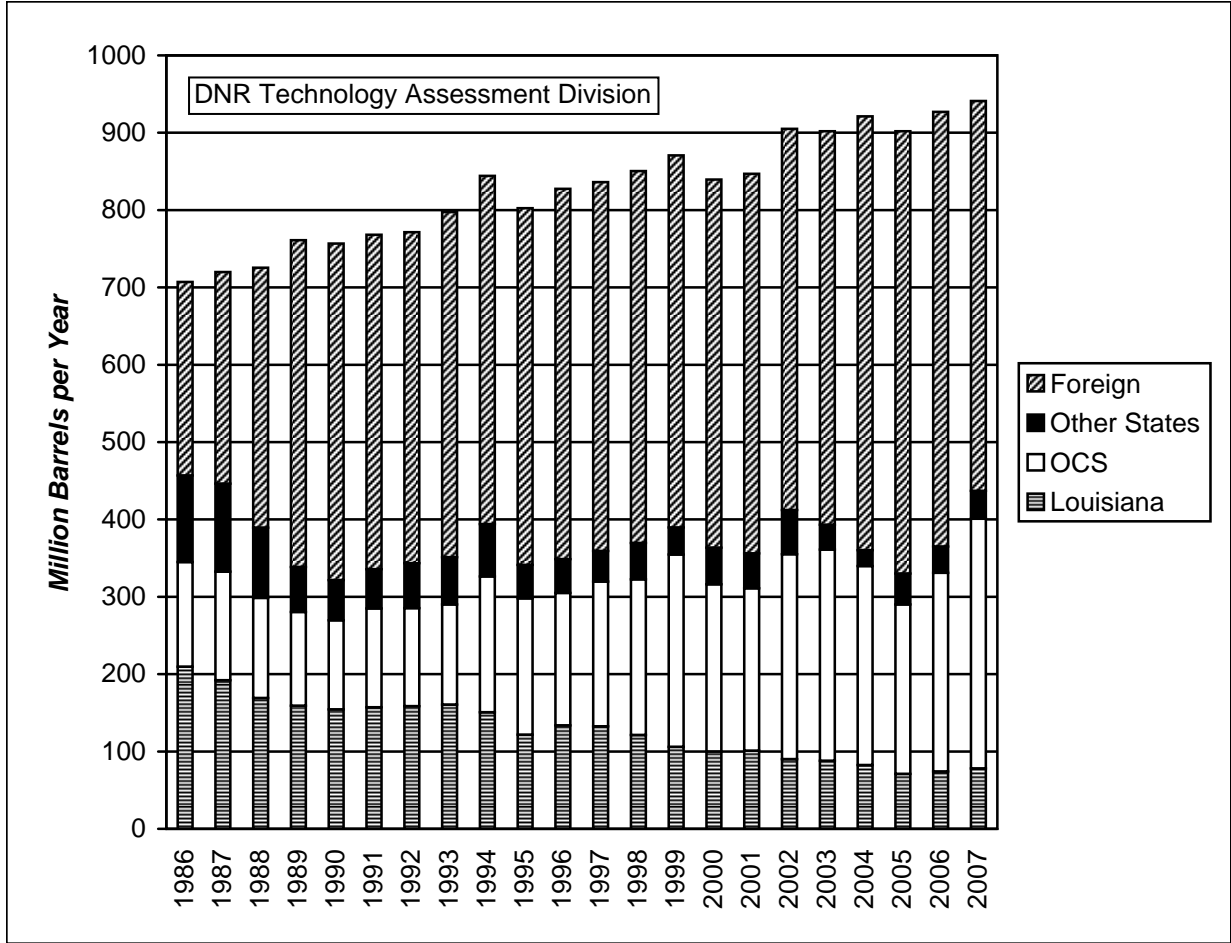
Source: EIA, "Petroleum Supply Annual, Volume 1"

**Figure 4**  
**Louisiana Oil Production (Excluding OCS) and Refinery Operable Capacity**



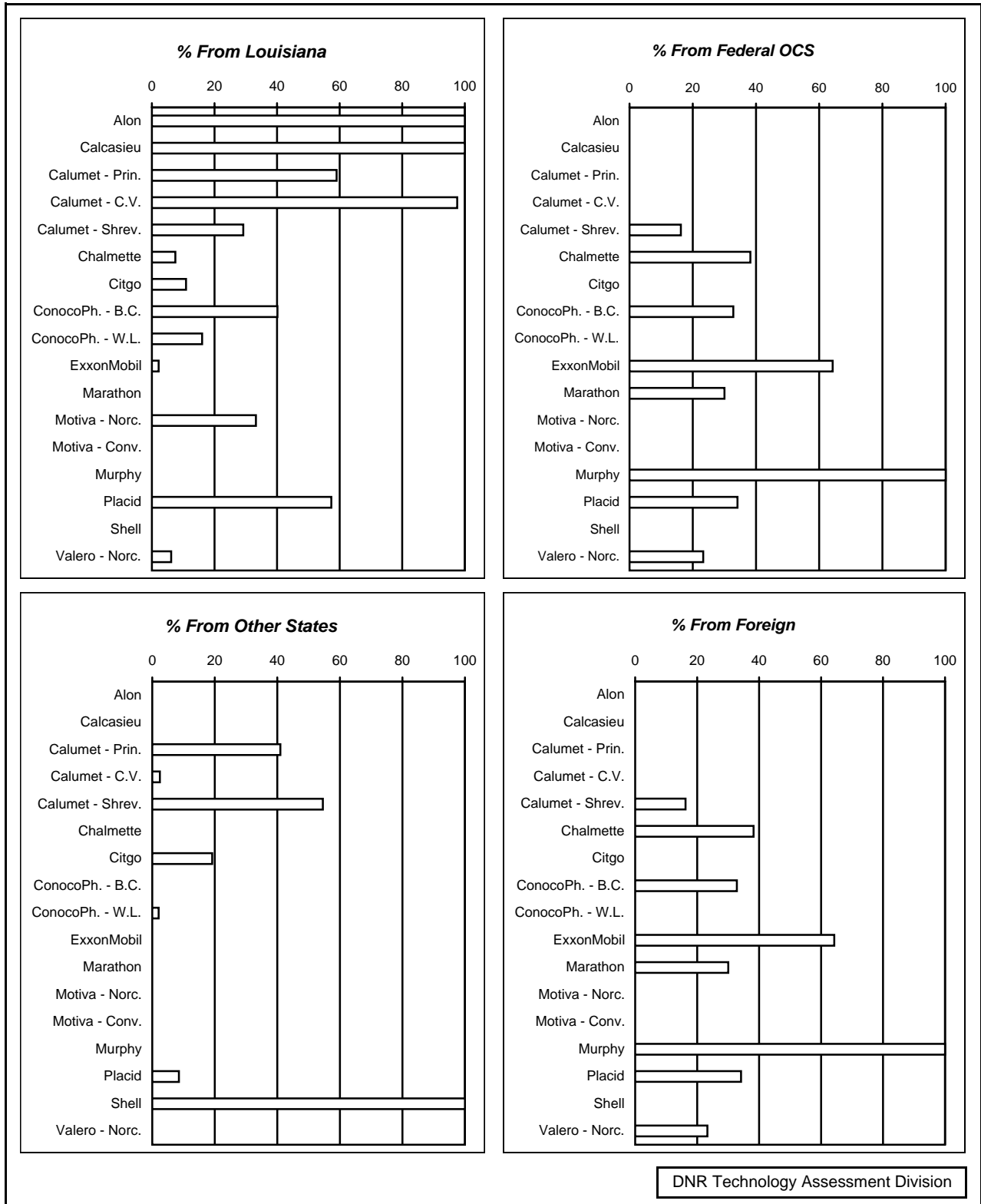
Source: Oil production data from DNR database; Refinery capacity data from DNR database and EIA, "Petroleum Supply Annual, Vol. 1" and EIA, Refinery Capacity Data Report

**Figure 5**  
**Historical Crude Oil Sources for Louisiana Refineries**



Source: DNR Database, from Refiner's Monthly Report, Form R-3

**Figure 6**  
**Crude Oil Input Percentages by Source and Refinery**  
**2008 DNR Survey (FY 2008)**



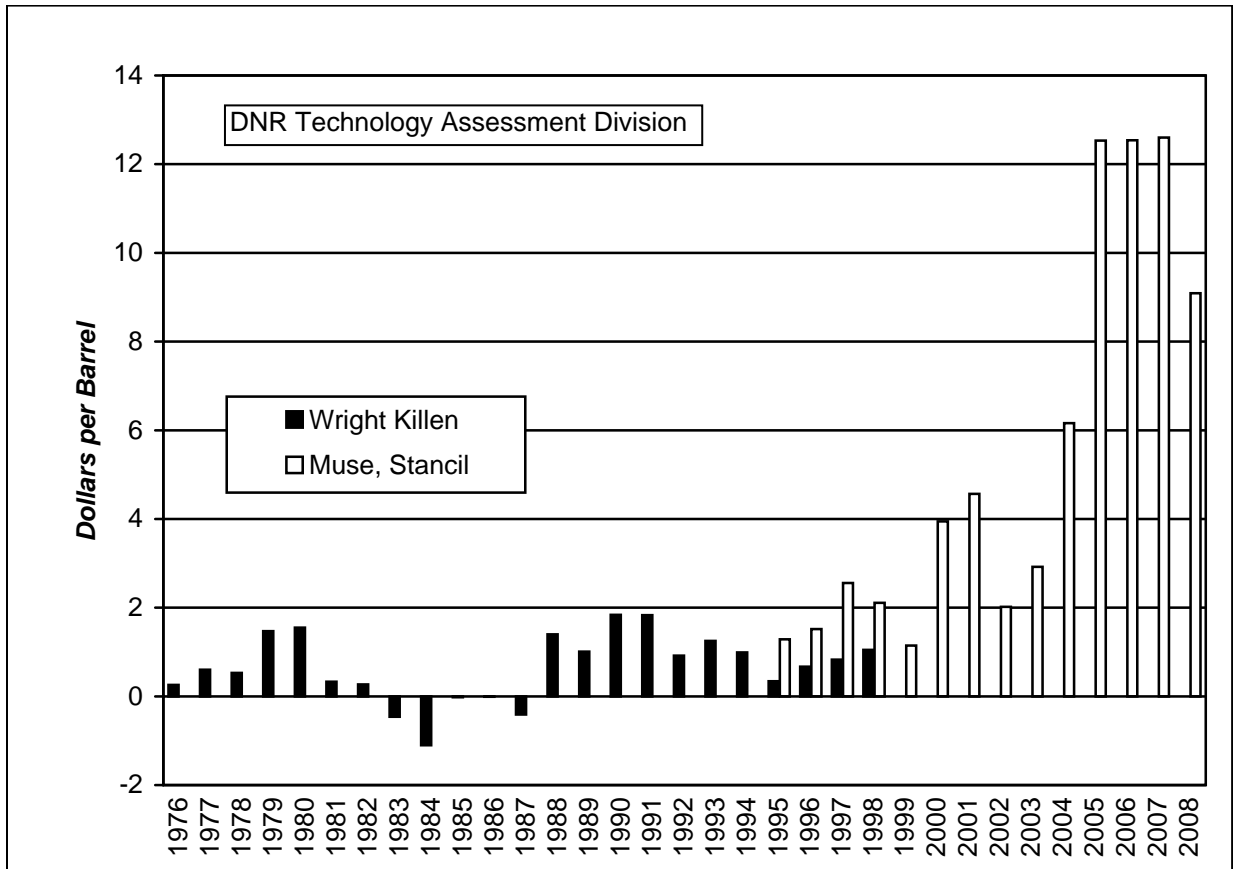
Source: DNR Database, from Refiner's Monthly Report, Form R-3

**Table 6 (Data for Figure 6)  
Crude Oil Input Percentages by Source and Refinery  
2008 DNR Survey (FY 2008)**

Refinery	Louisiana	Federal OCS	Other States	Foreign
Alon Refining Krotz Springs Inc Krotz Springs	100.0	0.0	0.0	0.0
Calcasieu Refining Co Lake Charles	100.0	0.0	0.0	0.0
Calumet Lubricants Co Princeton	59.0	0.0	41.0	0.0
Calumet Lubricants Co Cotton Valley	97.6	0.0	2.4	0.0
Calumet Shreveport LLC Shreveport	29.2	16.2	54.6	0.0
Chalmette Refining LLC Chalmette	7.5	38.2	0.0	54.3
Citgo Petroleum Corp Lake Charles	10.9	0.0	19.2	69.9
ConocoPhillips Belle Chase	40.1	32.8	0.0	27.1
ConocoPhillips West Lake	16.1	0.0	2.1	81.9
ExxonMobil Refining & Supply Co Baton Rouge	2.2	64.3	0.0	33.6
Marathon Petroleum Co LLC Garyville	0.0	30.0	0.0	70.0
Motiva Enterprises LLC Norco	33.2	0.0	0.0	66.8
Motiva Enterprises LLC Convent	0.0	0.0	0.0	100.0
Murphy Oil USA Inc Meraux	0.0	100.0	0.0	0.0
Placid Refining Co LLC Port Allen	57.3	34.2	8.5	0.0
Shell Chemical Co St. Rose	0.0	0.0	100.0	0.0
Valero Refining Co Norco	6.2	23.3	0.0	70.5

Source: DNR Database, from Refiner's Monthly Report, Form R-3

**Figure 7**  
**Gulf Coast Refinery Cash Operating Margins**



Source: Oil & Gas Journal

**Table 7**  
**Louisiana Operating Refinery Mailing Address and Contact Information**

Company Name	Mailing Address	Contacts *	Telephone
Calcasieu Refining Co	4359 W. Tank Farm Rd. Lake Charles, LA 70605	Adam Judice Russ Willmon Tim Jordan	(337) 478 2130
Calumet Lubricants Co LP	PO Box 97 Cotton Valley, LA 71018	Wayne Rhymes Charles Cost Rodney Butts	(318) 832 4236
Calumet Lubricants Co LP	10234 La Hwy. 157 Princeton, LA 71067-9172	Jerry Arnold Jerry Arnold Jerry Tollefsen	(318) 949 2421
Calumet Shreveport LLC	PO Box 3099 Shreveport, LA 71133	Rick Williams Tom Germany Dan McKibben	(318) 632 4102
Chalmette Refining LLC	PO Box 1007 Chalmette, LA 70044	Nicole Ferrier Richard Igercich	(504) 281 1270
Citgo Petroleum Corp	PO Box 1562 Lake Charles, LA 70602	Phil Woods Eduardo Assef Don Fruge	(337) 708 6357
ConocoPhillips	PO Box 176 Bell Chasse, LA 70037-0176	Bill Crawford Chris Chandler	(504) 656 3641
ConocoPhillips	PO Box 37 Westlake, LA 70669	Grant Jones Willie Tempton Jr	(337) 491 4913
ExxonMobil Refining and Supply Co	PO Box 551 Baton Rouge, LA 70821	Barbara Beckman Steve Blume A.K. Drew Turner	(225) 977 8888
Marathon Petroleum Co LLC	PO Box AC Garyville, LA 70051-0842	Junius McCants Rich Bedell Bill Kepner	(985) 535 2241
Motiva Enterprises LLC	PO Box 37 Convent, LA 70723	Kevin Hardy David Brignac Roxan Kraft	(225) 562 6922
Motiva Enterprises LLC	PO Box 10 Norco, LA 70079	Gene Bourgeois Anne-Marie Ainsworth Jones Devlin	(504) 465 6986
Murphy Oil USA Inc	PO Box 100 Meraux, LA 70075-0100	John Nasgy Lynn Bourgeois Aubrey Marchand	(504) 278 6764
Placid Refining Co	1940 La Hwy 1 North Port Allen, LA 70767	Billy Judge Joey Hagmann	(225) 377 2574
Shell Chemical Co	PO Box 10 Norco, LA 70079	Tom Ford Tom Ford Jo Leissingner	(504) 465 6393
Alon Refining Krotz Springs Inc	PO Box 453 Krotz Springs, LA 70750 0453	Kevin Roy Bill Wuensche Jim Ruble	(337) 566 0114
Valero Refining Co	PO Box 537 Norco, LA 70079	Tamiko Smith Ralph Phillip Greg Burns	(985) 764 5630

\* Contacts are listed in order as: Contact person, Plant Manager, Plant Engineer

**Table 8**  
**Louisiana Operating Refinery Locations**

Company Name	Physical Location
Calcasieu Refining Co	4359 W. Tank Farm Rd. Lake Charles, LA 70605
Calumet Lubricants Co LP	1756 Old Hwy. 7 Cotton Valley 71018
Calumet Lubricants Co LP	10234 Hwy. 157 Princeton 71067
Calumet Shreveport LLC	3333 Midway St. Shreveport 71109
Chalmette Refining LLC	500 W. St. Bernard Hwy. Chalmette 70044
Citgo Petroleum Corp	4401 Hwy. 108 Sulphur 70665
ConocoPhillips	15551 Hwy. 23 South Belle Chase 70037
ConocoPhillips	2200 Old Spanish Trail Rd. Westlake 70669
ExxonMobil Refining and Supply Co	4045 Scenic Hwy. Baton Rouge 70805
Marathon Petroleum Co LLC	4663 West Airline Hwy. Garyville 70051
Motiva Enterprises LLC	La. 44 & 70 Convent 70723
Motiva Enterprises LLC	15536 River Rd. Norco 70079
Murphy Oil USA Inc	2500 St. Bernard Hwy. Meraux 70075
Placid Refining Co	1940 La. 1 North. Port Allen 70767
Shell Chemical Co	11842 River Rd. St. Rose 70087
Alon Refining Krotz Springs Inc	356 S. Levee Rd. Krotz Springs 70750
Valero Energy Corp	14902 River Rd. Norco 70079

**Table 9**  
**Louisiana Operating Refinery Name History (1980-2008)**

Refinery Name	Date	DNR Code & Location	Refinery Name	Date	DNR Code & Location
ExxonMobil Refinery and Supply Co Exxon Co USA	1999- 1980-99	EXX - Baton Rouge	Calcasieu Refining Co CPI Oil & Refining Inc Calcasieu Refining Ltd	1985- 1982-84 1980-81	CLC - Lake Charles
ConocoPhillips Philips Petroleum Co B.P. Amoco PLC B.P. Oil Corp Standard Oil Co Gulf Refining & Marketing Co Gulf Oil Corp Gulf Oil Co US	2003- 2000-02 1999-00 1989-98 1986-88 1985-85 1981-84 1979-80	STN - Belle Chasse	Citgo Petroleum Corp Cities Service Co  ConocoPhillips Conoco Inc Conoco Continental Oil Co	1984- 1980-83  2003- 1982-02 1980-81 1979	CTS - Lake Charles   CNC - Lake Charles
Chalmette Refining LLC Mobil Oil Corp Tenneco Oil Co	1998 - 1989-98 1980-88	TNN - Chalmette	Murphy Oil USA Inc Murphy Oil Corp  Motiva Enterprises LLC Shell Oil Co	1984- 1980-83  1998- 1980-98	MRP - Meraux   SHL - Norco
Motiva Enterprises LLC Star Enterprises Texaco Refining & Marketing Texaco Inc	1998- 1989-98 1985-88 1980-84	TXC - Convent	Calumet Lubricants Co LP Calumet Refining Co	1991- 1980-90	CLM - Princeton
Calumet Lubricants Co LP Kerr-McGee Refining Corp Kerr-McGee Corp Cotton Valley Solvents Co	1996- 1985-95 1983-84 1980-82	CTT - Cotton Valley	Placid Refining Co  Calumet Shreveport LLC Calumet Lubricants Co LP Pennzoil-Quaker State Corp Pennzoil Producing Co Pennzoil Products Co Pennzoil Co Atlas Processing Co	1980-  2005- 2000-04 1999-00 1992-98 1986-91 1985-85 1980-84	PLC - Port Allen  ATL - Shreveport
Marathon Petroleum Co LLC Marathon Ashland Petroleum LLC Marathon Oil Co Marathon Petroleum Co Marathon Oil Co	2005- 1998-04 1992-98 1985-91 1980-84	MRT - Garyville	Shell Chemical Co St. Rose Refinery Inc Phibro Energy USA Inc Phibro Refining Inc Hill Petroleum Co International Processors	1996- 1994-95 1993-93 1992-92 1987-91 1981-86	INT - St. Rose
Valero Refining Co Orion Refining Corp TransAmerican Refining Co TransAmerica Refining Co GHR Energy Corp Good Hope Refineries Inc Good Hope Industries Inc	2004- 1999-03 1992-98 1988-91 1982-87 1981-81 1980-80	GDH - Good Hope			
Alon Refining Krotz Springs Inc Valero Refining Co Basis Petroleum Inc Phibro Energy USA Inc Phibro Refining Inc Hill Petroleum Co	2008- 1997-07 1996-96 1993-95 1992-92 1980-91	HLL - Krotz Springs			

**Table 10**

***Louisiana Non-Operating Refinery Mailing Address and Contact Information***

Company Name	Mailing Address	Contacts	Telephone
Lazarus Energy Holdings LLC	4400 Post Oak Pkwy Houston, TX 77027	Mr. Jason Huering	(713) 850 0500
Lazarus Energy Holdings LLC	4400 Post Oak Pkwy Houston, TX 77027	Mr. Jason Huering	(713) 850 0500
Quantum Fuel & Refining	PO Box 136 Newton, TX 75966	Mr. Mike McQueen	(713) 977 6108

**Table 11**  
**Louisiana Non-Operating Refinery Location and Status Information**

Name	Physical Location	Last Known Operating Capacity	Date Last Operated	Status
American International Refinery Inc	La. 3059 Lake Charles	35,000	2003	Sold to Pelican Refining in 2005 (asphalt plant, no crude capacity).
Bayou State Oil Corp	U.S. 71 N. @ La. 2 West Hosston	3,000	Feb. 1987	Dismantled.
Lazarus Energy Co	1901 E. Ebey Church Point	30,000	2003	Planning to start up.
Lazarus Energy Co	U.S. 90 E. Jennings	14,800	Feb. 1998	Planning to start up.
Lisbon Refinery J.V. LLC	La. 2 Lisbon	12,500	Jan. 1996	Dismantled.
Ergon St. James Co LLC	La.18 St. James	20,000	Aug. 1983	Dismantled.
Tina Resources Inc	La. 14 Lake Arthur	7,400	Feb. 1986	Dismantled.
Quantum Fuel & Refining	101 Old Ferry Rd. Egan	10,000	Sep. 1987	Planning to start up.

**Table 12**  
**Louisiana Non-Operating Refinery Name History (1980-2008)**

Refinery Name	Dates	DNR Code & Location	Refinery Name	Dates	DNR Code & Location
American International Refinery Inc	1997-04	LKC - Lake Charles	Lazarus Energy Holdings LLC	2006-	SLP - Mermanteau
Gold Line Refining Ltd	1992-97		Gold Line Refining Co Ltd	1994-98	
American Int'l Refining Inc	1989-91		CAS Refining	1991-93	
Lake Charles Refining Co	1980-88		Celeron Oil and Gas Co	1983-90	
Aweco	1979-79		Slapco	1980-82	
Sooner Refining Co	1980-82	SNR - Darrow	South Louisiana Production Co	1979	
Conoco Inc	1982-89	CNA - Egan	Petroleum Fuel & Terminal Co	1992-03	MTR- Mt. Airy
Conoco	1980-81		Clark Oil and Refining Corp	1983-91	
Continental Oil Co	1979		Mt. Airy Refining	1980-82	
Quantum Fuel & Refining	1998-	LOR - Egan	St. James Co LLC	1998-03	TXS - St. James
U.S. Refining Inc	1994-98		Texas NAPCO Inc	1983-98	
Britt Processing & Refining Co	1992-93		La Jet Inc	1980-82	
Crystal Refining Inc	1989-91		McTan Refining Corp	1983-96	BRN - St. James
OGC Corp	1988-88		McTan Corp	1982-82	
Louisiana Oil Refining Co of Egan	1987-87		Bruin Refining Co	1980-81	
El Paso Field Services	1997-05		KRR - Dubach	Sabine Resources Group	1990-92
Arcadia Refining	1995-96	Port Petroleum Inc		1980-89	
Endevco Inc	1989-94	Schulze Processing Inc		1980-82	SCH - Tallulah
Kerr-McGee Refining Corp	1985-88	Gulf Oil Co USA		1981-81	GLF - Venice
Kerr-McGee Corp	1980-84	Gulf Oil Corp		1980-80	
Tina Resources Inc	1993-96	MLL - Gueydon	Lisbon Refinery J.V LLC	1998-07	CLB - Lisbon
Cameron Oil Refining Co Inc	1992-92		Padre Refining Co	1997-98	
Cameron Resources	1990-91		Arcadia Refining & Mktg. Co	1995-96	
Mallard Resources Inc	1980-89		Dubach Gas Co	1992-94	
Bayou State Oil Corp	1980-06	BYS - Hosston	Claiborne Gasoline Co	1980-91	
Evangeline Refining Co	1980-92	EVN - Jennings	Lazarus Energy Holdings LLC	2006-	CNL - Church Pt.
Shepard Oil Co	1980-82	SHP - Jennings	Canal Refining Co	1980-06	
Laidlaw Environmental Systems	1992-92	TSR - Jennings			
GSX Recovery Systems	1983-91				
T & S Refining Co	1980-82				

**Table 13**  
**Louisiana Operating Refineries not Surveyed by DNR <sup>1</sup>**

Company Name	Contact Information	Capacity (bcd)	Process	Product
Cit-Con Oil Corp Lake Charles	1601 LA Hwy. 108 Lake Charles, LA 70601 337-491-6011	36,100 <sup>2</sup>	Vacuum distillation	Lubes
Excel Paralubes Westlake	2800 Old Spanish Trail Westlake, LA 70669	39,000 <sup>3</sup>	Catalytic hydrocracking	Lubes
Pelican Refining Co Lake Charles	4646 Old Town Rd Lake Charles, LA 70615 337-433-6773	15,000 <sup>3</sup>	Vacuum distillation	Asphalt

1. The facilities in this table do not have any atmospheric distillation capacity. They typically process heavy crude fractions and/or waste streams.

2. Source: *Oil & Gas Journal* 2008 Worldwide Refining Survey

3. Source: Energy Information Administration, "Refinery Capacity Report 2008"

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