Performance Profiles of Major Energy Producers 2007

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Major Findings

This edition of *Performance Profiles* reviews financial and operating data for the calendar year 2007 and discusses important trends and emerging issues relevant to U.S. energy company operations. The data in this report are submitted annually on Form EIA-28, the Financial Reporting System (FRS), by the major U.S.-based oil and natural gas producers and petroleum refiners.

FRS companies' net income declined after reporting record-high net income for 3 consecutive years.

- Net income decreased 8 percent (in constant 2007 dollars) from the record-high 2006 level to $125 billion in 2007. Operating revenue growth slowed to 1 percent per year in both 2006 and 2007, compared to prior-year values, after increasing 21 percent per year from 2002 to 2005. Operating expenses rose 4 percent in 2007 from 2006. This was the first time since 2002 that operating expenses grew at a faster rate than revenues.

- FRS companies earned a 23 percent return on stockholders' equity (ROE) in 2007. Although the ROE in 2007 was 5 percentage points lower than the peak in 2005, it remained more than 8 percentage points higher than the average ROE for the Census Bureau's All Manufacturing Companies.

Upstream and downstream profits declined in 2007 from record-high 2006 levels.

- Oil and natural gas production continued to be the most profitable business segment, contributing $87 billion in net income, but this was a decline of 9 percent from the peak in 2006. Return on net investment in place (ROI) fell to 17 percent in 2007 from 21 percent in 2006.

- Net income for the refining/marketing segment decreased 3 percent from 2006 but remained at a historically-high level of $32 billion in 2007. The domestic net refined product margin declined for the first time since 2002 as per-barrel operating costs increased by more than the gross product margin. From 2003 to 2007, the domestic net margin averaged three times higher than the average net margin in the 1990s. Refining/marketing ROI declined 2 percentage points from the record-high level set in 2006 to 22 percent in 2007.

Cash flow and capital expenditures decreased in 2007, but they remained at historically-high levels for FRS companies.

- Cash flow from operations decreased 4 percent from the peak in 2006 to $191 billion in 2007. This relatively high level of cash flow reduced the need for other sources of funding. Other major sources of cash (proceeds from equity offerings, issuing long-term debt, and sales of assets) also declined in 2007.

- The largest use of cash was for capital expenditures, which decreased 18 percent from 2006 to $164 billion in 2007. Despite the decline, capital expenditures in 2007 were higher than any previous year in the survey except 2006. FRS companies increased funds used to reduce long-term debt and to repurchase their own stock. Overall sources of cash exceeded uses, resulting in an increase of $5 billion in cash and cash equivalents.

Lower expenditures for acquisitions led to a decline in total upstream spending in 2007.

- While expenditures for exploration, development, and production increased, lower expenditures for acquisitions led to an overall decline in upstream expenditures in 2007, which fell 22 percent to $161 billion. Despite the decline, expenditures in 2007 were higher than every year since 1985 except 2006.

- Exploration expenditures by FRS companies in 2007 increased to the highest level since 1985. For the third year in a row, development expenditures reached the highest level in the history of the FRS survey.

Oil production decreased, while natural gas production increased; natural gas reserves additions remained robust.

- Worldwide production of oil (crude oil and natural gas liquids combined) by FRS companies decreased 4 percent in 2007 relative to 2006, as decreases occurred in all but two FRS regions. FRS companies' worldwide production of natural gas increased 2 percent in 2007, led by the U.S. Onshore region. In 2007, the FRS companies accounted for 42 percent of U.S. oil production and 43 percent of U.S. natural gas production.

- Worldwide natural gas reserves additions by FRS companies in 2007 exceeded all previous years in the survey except for 2005. Oil reserves additions, on the other hand, have declined in recent years. Each year from 2004 to 2007, FRS companies' worldwide oil reserves additions were lower than all prior survey years except 1986.

- The FRS companies' worldwide reserves replacement rate for natural gas was 126 percent in 2007 while the reserves replacement rate for oil was 78 percent. In what could have implications for future oil and natural gas production by FRS companies, six of the seven highest producing region/resource combinations (e.g., U.S. Onshore natural gas) did not find sufficient reserves to replace production in the 5-year period from 2003 to 2007.

Finding and lifting costs continued to rise.

- Average worldwide finding costs for FRS companies increased 5 percent from the previous period to $16.61 per barrel of oil equivalent (boe) in the 2005–2007 period (finding costs are averaged over a 3-year period), with one-half of the FRS regions experiencing increased finding costs and one-half decreased finding costs. The U.S. Offshore region ($50 per boe) and Africa ($38 per boe) had the highest finding costs among the FRS regions.

- Lifting costs (also called production costs) increased 17 percent from 2006 to $9.98 per boe in 2007. Direct lifting costs increased 19 percent while production taxes rose 9 percent. Finding and lifting costs combined increased 9 percent from the prior period to $25.22 per boe in the 2005–2007 period.

U.S. refining/marketing capital expenditures remained high; U.S. refinery capacity declined.

- Capital expenditures for the FRS companies' domestic refining/marketing segment increased 52 percent from 2006 to $20 billion in 2007 while foreign refining/marketing capital expenditures fell 35 percent. Companies reported substantial investments to expand capacity, increase the capability to process heavier crude oil, enhance the quality of products, improve refinery operations and reduce emissions, and add ethanol and biodiesel capabilities. From 2000 to 2007, average annual capital expenditures in the FRS domestic refining/marketing segment nearly doubled from that of 1990 to 1999, which reflects the improved return on investment in recent years.

- While several companies made investments to expand capacity, FRS companies reported that their U.S. refinery capacity decreased by almost 4 percent as one refinery was sold outside the FRS group and two others were spun off into a joint venture. FRS companies accounted for 78 percent of U.S. refining capacity in 2007. U.S. petroleum product sales by FRS companies declined 6 percent in 2007 relative to 2006. Several FRS companies disclosed plans to sell their company-owned and -operated outlets.

Financial Developments

The Energy Information Administration's (EIA) *Performance Profiles of Major Energy Producers 2007* provides a financial review and analysis of the domestic and worldwide activities and operations of the major U.S.-based energy-producing companies. *Performance Profiles* examines companies' operations on a consolidated corporate level, by individual lines of business, by major functions within each line of business, and by geographic regions. The report focuses on annual aggregate changes in profits, cash flow, and investment in the United States and international energy industry. It also explores changes in the majors' exploration and development expenditures, production, reserves additions, and refining costs and margins. The analysis in this report is based on detailed financial and operating data and information submitted each year to the EIA on Form EIA-28, the Financial Reporting System (FRS).

Net Income and Profitability

Net income for FRS companies in 2007 declined for the first time since 2002, falling to $125 billion (**Table 1**), which represents a decrease of 8 percent (in constant 2007 dollars)[1] from the 2006 level. Despite the decline, the 2007 net income level was the third highest in the history of the FRS survey (**Figure 1**) and was more than three times higher than the average FRS net income from 1974 through 2004. Excluding unusual items, net income in 2007 also declined by 8 percent from 2006.

Table 1. Consolidated Income Statement for FRS Companies and the U.S. Census Bureau's All Manufacturing Companies, 2006-2007
(Billion 2007 Dollars)

	FRS Companies			All Manufacturing Companies		
Income Statement Items	**2006**	**2007**	**Percent Change 2006-2007**	**2006**	**2007**	**Percent Change 2006-2007**
Operating Revenues	1426.1	1444.2	1.3	5,946.1	6,056.2	1.9
Operating Expenses	1226.7	1270.6	3.6	5,525.5	5,642.8	2.1
Operating Income (Revenues minus Expenses)	199.4	173.6	-13.0	420.5	413.5	-1.7
Interest Expense	12.1	10.9	-10.4	98.4	109.6	11.4
Other Revenue (Expense)	40.3	46.6	15.5	302.9	291.7	-3.7
Income Tax Expense	92.7	84.5	-8.8	138.1	158.8	15.0
Net Income	134.9	124.8	-7.5	487.0	436.8	-10.3
Net Income Excluding Unusual Items	131.8	121.9	-7.5	NA	NA	

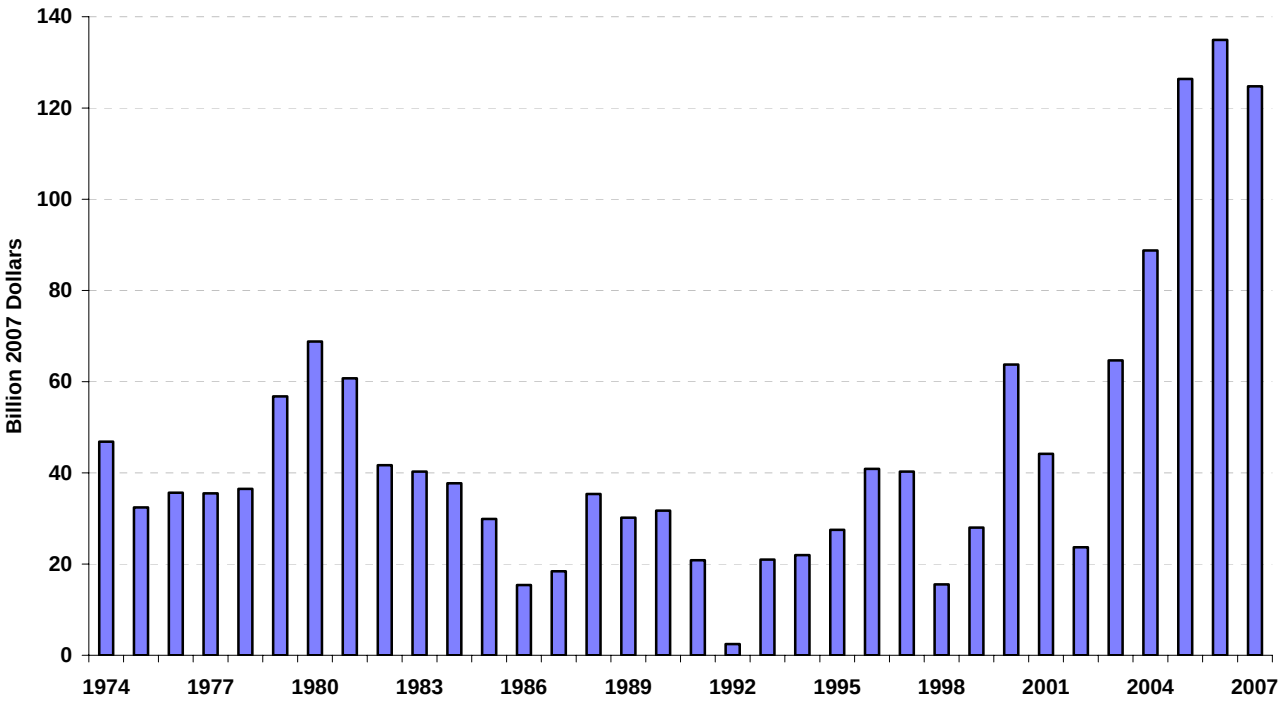
Note: Sum of components may not equal total due to independent rounding. Percent changes were calculated from unrounded data. Data for All Manufacturing Companies are provided for comparison to a broader industry benchmark.
NA= not available.

Sources: **FRS Companies**: Energy Information Administration Form EIA-28 (Financial Reporting System); **All Manufacturing Companies:** U.S. Census Bureau, Quarterly Financial Report.

The decline in net income resulted from a larger increase in operating expenses compared to operating revenues. Operating revenue growth slowed to 1 percent per year in both 2006 and 2007, compared to prior-year values,

[1] Unless otherwise indicated, all dollar values and percentage changes in this report are based in constant 2007 dollars, adjusted using the gross domestic product (GDP) deflator.

Figure 1. FRS Net Income, 1974-2007



Note: The FRS group of companies has changed incrementally over the years.
Source: Energy Information Administration, Form EIA-28 (Financial Reporting System).

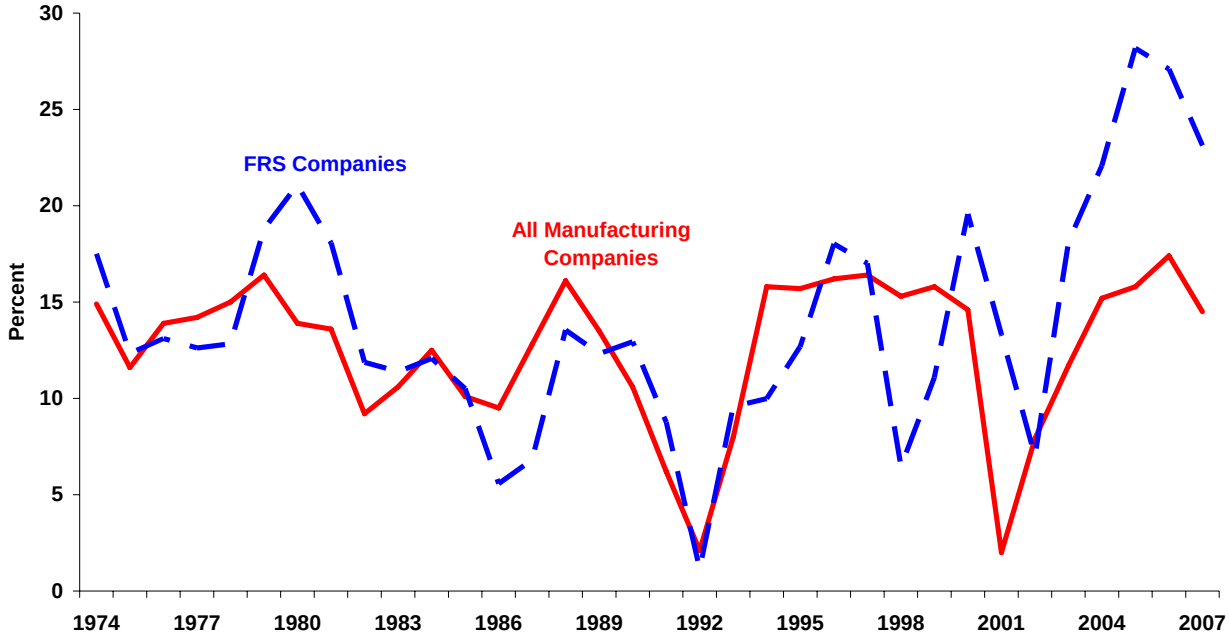
after increasing 21 percent per year from 2002 to 2005. For the first time since 2002, operating expenses increased at a faster rate than revenues, rising 4 percent in 2007 compared to 2006.

Profitability—the measure of a company's or an industry's net income relative to the equity or capital provided by its investors—declined to 23 percent in 2007. Even though the FRS companies' return on stockholders' equity (ROE) has fallen 5 percentage points from its peak in 2005, ROE in 2007 was higher than any other year in the survey except for 2005 and 2006 (**Figure 2**). The profitability of the FRS companies continued to outpace industry benchmarks (**Figure 3**). The FRS companies' ROE averaged 7 percentage points higher than that of the Census Bureau's All Manufacturing Companies from 2000 to 2007, compared to an average 2 percentage points lower from 1985 to 1999.

Among the FRS companies' lines of business and business segments, oil and natural gas production continued to be the most profitable, contributing $87 billion in net income in 2007 (**Table 2**), although this was a decline of 9 percent from the 2006 level. Revenues were driven higher by increases in crude oil prices but moderated by natural gas wellhead prices, which were nearly unchanged from the previous year (see Overview of 2007 Petroleum and Natural Gas Markets). Operating expenses, however, rose by more than revenues as increased drilling activity continued to drive up exploration, development, and production costs. Return on net investment in place (ROI) for the oil and natural gas production segment fell to 17 percent in 2007 from 21 percent in 2006. ROI for foreign oil and gas production fell farther than that of domestic production, which narrowed the difference between them (**Figure 4**).

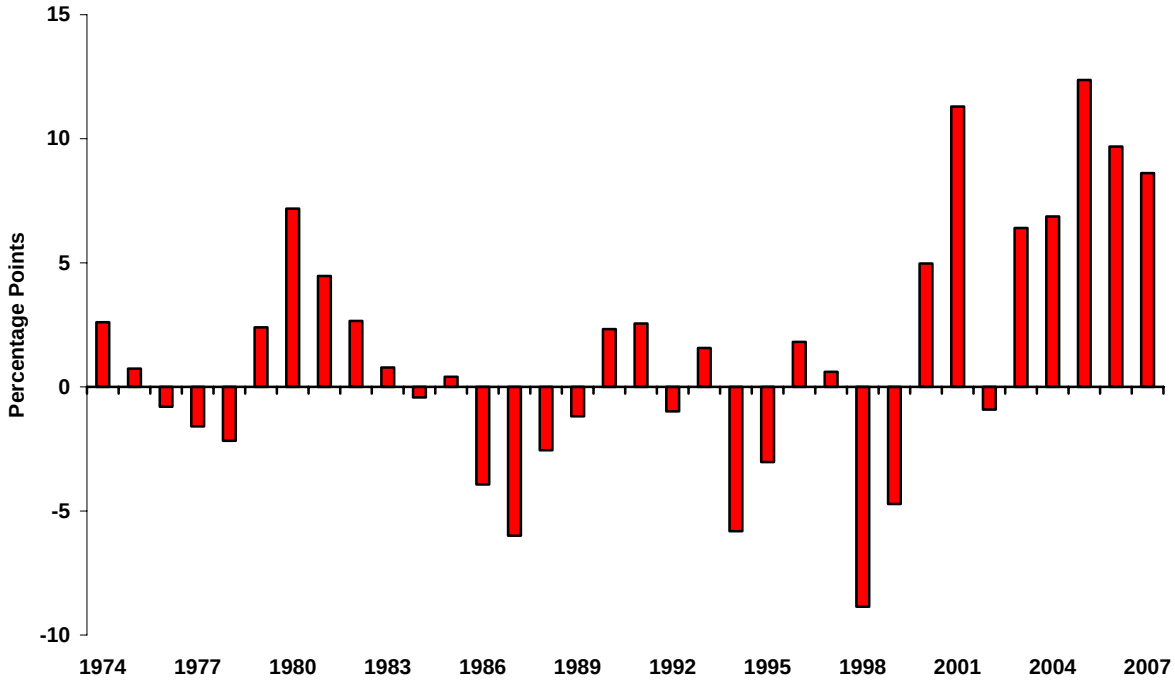
The refining/marketing segment provided $32 billion in earnings in 2007, which was a decrease of 3 percent from 2006. Despite the decline, the refining/marketing segment continues to contribute substantially to net income. Domestic earnings in 2007 exceeded all years in the survey except 2006 and foreign refining/marketing earnings were the highest since 1980. Petroleum product prices rose by more than crude oil prices in 2007, resulting in an increase in the average domestic refining/marketing gross margin of $0.26 per barrel. Per-barrel operating costs, however, increased by more than the gross margin, which reduced the net refined product margin for the first time

Figure 2. Return on Stockholders' Equity for FRS Companies and All Manufacturing Companies, 1974-2007



Sources: **FRS Companies**: Energy Information Administration, Form EIA-28 (Financial Reporting System). **All Manufacturing Companies**: U.S. Census Bureau Quarterly Financial Report, All Manufacturing Companies.

Figure 3. Difference Between FRS and All Manufacturing Companies Return on Stockholders' Equity, 1974-2007



Sources: **FRS Companies**: Energy Information Administration, Form EIA-28 (Financial Reporting System).
All Manufacturing Companies: U.S. Census Bureau Quarterly Financial Report, All Manufacturing Companies.

Table 2. Contributions to Net Income by Line of Business for FRS Companies, 2006-2007
(Million 2007 Dollars)

Line of Business	Net Income			Net Income Excluding Unusual Items		
	2006	2007	Percent Change 2006-2007	2006	2007	Percent Change 2006-2007
Petroleum						
U.S. Petroleum						
Oil and Natural Gas Production	42,883	40,055	-6.6	42,023	37,228	-11.4
Refining/Marketing	24,967	22,381	-10.4	25,321	21,329	-15.8
Pipelines	235	260	10.6	170	273	60.8
Total U.S. Petroleum	68,085	62,696	-7.9	67,513	58,830	-12.9
Foreign Petroleum						
Oil and Natural Gas Production	52,769	47,005	-10.9	51,383	49,436	-3.8
Refining/Marketing[a]	7,752	9,201	18.7	7,557	8,444	11.7
Total Foreign Petroleum	60,521	56,207	-7.1	58,940	57,881	-1.8
Total Petroleum	128,606	118,902	-7.5	126,454	116,709	-7.7
Downstream Natural Gas	3,758	8,794	134.0	3,879	7,803	101.2
Electric Power	1,188	-1,562	-231.5	1,404	-1,372	-197.8
Other Energy[b]	582	783	34.5	519	783	51.0
Nonenergy	6,412	5,626	-12.3	6,821	5,912	-13.3
Total Allocated	140,547	132,543	-5.7	139,076	129,836	-6.6
Nontraceable[c]	-5,637	-7,773	--	-7,312	-7,964	--
Consolidated Net Income[d]	134,910	124,770	-7.5	131,763	121,872	-7.5

[a]International Marine is included in Refining/Marketing.

[b]The Other Energy line of business includes coal, nuclear, and non-conventional energy.

[c]Revenues and expenses that cannot be directly attributed to a line of business.

[d]The total amount of unusual items was $3,147 million and $2,898 million in 2006 and 2007, respectively.

-- = Not meaningful.

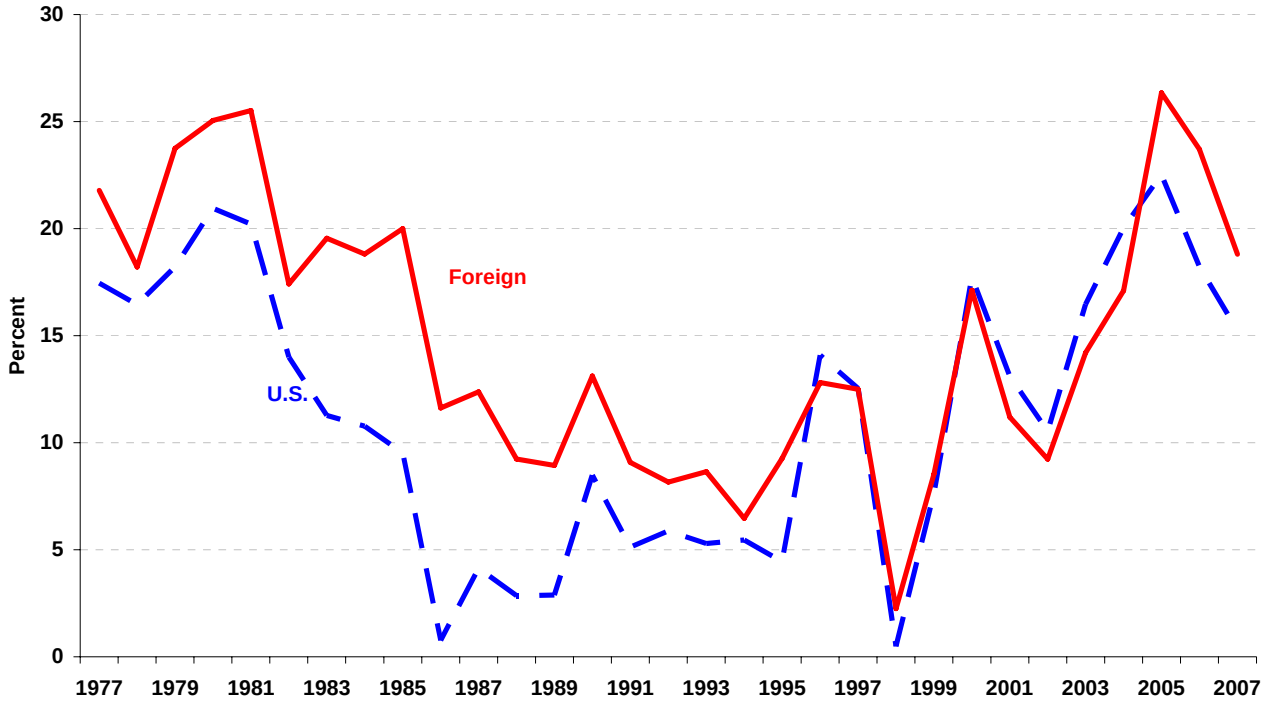
Source: Energy Information Administration, Form EIA-28 (Financial Reporting System).

since 2002 (**Figure 5**). Even with the decline, the 2007 net margin remained higher than every year in the survey except 2006. From 2003 to 2007, the domestic net margin averaged three times higher than the average net margin in the 1990s. Refining/marketing ROI declined to 22 percent in 2007, which was down 2 percentage points from the peak in 2006, but higher than every year of the survey before 2005. ROI for domestic and foreign refining/marketing were nearly identical (**Figure 6**).

Net income in the downstream natural gas line of business increased significantly, rising to almost $9 billion in 2007. Even though revenues declined, expenses, which include purchases of natural gas, fell further. Stronger liquefied natural gas (LNG) prices were cited as one reason for the gain in downstream natural gas earnings.[2] LNG prices are often tied to crude oil prices, particularly in Asia, and foreign earnings increased by more than domestic earnings.

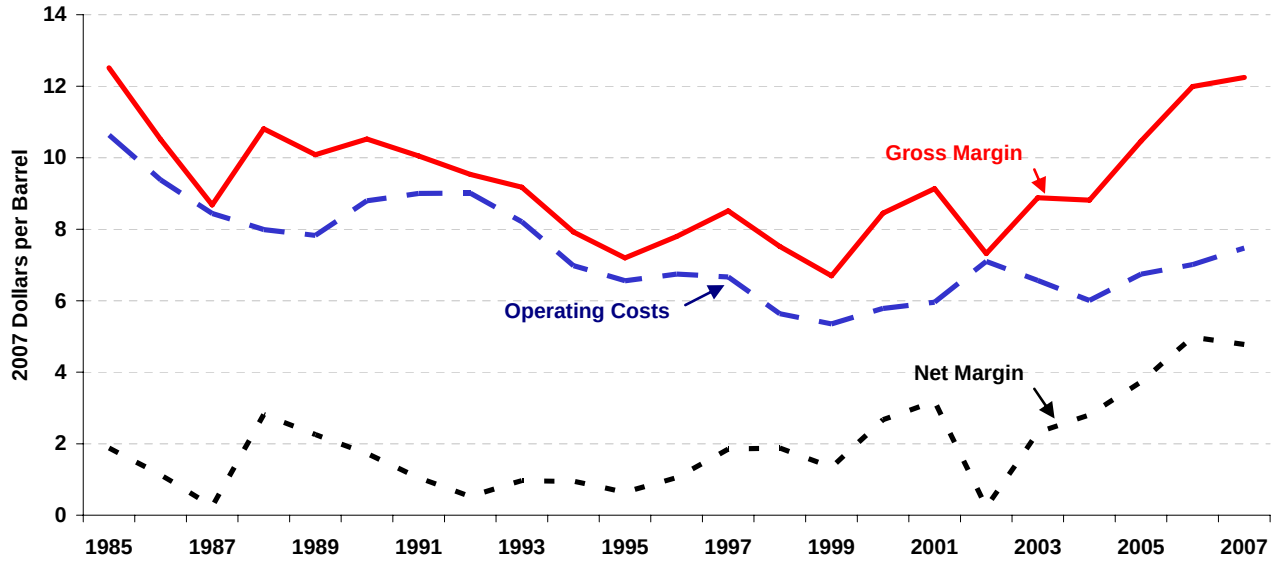
[2] Royal Dutch Shell plc, *Annual Review and Summary Financial Statements 2007*, p. 26.

Figure 4. Return on Net Investment in Place for U.S. and Foreign Oil and Natural Gas Production for FRS Companies, 1977-2007



Source: Energy Information Administration, Form EIA-28 (Financial Reporting System).

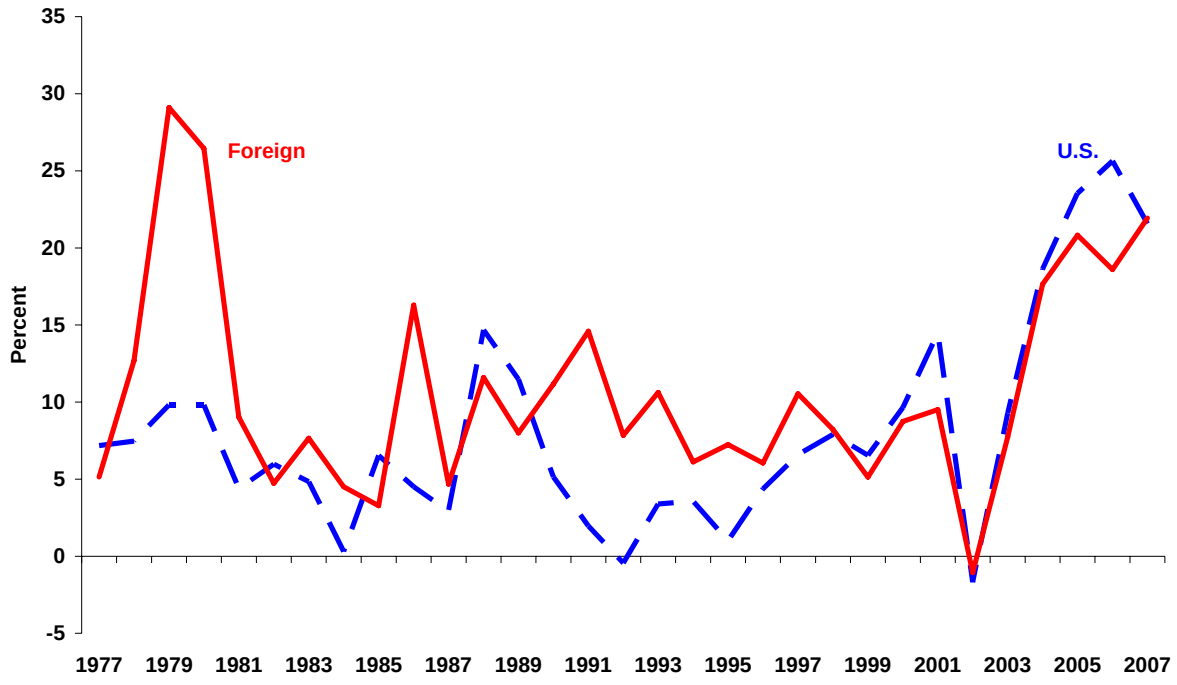
Figure 5. U.S. Refined Product Margins and Costs per Barrel of Petroleum Product Sold for FRS Companies, 1985-2007



Note: The gross margin is refined product revenues less raw material cost and product purchases divided by refined product sales volume.

Source: Energy Information Administration, Form EIA-28 (Financial Reporting System).

Figure 6. Return on Net Investment in Place for U.S. and Foreign Refining/Marketing for FRS Companies, 1977-2007



Source: Energy Information Administration, Form EIA-28 (Financial Reporting System).

The nonenergy line of business contributed $6 billion in net income, a decrease of 12 percent from 2006. Chemical operations account for a large portion of the nonenergy line of business, and lower margins were cited as a major reason for lower chemical earnings.[3]

Cash Flow and Capital Expenditures

The cash flow statement provides information on sources and uses of cash, with sections for operations, investing activities, and financing activities. Cash flow from operations consists of net income after taxes plus depreciation and other noncash expenses. Investing activities include the net effect of buying and selling property, plant, and equipment. Financing activities include the net effect of issuing and purchasing company stock, issuing and paying off debt, and paying dividends. Major sources of cash include cash flow from operations, sales of assets, and proceeds from issuing debt or equity. Primary uses of cash include making capital expenditures, paying dividends, purchasing company stock, and paying off debt. Capital expenditures represent the value of assets acquired in the current time period net of depreciation and also include investments and advancements to unconsolidated affiliate companies. This report also refers to capital expenditures as additions to investment in place. The current cash flow statement was added to the survey in 1986.

Cash flow from operations for FRS companies decreased 4 percent from the previous year to $191 billion in 2007 (**Table 3**), reflecting the decline in net income. Oil and natural gas production contributed 77 percent of the cash flow from operations (on a pretax basis), and refining/marketing contributed another 19 percent (**Table 4**).

[3] Energy Information Administration, *Financial News for Major Energy Companies, Fourth Quarter 2007* (February 2008), p. 5, available at http://www.eia.doe.gov/emeu/perfpro/news_m/q407.pdf (as of November 20, 2008).

Table 3. Sources and Uses of Cash for FRS Companies, 2006-2007
(Billion 2007 Dollars)

Sources and Uses of Cash	2006	2007	Absolute Change 2006-2007	Percent Change 2006-2007
Main Sources of Cash				
Cash Flow from Operations	199.5	191.0	-8.5	-4.3
Proceeds from Long-Term Debt	84.1	72.8	-11.3	-13.4
Proceeds from Disposals of Assets	42.8	33.4	-9.4	-22.0
Proceeds from Equity Security Offerings	23.2	2.1	-21.1	-90.9
Main Uses of Cash				
Additions to Investment in Place	199.6	164.6	-35.0	-17.6
Reductions in Long-Term Debt	51.4	63.2	11.8	23.1
Dividends to Shareholders	39.6	33.3	-6.2	-15.8
Purchase of Treasury Stock	42.8	54.1	11.3	26.4
Other Investment and Financing Activities, Net	-23.4	21.0	44.4	NM
Net Change in Cash and Cash Equivalents	-7.2	5.0	12.2	NM

NM = Not meaningful.
Note: Sources minus uses plus other investment and financing activities (net) may not equal net change in cash and cash equivalents due to independent rounding.

Percent changes were calculated from unrounded data.

Source: Energy Information Administration, Form EIA-28 (Financial Reporting System).

Table 4. Line-of-Business Contributions to Pretax Cash Flow, Income Taxes, and Cash Flow for FRS Companies, 2006-2007
(Billion 2007 Dollars)

Contribution to Pretax Cash Flow [a]	2006	2007	Absolute Change 2006-2007	Percent Change 2006-2007
Petroleum				
Oil and Natural Gas Production	196.1	184.5	-11.6	-5.9
Refining, Marketing, and Transport	53.8	46.6	-7.2	-13.4
Downstream Natural Gas	6.6	10.4	3.8	57.9
Electric Power	2.2	-3.0	-5.2	NM
Other Energy[b]	0.7	0.7	0.0	6.7
Chemicals	8.5	6.9	-1.6	-18.5
Other Nonenergy	-0.6	-0.7	-0.1	NM
Nontraceable	-6.4	-5.6	0.8	-12.1
Total Contribution to Pretax Cash Flow[a]	260.8	239.9	-21.0	-8.0
Current Income Taxes	-83.7	-82.4	--	-1.6
Other (Net)	22.3	33.5	11.1	49.8
Cash Flow from Operations	199.5	191.0	-8.5	-4.3

[a]Defined as the sum of operating income, depreciation, depletion, and amortization, and dry hole expense.
[b]The Other Energy line of business includes coal, nuclear, and non-conventional energy.
NM = Not meaningful.
Note: Sum of components may not equal total due to independent rounding. Percent changes were calculated from unrounded data.
Source: Energy Information Administration, Form EIA-28 (Financial Reporting System).

Other major sources of cash also declined in 2007 from 2006 (**Table 3**). Proceeds from equity security offerings fell 91 percent from the 2006 level to $2 billion in 2007. The 2006 amount was influenced by major acquisitions

that did not occur at the same level in 2007. Proceeds from the disposal of assets declined 22 percent in 2007, but remained at a relatively high level. The higher price environment in recent years pushed up asset values, and companies took advantage by selling off assets to raise cash. Proceeds from the disposal of assets in each year from 2005 to 2007 were higher than every year from 1986 to 2004.

The largest use of cash was for capital expenditures, which decreased by 18 percent from the previous year to $165 billion in 2007 (**Table 5**). Despite the decline, capital expenditures in 2007 were higher than any previous year in the survey except 2006. Oil and natural gas production (domestic and foreign combined) accounted for 70 percent of the total. Domestic refining/marketing's share of capital expenditures nearly doubled, rising to 12 percent.

Table 5. Additions to Investment in Place by Line of Business for FRS Companies, 2006-2007
(Billion 2007 Dollars)

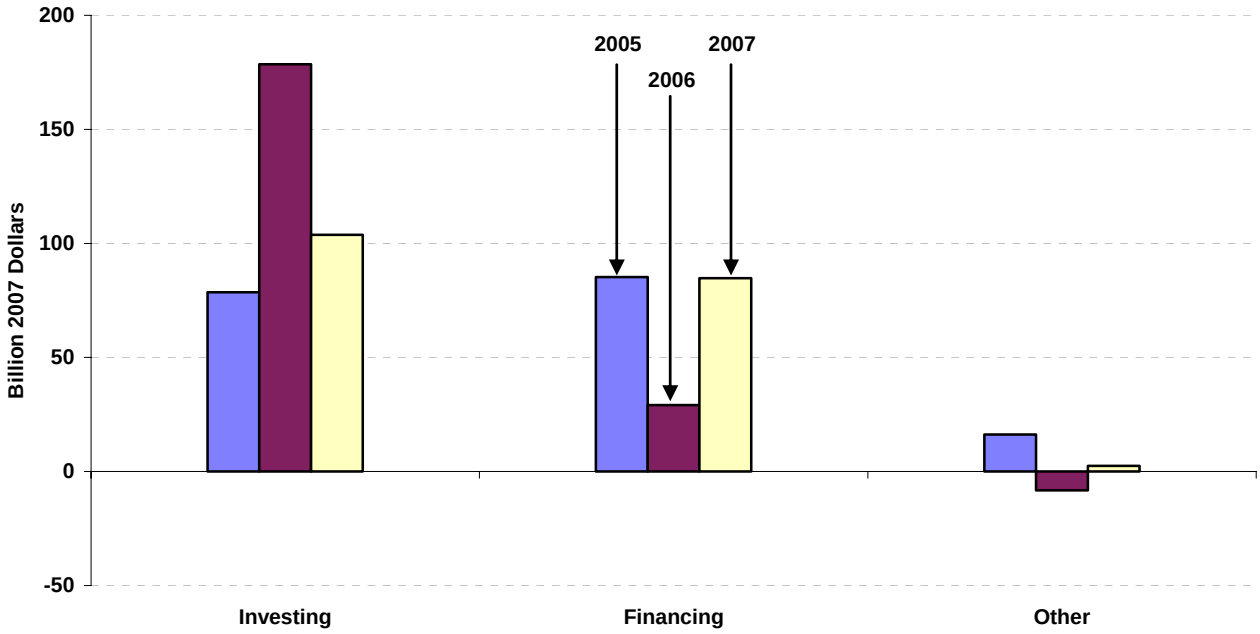
Lines of Business	2006	2007	Percent Change 2006-2007	Percent Change Excluding Mergers and Acquisitions 2006-2007
Petroleum				
U.S. Petroleum				
Oil and Natural Gas Production	95.5	61.2	-35.9	16.4
Refining/Marketing				
Refining	11.2	17.1	51.8	57.9
Marketing	1.5	2.0	31.4	12.9
Transport	0.7	1.4	94.6	94.6
Total Refining/Marketing	13.5	20.5	51.8	54.2
Pipelines	1.0	0.9	-15.7	-44.0
Total U.S. Petroleum	110.1	82.6	-25.0	23.5
Foreign Petroleum				
Oil and Natural Gas Production	63.8	53.3	-16.4	5.0
Refining/Marketing[a]	5.9	3.8	-34.7	-14.0
Total Foreign Petroleum	69.6	57.1	-18.0	3.3
Total Petroleum	179.7	139.7	-22.3	14.1
Downstream Natural Gas	12.0	9.6	-19.9	19.2
Electric Power	1.6	0.4	-74.7	-71.9
Other Energy[b]	0.5	7.8	1406.0	3193.6
Chemicals	2.5	3.5	40.7	41.8
Other Nonenergy	0.8	0.8	3.8	46.0
Nontraceable[c]	2.6	2.8	7.0	12.9
Additions to Investment in Place[d]	199.6	164.6	-17.6	20.5
Additions Due to Mergers and Acquisitions	81.1	21.8	-73.1	
Total Additions Excluding Mergers and Acquisitions	118.5	142.8	20.5	

[a]International Marine is included in Refining/Marketing.
[b]The Other Energy line of business includes coal, non-conventional, and renewable energy.
[c]Investments that cannot be directly attributed to a line of business.
[d]Additions to investment in place = additions to property, plant, and equipment, plus additions to investments and advances.
Note: Sum of components may not equal total due to independent rounding. Percent changes were calculated from unrounded data.
Source: Energy Information Administration, Form EIA-28 (Financial Reporting System).

FRS companies continued to use stock buyback programs to distribute part of their cash flow to shareholders. The amount of cash used by FRS companies to repurchase their own stock rose 26 percent to $54 billion in 2007 (**Table 3**). From 1986 to 2003, FRS companies' purchases of their own stock averaged $6 billion per year, while from 2004 to 2007, the average was $37 billion per year. Dividends to shareholders declined 16 percent to $33 billion in 2007. The decrease was influenced by a large decline in the dividend of one survey respondent; most FRS companies increased their dividend in 2007. Meanwhile, funds used to reduce long-term debt increased by 23 percent in 2007. This reduction in long-term debt contributed to a decline in the ratio of long-term debt to stockholders' equity for FRS companies from 35 percent in 2006 to 32 percent in 2007 (**Table DS3**), the lowest level since 1981.

Overall, net uses of cash for investing activities fell to $104 billion in 2007 from $179 billion in 2006 (**Figure 7**), primarily as a result of the relatively lower level of merger and acquisition activity in 2007, which reduced capital expenditures (**Figure 8**). Net uses of cash for financing activities increased to $85 billion from $29 billion as a result of higher purchases of company stock, lower equity offerings, and lower net proceeds from long-term debt. Total sources of cash exceeded uses, resulting in an increase of $5 billion in cash and cash equivalents.

Figure 7. FRS Companies' Net Uses of Cash Flow, 2005-2007



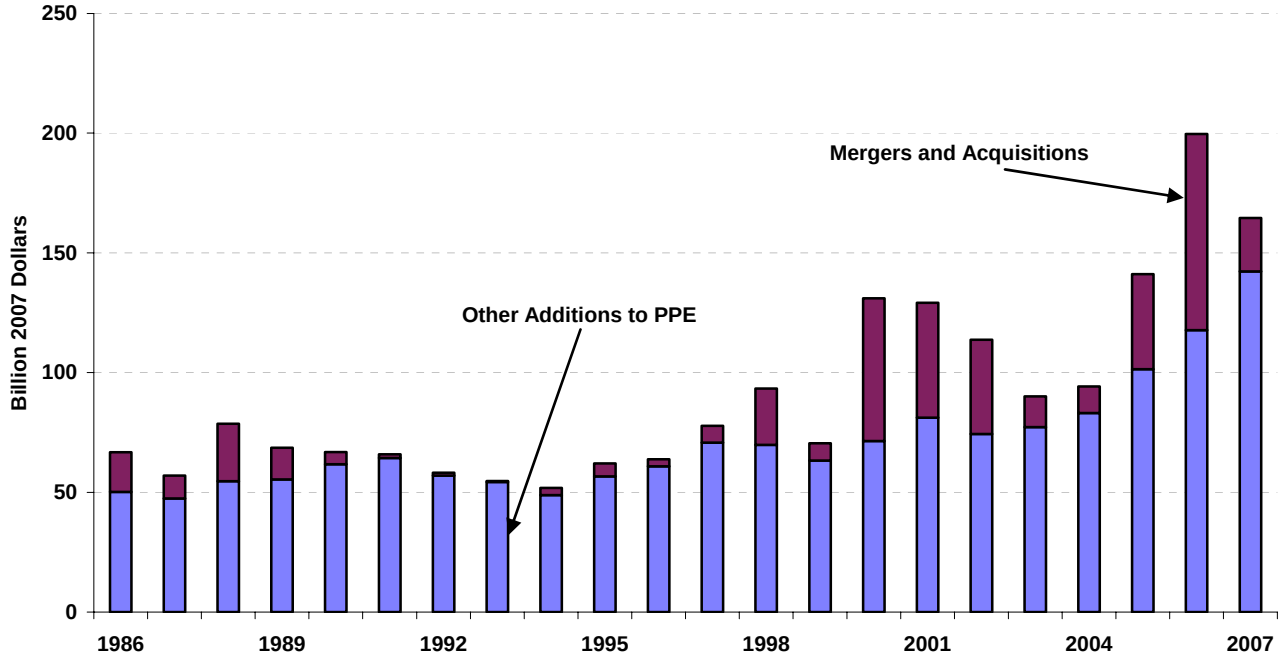
Investing - buying and selling property, plant, and equipment. Financing - issuing and purchasing company stock, issuing and paying off debt, and paying dividends.
Source: Energy Information Administration, Form EIA-28 (Financial Reporting System).

Oil and Gas Production Expenditures

In addition to capital expenditures, FRS companies report expenditures for unproved and proved property acquisition, exploration, development, and production (E&P) for the oil and natural gas production segment. The data include current and capital expenditures, but capital expenditures are predominant.

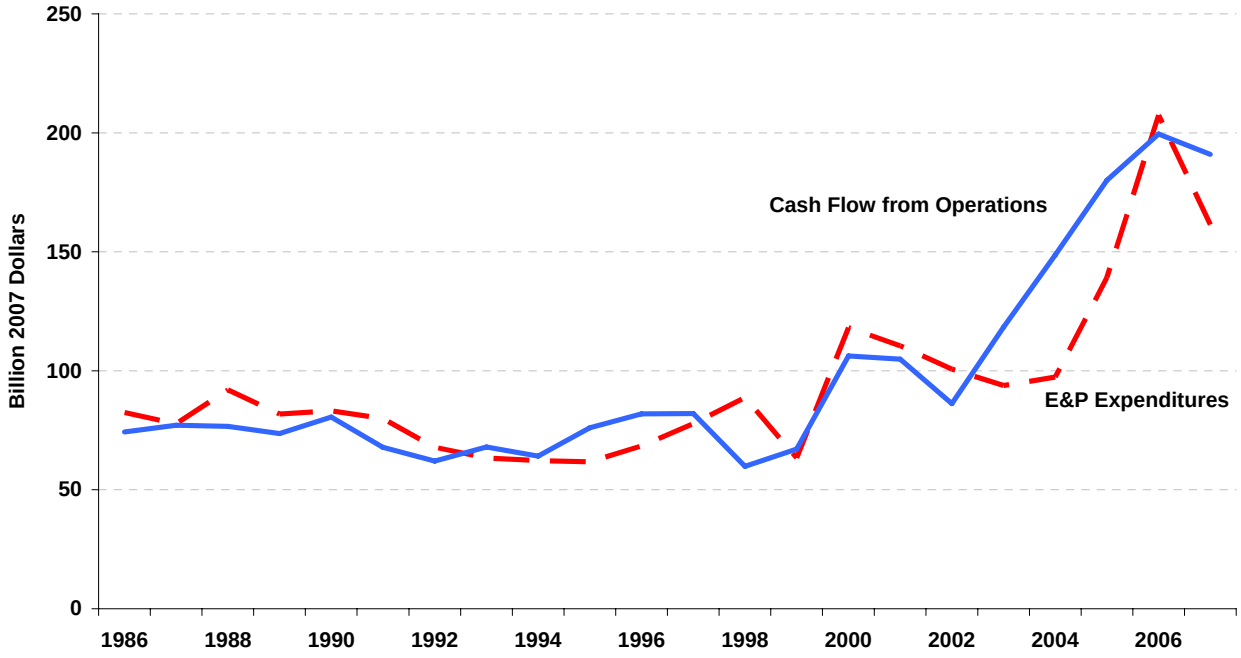
While expenditures for exploration, development, and production increased, lower expenditures for acquisitions led to an overall decline in E&P expenditures in 2007, which fell 22 percent to $161 billion (**Figure 9**). Despite

Figure 8. FRS Capital Expenditures, 1986-2007



Source: Energy Information Administration, Form EIA-28 (Financial Reporting System).

Figure 9. Cash Flow from Operations and Exploration and Production (E&P) Expenditures for FRS Companies, 1986-2007

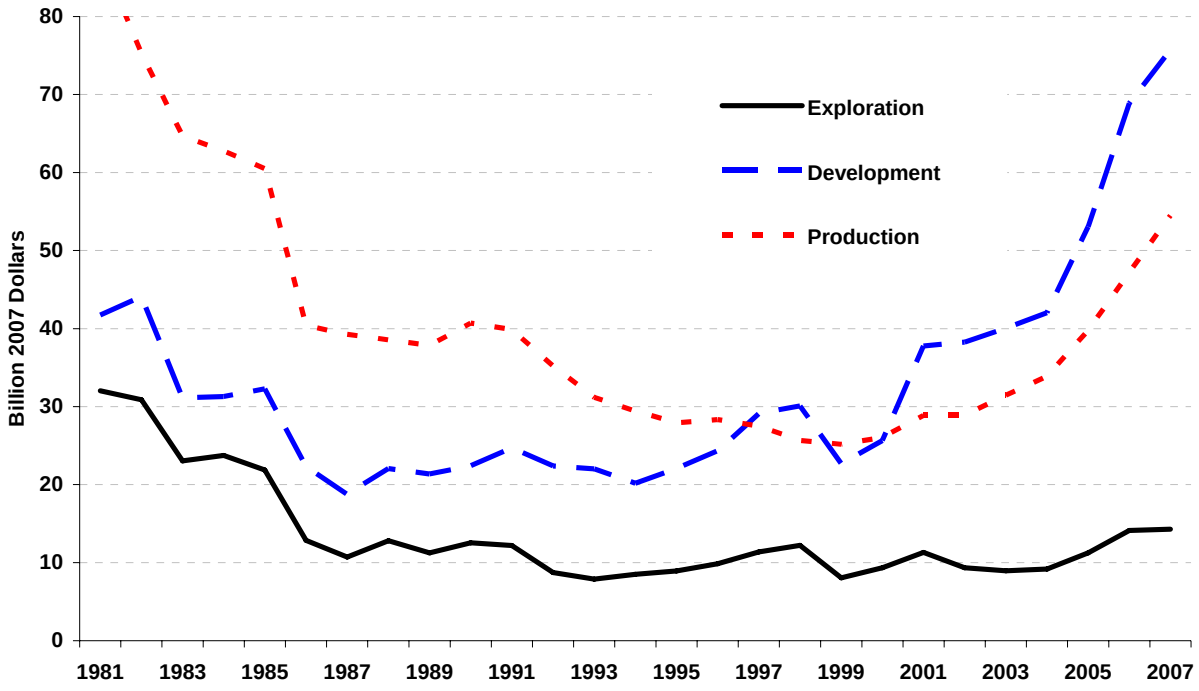


Note: E&P expenditures includes exploration, development, production, unproved acreage, and proved acreage expenditures.
Source: Energy Information Administration, Form EIA-28 (Financial Reporting System).

the decline, E&P expenditures in 2007 were higher than every year since 1985 except 2006. Expenditures for unproved and proved property acquisitions accounted for 11 percent of the total in 2007, compared to 37 percent in 2006. Development expenditures comprised 47 percent of the total E&P expenditures in 2007, production expenditures contributed 34 percent, and expenditures for exploration accounted for 9 percent.

Compared to the 2006 level, development expenditures increased 10 percent to $76 billion in 2007 (**Figure 10**). For the third year in a row, development expenditures reached the highest level in the history of the FRS survey. While exploration expenditures increased just 1 percent from 2006, the $14 billion spent for exploration was the highest since 1985. Production expenditures rose 15 percent from 2006 to $54 billion in 2007, which also was the highest level since 1985.

Figure 10. FRS Worldwide Expenditures for Exploration, Development, and Production, 1981-2007



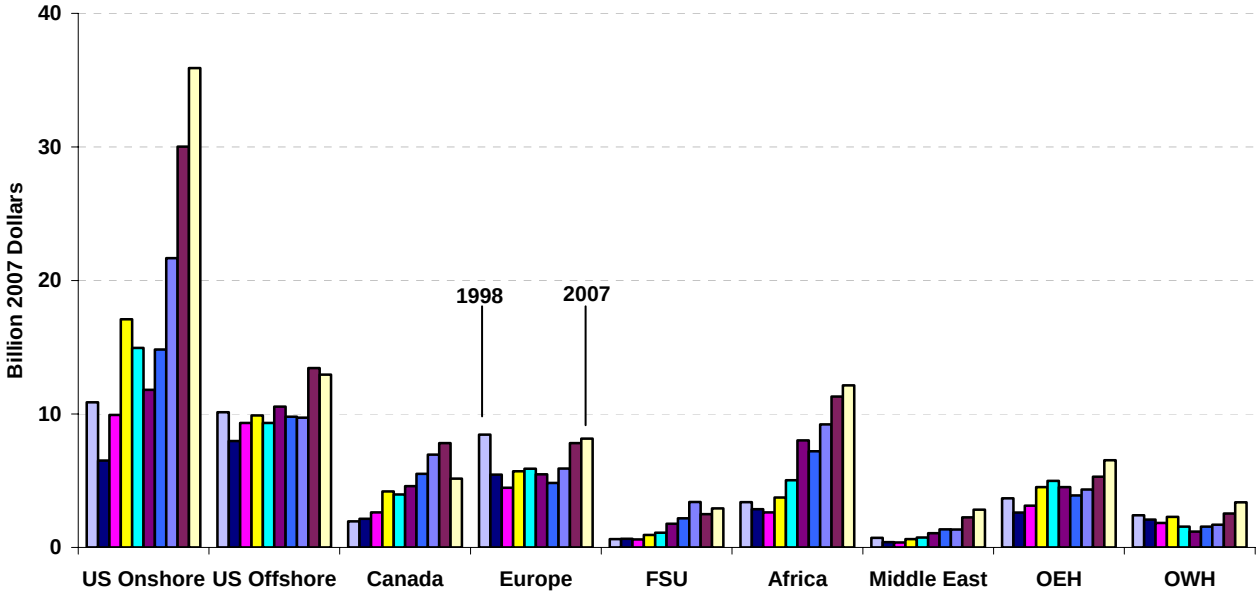
Source: Energy Information Administration, Form EIA-28 (Financial Reporting System).

Regional E&P expenditures are also reported, which provide insight into trends in upstream investment by FRS companies across world regions. The U.S. Onshore remains the most active region for the FRS companies' oil and natural gas operations. Expenditures for exploration and development in the U.S. Onshore region increased 20 percent from 2006 to $36 billion in 2007 (**Figure 11**), which was more than three times the level in 2003. FRS companies spent 84 percent of the increase in exploration and development expenditures in 2007 in domestic onshore areas. Expenditures for development predominate in the U.S. Onshore region: they rose to $32 billion in 2007, which was 42 percent of FRS companies' development expenditures worldwide.

One of the major reasons for the large increase in onshore spending in 2007 was an acceleration in drilling in unconventional natural gas shale plays. Advances in fracturing and horizontal drilling technology have increased recovery rates and improved the economics of drilling in these formations.[4] Devon drilled 539 wells in the Barnett Shale in 2007, substantially increasing its industry-leading production in the play.[5] Chesapeake continued its

[4] "Halliburton: Shale Plays Drive Drilling Boom," *Oil Daily* (April 22, 2008), p. 1.
[5] "Devon Maintains Breakneck Pace in Barnett," *Oil Daily* (February 7, 2008), p. 1.
[7] Chesapeake Energy Corporation, 2007 U.S. Securities and Exchange Commission Form 10-K filing, p. 32.

Figure 11. FRS Expenditures for Oil and Natural Gas Exploration and Development by Region, 1998-2007



Note: FSU is Former Soviet Union. OEH is Other Eastern Hemisphere, which is primarily the Asia Pacific region. OWH is Other Western Hemisphere, which is primarily Central and South America and the Caribbean.
Source: Energy Information Administration, Form EIA-28 (Financial Reporting System).

active drilling program, reporting that it had established a top-three position in every major unconventional play onshore in the United States east of the Rockies.[7]

While unconventional natural gas has received considerable attention, oil remains an important component of onshore exploration and development. EOG raised its estimate of recoverable reserves from the Bakken Shale oil play in North Dakota to 80 million barrels, and it expects that this area will have a significant impact on EOG's oil production in 2008 and beyond.[8] Chevron maintained its position as the top oil-equivalent producer in California, where 80 percent of the crude oil production is heavy oil. An active drilling program and application of new technology have helped reduce decline rates.[9]

Exploration and development expenditures in the U.S. Offshore region decreased 4 percent from 2006 to $13 billion in 2007, but, except for 2006, this was the highest level since 1982. From 1992 to 2007, FRS companies spent more for exploration in the U.S. Offshore region than in any other FRS region, although the onshore reached nearly the same level as offshore in 2007.

Chevron is one of the largest producers of oil and natural gas on the Gulf of Mexico shelf. Exploration in 2007 resulted in multiple discoveries in areas near existing Chevron production leases, which will allow more rapid development of these new discoveries.[10] Shell began producing from the Deimos field in the Gulf of Mexico, with Phase I peak production expected to reach 30,000 barrels of oil equivalent per day.[11] Marathon strengthened its deepwater exploration strategy in 2007, with high bids on 27 blocks in the Gulf of Mexico. Marathon also announced the deepwater Droshky discovery that could begin producing by 2010.[12]

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[8] "EOG Raises Target for Bakken Shale Oil Play," *Oil Daily* (October 31, 2007), p. 1.
[9] Chevron Corporation, *2007 Supplement to the Annual Report*, p. 14.
[10] Chevron Corporation, *2007 Supplement to the Annual Report*, p. 15.
[11] Royal Dutch Shell plc, *Annual Review and Summary Financial Statements 2007*, p. 25.
[12] Marathon Oil Corporation, *2007 Annual Report*, pp. 5, 15.

Exploration and development expenditures in foreign FRS regions increased 4 percent from 2006 to $41 billion in 2007. Four of the seven foreign FRS regions reached the highest amount of exploration and development expenditures in the history of the FRS survey.

In 2007, FRS companies put more exploration and development expenditures into Africa than any other foreign region, as they have in every year since 2002. Exploration and development expenditures in Africa increased 7 percent from 2006 to $12 billion in 2007. Africa represented 14 percent of Chevron's companywide net oil-equivalent production in 2007. Chevron has exploration and development projects in several countries in Africa, and it reported that production began from three fields in Angola and one field in Chad in 2007.[13] Exxon Mobil also has substantial exploration and development activities in Nigeria and Angola, and it announced that production began in the Marimba North and Rosa projects in Angola.[14]

Despite being a mature producing region, Europe continued to be an important area for the FRS companies' exploration and development expenditures, totaling $8 billion in 2007. Apache reprocessed a seismic survey of the Forties field to identify bypassed oil and locate future drilling prospects, and it also made substantial investments in drilling, recompletions, and facility upgrades in the region.[15] ConocoPhillips continued to explore in the North Sea and announced a discovery near its 2006 Jasmine discovery. An appraisal program confirmed the viability of ConocoPhillips' Clair Ridge discovery, and development planning is underway.[16]

Refining/Marketing Capital Expenditures

Capital expenditures for the FRS companies' domestic refining/marketing segment increased 52 percent from 2006 to $20 billion in 2007, while foreign refining/marketing capital expenditures fell 35 percent (**Table 5**). The companies reported that they used capital expenditures to expand capacity, increase the capability to process heavier crude oil, enhance the quality of products, improve refinery operations and reduce emissions, and add ethanol and biodiesel capabilities. From 2000 to 2007, average annual capital expenditures in the FRS domestic refining/marketing segment nearly doubled from that of 1990 to 1999, which reflects the improved return on investment in recent years.

Tesoro acquired Shell's Los Angeles refinery, products terminal, and 138 U.S.A.-branded retail outlets in 2007 (**Table 6**). Marathon is expanding the capacity of its Garyville refinery from 256,000 barrels per day to 436,000 barrels per day, making it one of the largest refineries in the United States. The expansion is scheduled to be completed in 2009.[17] Several companies noted expansions to increase the capability to process heavier, higher sulfur crude oil, including Canadian bitumen blends.

ConocoPhillips completed a coking unit, a vacuum distillation unit, and revamps of heavy oil and distillate hydrotreaters to expand its capability to produce ultra-low-sulfur diesel fuel and low-sulfur gasoline, as well as to comply with required reductions in sulfur dioxide emissions.[18] Marathon continued to invest in transportation and storage assets to increase its ethanol blending capacity, with the goal of having the capability to blend to a 10-percent level across its entire gasoline distribution network.[19]

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[13] Chevron Corporation, *2007 Supplement to the Annual Report*, pp. 12, 18.
[14] Exxon Mobil Corporation, *2007 Summary Annual Report*, p. 22.
[15] Apache Corporation, 2007 U.S. Securities and Exchange Commission Form 10-K filing, p. 7.
[16] ConocoPhillips Company, *2007 Annual Report*, p, 12.
[17] Marathon Oil Corporation, *2007 Annual Report*, p. 22.
[18] ConocoPhillips Company, 2007 U.S. Securities and Exchange Commission Form 10-K filing, p. 24.
[19] Marathon Oil Corporation, *2007 Annual Report*, p. 22.

Table 6. Value of Mergers, Acquisitions, and Related Transactions by FRS Companies, 2007
(Million Dollars)

Acquiring Company	Assets Acquired	Reported Value of Acquisition
ConocoPhillips	EnCana joint venture-production assets	7,500
XTO	Properties from Dominion	2,576
Alenco	East Texas properties from Leor Energy	2,550
ConocoPhillips	EnCana joint venture-refining assets	2,500
Tesoro	Refinery and terminal assets from Shell	1,820
El Paso	Peoples Energy Production Company	887
XTO	Producing and unproved properties in the Barnett Shale	550
Hess	Genghis Khan property in the Gulf of Mexico	371
Occidental	Qatar properties from Anadarko	350
Chesapeake	West Texas joint venture with Anadarko	310
Tesoro	138 retail stations from USA Petroleum	286
Occidental	Buyout of minority interest of PolyOne	261
El Paso	South Texas Properties	254
ConocoPhillips	Keystone Pipeline from TransCanada Corporation	207
Equitable	Interest in Nora LLC	121
ConocoPhillips	30% interst in Kebabangan Cluster PSC, Malaysia	120
ConocoPhillips	New exploration permit, offshore Northwest Australia	118
ConocoPhillips	Golden Pass LNG from ExxonMobil	102
ConocoPhillips	Sweeny Cogeneration LP from AEP	78

Sources: Company annual reports to shareholders and press releases.

Tesoro completed a control modernization project at its Golden Eagle refinery, which will improve refinery yields and reduce energy costs. Tesoro also added a cogeneration plant to reduce energy costs.[20] In addition, Exxon Mobil indicated that it continued to deploy state-of-the-art process control technology at its refineries to enhance operations safety and reliability and to increase margins.[21]

[20] Tesoro Corporation, U.S. Securities and Exchange Commission Form 10-K filing, pp. 31, 32, 37.
[21] Exxon Mobil Corporation, *2007 Financial and Operating Review*, p. 71.

Oil and Natural Gas Production

Worldwide production of oil (crude oil and natural gas liquids) by the Financial Reporting System (FRS) companies declined in 2007, while worldwide production of natural gas increased (**Table 7**). The decrease in oil production was widespread and led by Europe, with only the Former Soviet Union and the Middle East regions[21] experiencing gains (in the latter case, a very small one). Natural gas production declined in three FRS regions—the U.S. Offshore (largely the Gulf of Mexico), Europe, and Canada—while increasing in all the others. The region with the largest absolute gain in natural gas production, the U.S. Onshore, accounted for 46 percent of worldwide natural gas production by FRS companies. It produced almost 4 times the amount of the second-largest-producing region.

Table 7. Oil and Natural Gas Production by FRS Companies by Region, 2006-2007

	Crude Oil and Natural Gas Liquids (million barrels)			Natural Gas (billion cubic feet)		
Region	**2006**	**2007**	**Percent Change**	**2006**	**2007**	**Percent Change**
United States						
Onshore	717	709	-1.0	6,409	7,092	10.7
Offshore	360	331	-8.1	1,517	1,264	-16.7
Total United States	1,077	1,040	-3.4	7,926	8,356	5.4
Foreign						
Canada	164	151	-7.8	1,455	1,251	-14.0
Europe	441	406	-7.8	1,886	1,632	-13.5
Former Soviet Union	86	122	41.4	68	79	15.5
Africa	595	564	-5.2	389	473	21.6
Middle East	147	148	0.3	191	309	61.9
Other Eastern Hemisphere	259	243	-6.2	1,839	1,925	4.7
Other Western Hemisphere	84	66	-21.6	1,193	1,274	6.7
Total Foreign	1,776	1,699	-4.3	7,021	6,942	-1.1
Total Worldwide	2,852	2,740	-4.0	14,946	15,298	2.4

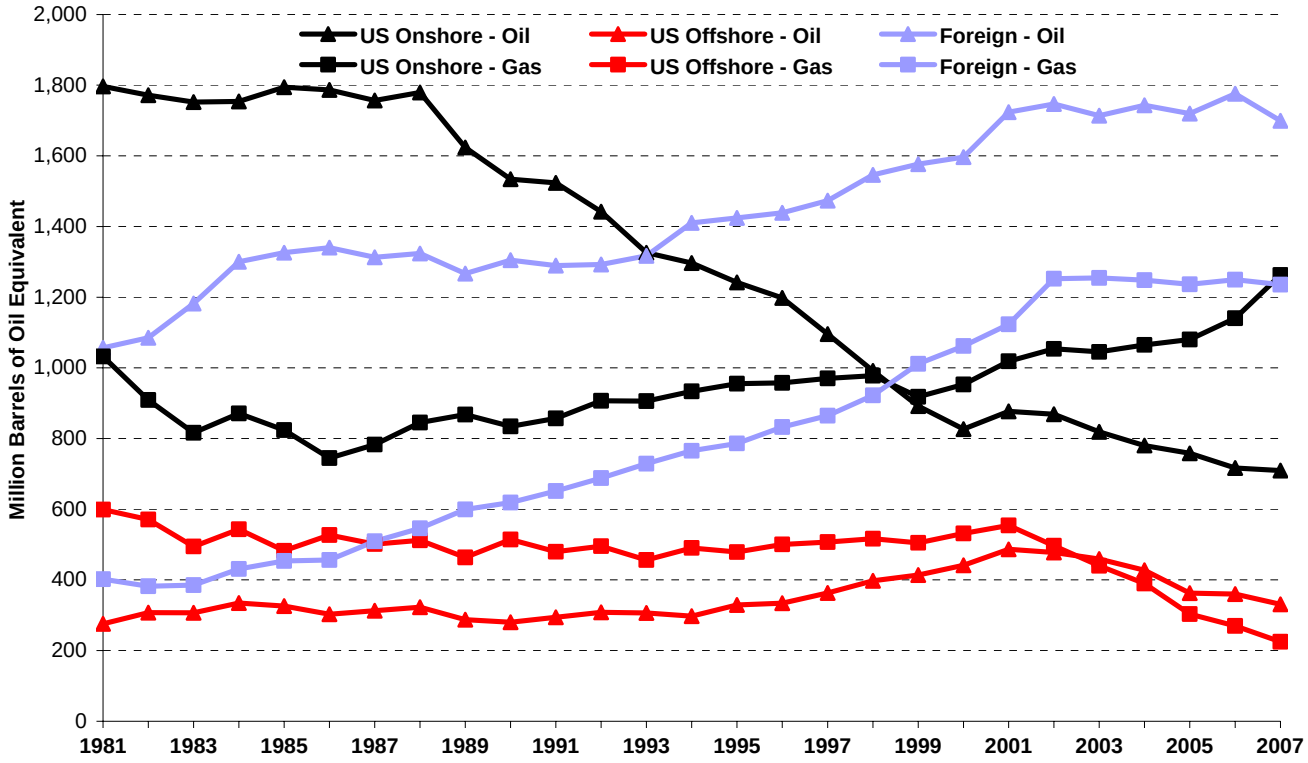
Note: Sum of components may not add to total due to independent rounding.

Source: Energy Information Administration, Form EIA-28, (Financial Reporting System).

During the past 25 years, worldwide production of oil by the FRS companies generally has been declining (even as global production has been increasing), while that of natural gas generally has been increasing. Long-term trends in domestic and foreign production of oil and natural gas clearly indicate the shifting emphasis of the FRS companies to overseas operations, with foreign production of both generally increasing, although both have reached a plateau since the turn of the century (**Figure 12**). In contrast, domestic production of oil generally has declined, while domestic production of natural gas has been slowly increasing. U.S. Offshore production of both oil and natural gas, while growing slightly during the 1990s, has been declining since 2001. This decline is particularly notable, considering current discussion that emphasizes the Gulf of Mexico as an area of increased activity.

[21] It is important to remember that data for the Middle East do not include data from any activities of the National Oil Companies, such as Saudi Aramco, because these companies are not included in the FRS.

Figure 12. Oil and Natural Gas Production by FRS Companies, 1981-2007



Note: Natural gas is converted to barrels of oil equivalent at 0.178 barrels per 1000 cubic feet.
Source: Energy Information Administration, Form EIA-28 (Financial Reporting System).

Oil and Natural Gas Reserves Replacement

The reserves replacement rate is the rate at which additional proved reserves found by drilling replace reserves removed by production.[22] Worldwide, the FRS companies added more natural gas reserves, but not more oil reserves, than they produced in 2007, although reserves replacement rates for oil and natural gas both improved (**Table 8**). Oil replacement rates for the FRS companies exceeded 100 percent in the Middle East, the Other Western Hemisphere, Canada, and the U.S. Onshore. Total oil reserves in the United States increased[23] as the surplus replacement of the U.S. Onshore more than offset the deficit replacement of the U.S. Offshore. In contrast, less than two-thirds of foreign oil production was replaced, overwhelming the small gain in reserves for the United States.

The total reserves replacement rate for natural gas worldwide was 126 percent, as more than adequate reserves replacement in the United States (especially so for the U.S. Onshore , but especially not so for the U.S. Offshore) more than offset the shortfall in foreign regions. The FRS companies replaced slightly more than one-half of their foreign natural gas production, with all foreign FRS regions except the Middle East failing to replace production.

The FRS companies replaced through drilling 108 percent of the oil and 99 percent of the natural gas that they produced from 1981 through 2007; however, this average performance has not been maintained for oil in recent years. The oil replacement rate for the period from 2003 through 2007 was only 65 percent, although the rate for natural gas was 117 percent. In addition, there is considerable variability in replacement rates among the FRS regions. In almost half of the FRS region/resource combinations (the nine FRS regions for oil and nine for natural

[22] Purchases and sales of oil and natural gas reserves by the FRS companies are not included in the replacement rate calculation because they do not add to total reserves available worldwide.
[23] See also Energy Information Administration, *Advance Summary U.S. Crude Oil, Natural Gas, and Natural Gas Liquids Reserves 2007 Annual Report*, DOE/EIA-0216(2007) (Washington, DC, October 2008), Table 1, http://www.eia.doe.gov/pub/oil_gas/natural_gas/data_publications/advanced_summary/current/adsum.pdf.

Table 8. Oil and Natural Gas Reserves Replacement Rates by FRS Companies, 2006-2007

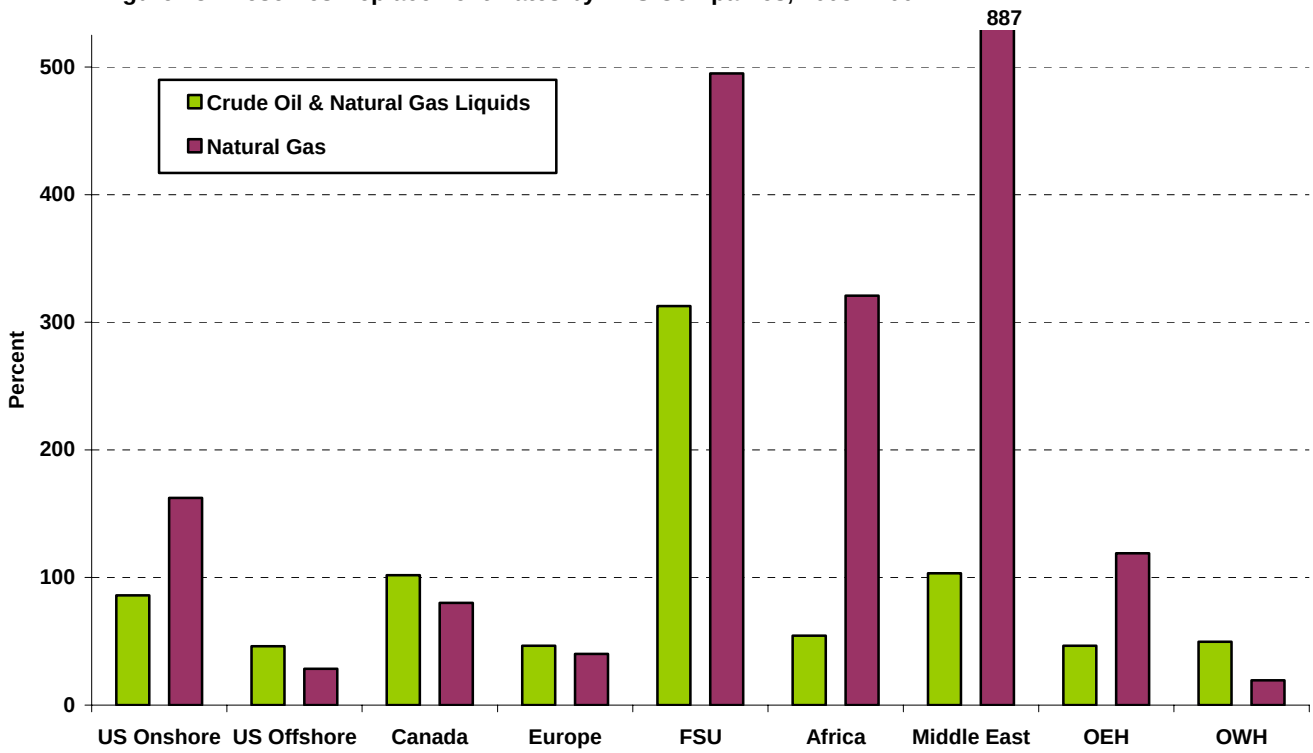
Region	Additions to Reserves Through Drilling		Production		Reserves Replacement Rate (percent)	
	2006	2007	2006	2007	2006	2007
	Crude Oil and Natural Gas Liquids (million barrels)					
United States						
Onshore	186	826	717	709	26	117
Offshore	230	262	360	331	64	79
Total United States	416	1,089	1,077	1,040	39	105
Foreign						
Canada	425	181	164	151	259	119
Europe	84	209	441	406	19	51
Former Soviet Union	86	-66	86	122	99	-54
Africa	248	160	595	564	42	28
Middle East	147	354	147	148	100	240
Other Eastern Hemisphere	215	115	259	243	83	48
Other Western Hemisphere	69	82	84	66	82	124
Total Foreign	1,274	1,035	1,776	1,699	72	61
Total Worldwide	1,690	2,124	2,852	2,740	59	78
	Natural Gas (billion cubic feet)					
United States						
Onshore	7,839	14,938	6,409	7,092	122	211
Offshore	159	486	1,517	1,264	10	38
Total United States	7,998	15,424	7,926	8,356	101	185
Foreign						
Canada	1,130	682	1,455	1,251	78	54
Europe	-732	820	1,886	1,632	-39	50
Former Soviet Union	122	-101	68	79	179	-128
Africa	512	113	389	473	132	24
Middle East	2,598	470	191	309	1,363	152
Other Eastern Hemisphere	1,399	1,708	1,839	1,925	76	89
Other Western Hemisphere	165	85	1,193	1,274	14	7
Total Foreign	5,195	3,779	7,021	6,942	74	54
Total Worldwide	13,192	19,203	14,946	15,298	88	126

Note: Sum of components may not equal totals due to independent rounding. Additions to reserves can be negative due to downward revisions.

Source: Energy Information Administration, Form EIA-28 (Financial Reporting System).

gas, e.g., U.S. Onshore/natural gas), reserves additions more than replaced oil or natural gas production for the 5 years ending in 2007 (**Figure 13**). Particularly notable for future oil and natural gas production by the FRS companies is that the highest producing region/resource combinations generally are not replacing production, while the lowest producing region/resource combinations generally are more than replacing production. In particular, six of the seven highest-producing region/resource combinations did not replace production, while six of the seven lowest-producing region/resource combinations more than replaced production. The U.S. Offshore, which often is considered a growing area, has replaced through drilling less than one-half of both its oil and natural gas production during the 2003–2007 period.

Figure 13. Reserves Replacement Rates by FRS Companies, 2003 - 2007



Note: Excludes purchases and sales of reserves. FSU = Former Soviet Union, OEH = Other Eastern Hemisphere, OWH = Other Western Hemisphere.
Source: Energy Information Administration, Form EIA-28 (Financial Reporting System).

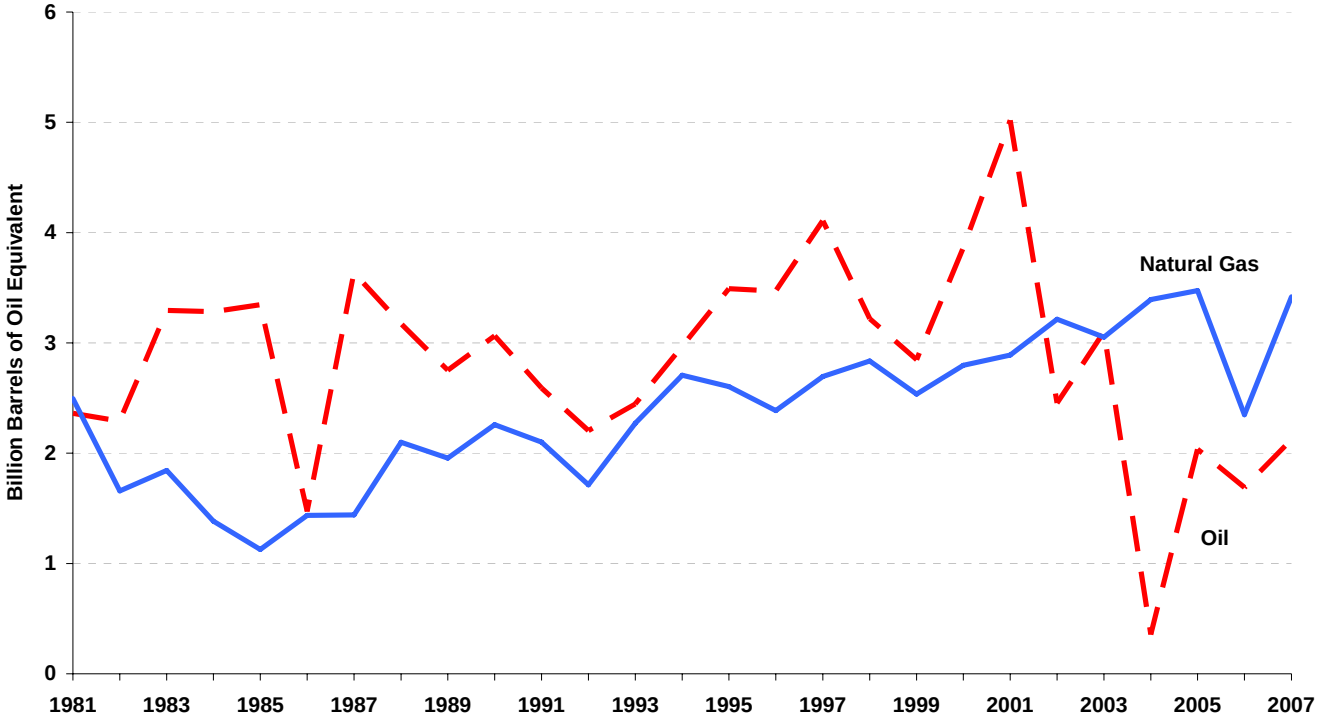
Oil and Natural Gas Reserves Additions

Reserves additions are the quantities of proved reserves added each year as a result of exploration and development activities, excluding purchases and sales of reserves. Worldwide natural gas reserves additions by FRS companies in 2007 exceeded all previous years in the survey except for 2005 **(Figure 14)**. Oil reserves additions, on the other hand, have declined in recent years. Each year from 2004 to 2007, FRS companies' worldwide oil reserves additions were lower than in all prior survey years, except 1986. In 2004, large negative revisions to oil reserves occurred in several foreign regions as a result of low year-end prices. Starting in 2004 and continuing through 2007, extensions and discoveries of oil declined in the U.S. Offshore region along with several foreign regions.

Reserves additions are reported in the categories of extensions and discoveries, improved recovery, and revisions.[24] The primary reason that the U.S. Offshore region replaced less than half of its production in the 2003-2007 period was a significant decline in extensions and discoveries of reserves (**Figure 15**). Extensions and discoveries of oil fell by 289 billion barrels in the U.S. Offshore region in the 2003–2007 period, compared to the 1998–2002 period, which accounted for more than 60 percent of the gross decline in additions to U.S. Offshore proved oil reserves. For proved natural gas reserves, virtually all (97 percent) of the decline was attributable to a fall in extensions and discoveries.

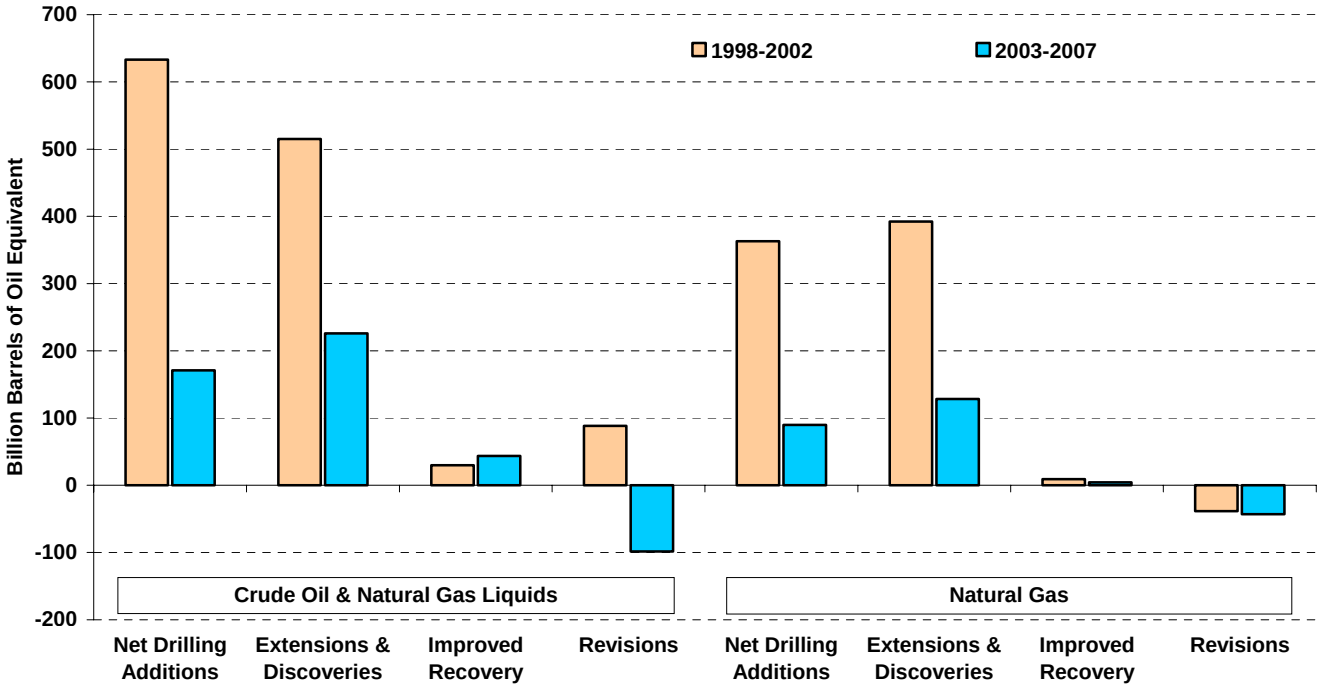
[24] For more detailed definitions, see the Brief Description of Financial Terms or the glossary at http://www.eia.doe.gov/emeu/perfpro/glossary.html.

Figure 14. Worldwide Reserves Additions for FRS Companies, 1981-2007



Source: Energy Information Administration, Form EIA-28 (Financial Reporting System).

Figure 15. U.S. Offshore Average Annual Reserves Additions by FRS Companies, 1998-2007



Note: Natural gas is converted to barrels of oil equivalent at 0.178 barrels per 1000 cubic feet.
Source: Energy Information Administration Form, EIA-28 (Financial Reporting System).

Of the three categories only revisions may be negative, and worldwide revisions for oil and natural gas combined were negative in 2004 and 2006.[25] In the U.S. Offshore region, revisions to natural gas reserves were negative in both of the 5-year periods of 1998–2002 and 2003–2007, while oil revisions were negative in the latter period. The decline in oil reserves revisions between the two periods amounted to 187 billion barrels, which was almost 40 percent of the gross fall in additions to oil reserves through drilling in the U.S. Offshore.

Upstream Income

In 2007, the financial performance of the upstream operations (oil and natural gas exploration, development, and production) of the FRS companies, particularly their foreign operations, deteriorated, but only from its record-setting level the previous year, as cost increases exceeded revenue increases in both domestic and foreign operations (**Table 9**). Domestic operating expenses rose 17 percent from 2006,[26] while foreign expenses rose 20 percent, far outstripping the 1 percent and 2 percent (respectively) increases in total revenues. Notwithstanding a large increase in foreign other costs, the leading contributors to increased expenses in both domestic and foreign operations were production spending and depreciation, depletion, and amortization.[27] Domestic and foreign income tax expenses also fell in 2007, largely resulting from the fall in operating income. However, because foreign income fell even faster than income tax expenses, the foreign effective income tax rate increased slightly, while the domestic effective income tax rate fell slightly.

Lifting Costs

Lifting costs (also called production costs) are the out-of-pocket costs to operate and maintain existing production wells and related equipment and facilities per barrel of oil equivalent (boe) of oil and natural gas produced by those facilities after the hydrocarbons have been found, acquired, and developed for production.[28] Total lifting costs are the sum of production taxes and direct lifting costs.

In 2007, worldwide total lifting costs for the FRS companies increased $1.41 to $9.98 per boe of production (**Table 10**). The major contributor to this increase was a 19-percent rise in the amount of spending on direct production and and a 9 percent increase in production taxes; the volume of oil and natural gas produced had little effect, as it fell by only 1 percent. The U.S. Onshore region contributed the most to the worldwide total lifting costs increase (based on dollars spent). Although exact figures are not available, it can be determined[29] that the U.S. Onshore, which is the dominant FRS production region, was also the largest contributor to increases in both direct lifting costs and production taxes, with Europe second for direct costs, and Africa second for taxes.

Direct lifting costs increased worldwide and in most FRS regions in 2007. Canada continued to exhibit the highest direct lifting costs, followed by Europe and the United States (**Table 10**). Although production taxes declined in

[25] Energy Information Administration, *Performance Profiles of Major Energy Producers 2006*, DOE/EIA-0206(06) (Washington, D.C., December 2007), Figure 11, p. 16.
[26] Unless otherwise indicated, all dollar values and percentage changes in this report are reported in or derived from constant 2007 dollars, adjusted using the Gross Domestic Product implicit price deflator.
[27] Because other costs (revenues) are calculated as a residual, the most important cause of the increase is not determinable.
[28] Because oil and natural gas often are produced together, it is not usually feasible to separate their costs, requiring that lifting cost calculations be based on oil and natural gas production combined.
[29] Because total production spending is available for the U.S. Onshore and Offshore, and direct production spending and production taxes are available for the total United States, minimum and maximum values for both production spending and production taxes can be determined for the two U.S. regions.

Table 9. Income Components and Financial Ratios in Oil and Natural Gas Production for FRS Companies, 2006-2007
(Billion 2007 Dollars)

Income Components and Financial Ratios	Worldwide		United States		Foreign	
	2006	2007	2006	2007	2006	2007
Oil and Natural Gas Revenues						
Oil	NA	NA	62.2	65.8	NA	NA
Natural Gas	NA	NA	51.0	48.7	NA	NA
Total Revenues	267.5	272.1	113.2	114.5	154.3	157.6
Expenses						
Depreciation, Depletion, and Amortization	41.3	47.3	21.1	24.8	20.2	22.5
Production Costs	47.2	54.5	23.3	28.4	23.9	26.1
Exploration Expenses	9.8	7.6	4.9	4.7	5.0	2.9
General and Administrative Expenses	3.5	4.0	2.2	2.6	1.2	1.4
Other Costs (Revenues)[a]	14.7	24.8	1.0	1.1	13.6	23.6
Total Operating Expenses	116.0	137.4	52.0	60.9	64.0	76.5
Operating Income	151.5	134.7	61.2	53.6	90.3	81.1
Other Income (Expense)[b]	19.1	21.4	6.1	7.9	13.0	13.5
Income Tax Expense	75.0	69.0	24.4	21.4	50.5	47.6
Net Income	95.7	87.1	42.9	40.1	52.8	47.0
Less Unusual Items	2.1	5.2	0.8	2.8	1.3	2.4
Net Income, Excluding Unusual Items	93.6	81.9	42.1	37.3	51.5	44.6
Unit Values (Dollars per boe of Production)[c]						
Direct Lifting Costs (Excluding Taxes)	6.14	7.34	7.05	8.36	5.40	6.47
Production Taxes	2.42	2.63	2.32	2.90	2.50	2.41
Percentages						
Return on Investment[d]	20.9	17.0	18.2	15.2	20.9	23.7
Effective Income Tax Rate[e]	43.9	44.2	36.3	34.8	48.9	50.3

[a]Other Costs (Revenues) include Raw Material Purchases.
[b]Earnings of unconsolidated affiliates, gain (loss) on disposition of assets, discontinued operations, extraordinary items, and cummulative effect of accounting change.
[c]boe = Barrels of oil equivalent. Natural gas is converted to equivalent barrels of oil at 0.178 barrels per thousand cubic feet.
[d]Net Income divided by net investment in place (Net investment in place = net property, plant, and equipment plus investments and advances to unconsolidated affiliates).
[e]Income tax expense divided by pretax income.
NA = Not available.
Note: Sum of components may not equal total due to independent rounding.
Source: Energy Information Administration, Form EIA-28 (Financial Reporting System).

four FRS regions, they increased 25 percent in the United States, which resulted in an increase in worldwide production taxes. Total production costs increased in all but two FRS regions, the Middle East and the Former Soviet Union. Comparing across regions, direct lifting costs tended to be higher and accounted for a greater share of total production costs in the United States, Canada, and Europe, while production taxes made up a larger share of the total in Africa, the Middle East (where taxes exceeded direct costs), and the Other Eastern and Western Hemispheres in 2007 (**Figure 16**).

Worldwide direct lifting costs have been trending upward since 2001, with domestic lifting costs exceeding foreign costs since 2004 (**Figure 17**). While domestic direct lifting spending has been increasing somewhat faster than foreign spending since 2001, domestic oil and natural gas production has been falling, and foreign production has been relatively stable. Both domestic and foreign direct lifting costs neared their previous high levels in 2007, with domestic costs $0.01 below their 1985 peak, and foreign costs $0.07 below their 1991 peak.

Table 10. Lifting Costs for FRS Companies by Region, 2006-2007
(2007 Dollars per Barrel of Oil Equivalent)

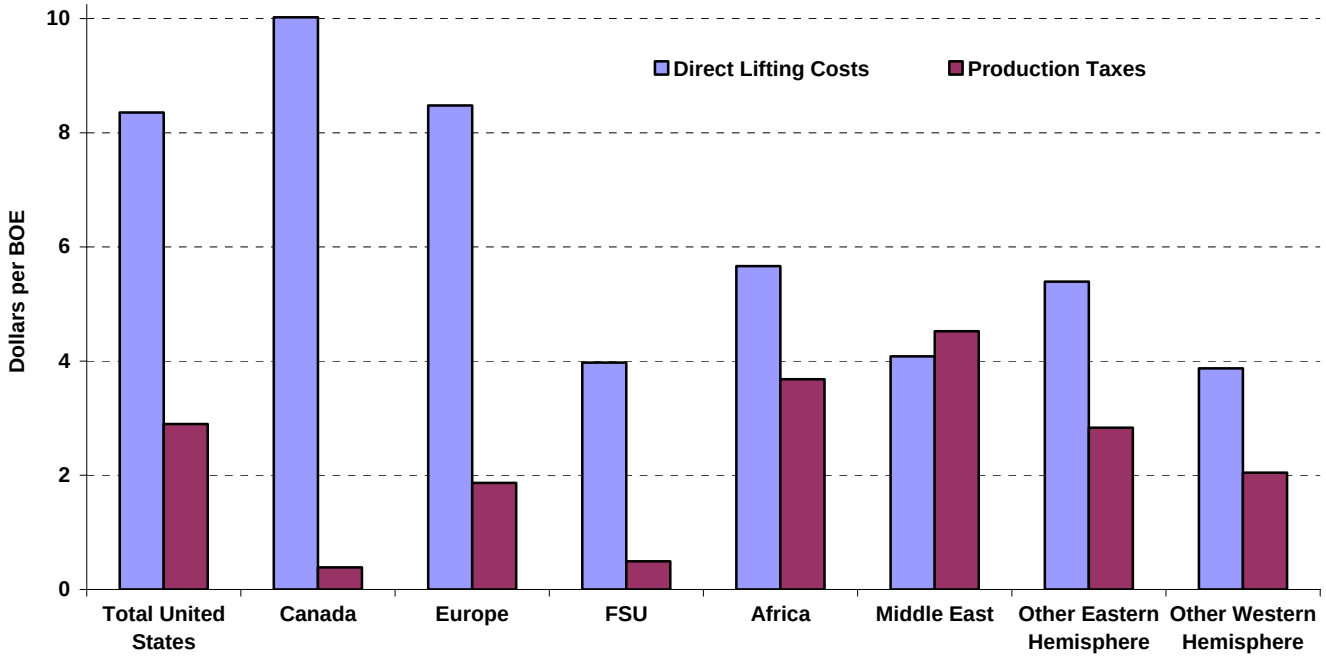
Region	Direct Lifting Costs			Production Taxes			Total		
	2006	2007	Percent Change	2006	2007	Percent Change	2006	2007	Percent Change
United States									
Onshore	NA	NA	NA	NA	NA	NA	10.00	11.91	19.1
Offshore	NA	NA	NA	NA	NA	NA	7.52	8.92	18.7
Total United States	7.05	8.35	18.5	2.32	2.90	24.8	9.37	11.25	20.1
Foreign									
Canada	8.55	10.02	17.2	0.35	0.39	10.2	8.90	10.41	16.9
Europe	6.52	8.48	30.1	2.05	1.87	-9.1	8.57	10.35	20.7
Former Soviet Union	4.20	3.98	-5.3	0.78	0.49	-37.0	4.98	4.47	-10.3
Africa	4.23	5.66	33.7	2.83	3.68	30.3	7.06	9.35	32.4
Middle East	4.72	4.08	-13.4	10.21	4.52	-55.7	14.92	8.61	-42.3
Other Eastern Hemisphere	4.44	5.39	21.5	2.21	2.83	28.3	6.64	8.22	23.8
Other Western Hemisphere	3.30	3.87	17.5	2.44	2.05	-16.0	5.73	5.92	3.3
Total Foreign	5.40	6.47	19.8	2.50	2.41	-3.6	7.90	8.88	12.4
Worldwide Total	6.14	7.34	19.5	2.42	2.63	8.9	8.56	9.98	16.5

NA = Data not available.

Notes: Natural gas is converted to equivalent barrels of oil at 0.178 barrels per thousand cubic feet. Sum of components may not add to total due to independent rounding.

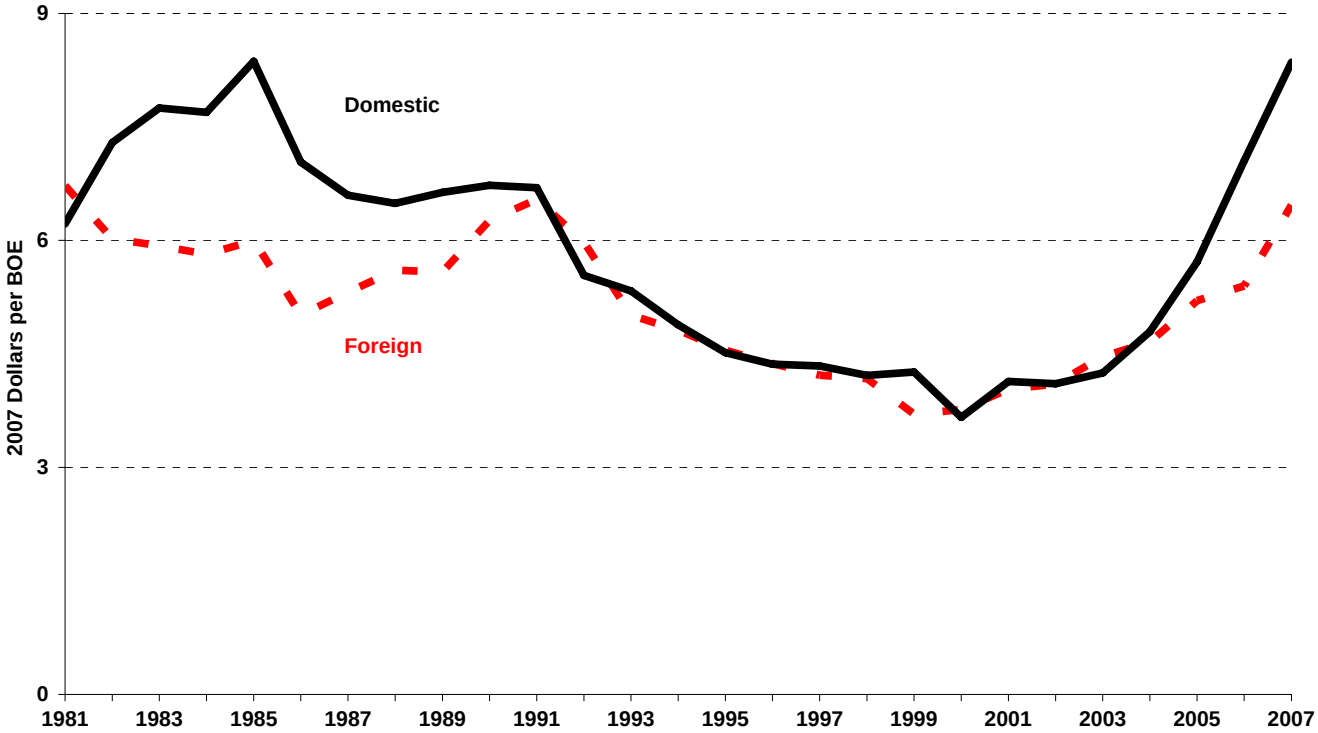
Source: Energy Information Administration, Form EIA-28, (Financial Reporting System).

Figure 16. Oil and Natural Gas Direct Lifting Costs and Production Taxes for FRS Companies, 2007



Note: Direct lifting costs are the costs of extracting oil and gas, excluding production taxes. BOE = Barrels of oil equivalent.
Source: Energy Information Administration, Form EIA-28 (Financial Reporting System).

Figure 17. Direct Oil and Natural Gas Lifting Costs for FRS Companies, 1981-2007



Note: Direct lifting costs are the costs of extracting oil and gas, excluding production taxes. BOE = Barrels of oil equivalent.
Source: Energy Information Administration, Form EIA-28 (Financial Reporting System).

Finding Costs

Finding costs are the average costs of adding proved reserves of oil and natural gas through exploration and development activities and the purchase of properties that might contain reserves.[30] These costs are measured for oil and natural gas on a combined basis in units of dollars per boe. Ideally, finding costs would include all costs incurred (no matter when a company incurred them or recognized them on its books) for any particular proved reserves added (not including the purchases of already discovered reserves). In practice, however, finding costs are calculated as the ratio of exploration and development expenditures (including expenditures on unproved acreage, but excluding expenditures on proved acreage) to proved reserves additions (excluding net purchases of proved reserves) during a specified period of time.[31] Finding costs generally are calculated in *Performance Profiles* as a weighted average over a period of 3 years.

Average worldwide finding costs for the FRS companies increased $0.77 per boe of proved reserves added in the 2005–2007 period (**Table 11**), with one-half of the FRS regions experiencing increased finding costs, and one-

[30] Alternatively, finding costs are the costs of replacing reserves removed through production.

[31] One inherent limitation of measuring finding costs this way is that the expenditures and the reserves additions recognized in a particular interval do not usually correspond exactly with each other. Expenditures usually are recognized in the period in which the payment actually occurred. Proved reserves usually are recognized when there is reasonable certainty that they can be produced economically. There is no reason that these must occur in the same time period (oil and natural gas wells often are operated for a long time), so that some expenditures may not be recognized in the same time period in which their corresponding reserves are recognized. One way to moderate this limitation is to increase the amount of time during which finding costs are measured, allowing reserves additions and exploration and development expenditures to match more closely. However, the longer the time period over which finding costs are measured, the more out of date they become, because they include increasingly older expenditures and reserves, and costs and technology are constantly changing. The only way to solve the correspondence problem would be to calculate an average finding cost for all oil and natural gas produced by a well after it is permanently shut in. However, by then, many costs included would be long out of date.

Table 11. Finding Costs by Region for FRS Companies, 2004-2006 and 2005-2007
(2007 Dollars per Barrel of Oil Equivalent)

Region	2004-2006	2005-2007	Percent Change
United States			
Onshore	11.55	13.39	15.9
Offshore	65.48	49.54	-24.3
Total United States	15.95	17.01	6.6
Foreign			
Canada	19.88	12.20	-38.6
Europe	23.42	31.58	34.9
Former Soviet Union	NM	NM	NM
Africa	26.35	38.23	45.1
Middle East	5.41	4.77	-11.8
Other Eastern Hemisphere	13.04	20.57	57.8
Other Western Hemisphere	43.86	30.29	-30.9
Total Foreign	20.06	20.70	3.2
Worldwide	15.84	16.61	4.8

Notes: NM = Not meaningful. The above figures are 3-year weighted averages of exploration and development expenditures, excluding expenditures for proven acreage, divided by reserve additions, excluding net purchases of reserves. Natural gas is converted to equivalent barrels of oil at 0.178 barrels per thousand cubic feet. Sum of components may not add to total due to independent rounding.

Source: Energy Information Administration, Form EIA-28 (Financial Reporting System).

half decreased finding costs from 2004–2006.[32] Most regions spent more to find reserves; therefore, whether their finding costs per boe increased or decreased depended on whether their relative increase in reserves found was more or less than their increase in expenditures. The most notable finding-cost declines were in the U.S. Offshore, the Other Western Hemisphere, and Canada. Two of these three regions, the U.S. Offshore and the Other Western Hemisphere, were the most expensive regions in 2004–2006. Even with its large decrease in costs, the U.S. Offshore retained its position as the highest-cost FRS region. The largest increases in finding costs were in Africa, Europe, and the Other Eastern Hemisphere. The large increase in Africa raised it to the second most expensive finding-cost region.

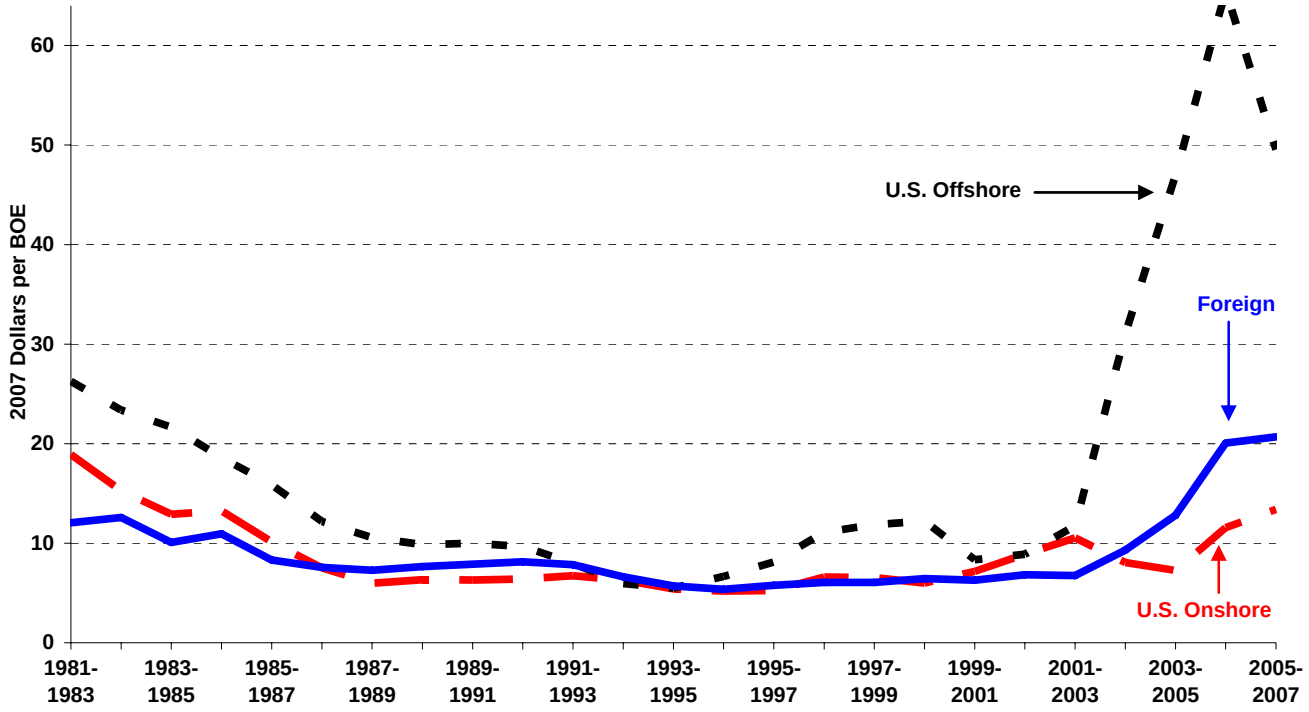
Since the turn of this century, worldwide finding costs, led by dramatic increases in the U.S. Offshore (**Figure 18**), generally have been increasing, although worldwide gains were more moderate in 2005–2007 than 2004–2006. However, unlike most other FRS regions, finding costs in the U.S. Onshore have not exceeded their previous 1981–1983 record high. As with lifting costs, the recent levels of finding costs are partially a result of the high prices of oil and natural gas. Producers are willing to spend more to find oil and natural gas when their prices are higher.

Finding costs for the FRS companies in foreign regions have shown sharp increases over various time periods in recent years (**Figure 19**).[33] In every case, the large increase in finding costs corresponded to a substantial decline in reserves additions for that period in that region.

[32] The Former Soviet Union, largely because negative revisions to oil reserves in 2004, 2005, and 2007 were not offset by other reserves additions, had total reserves additions of less than zero in 2004–2006 and 2005–2007, which make its finding cost calculation for those periods meaningless.

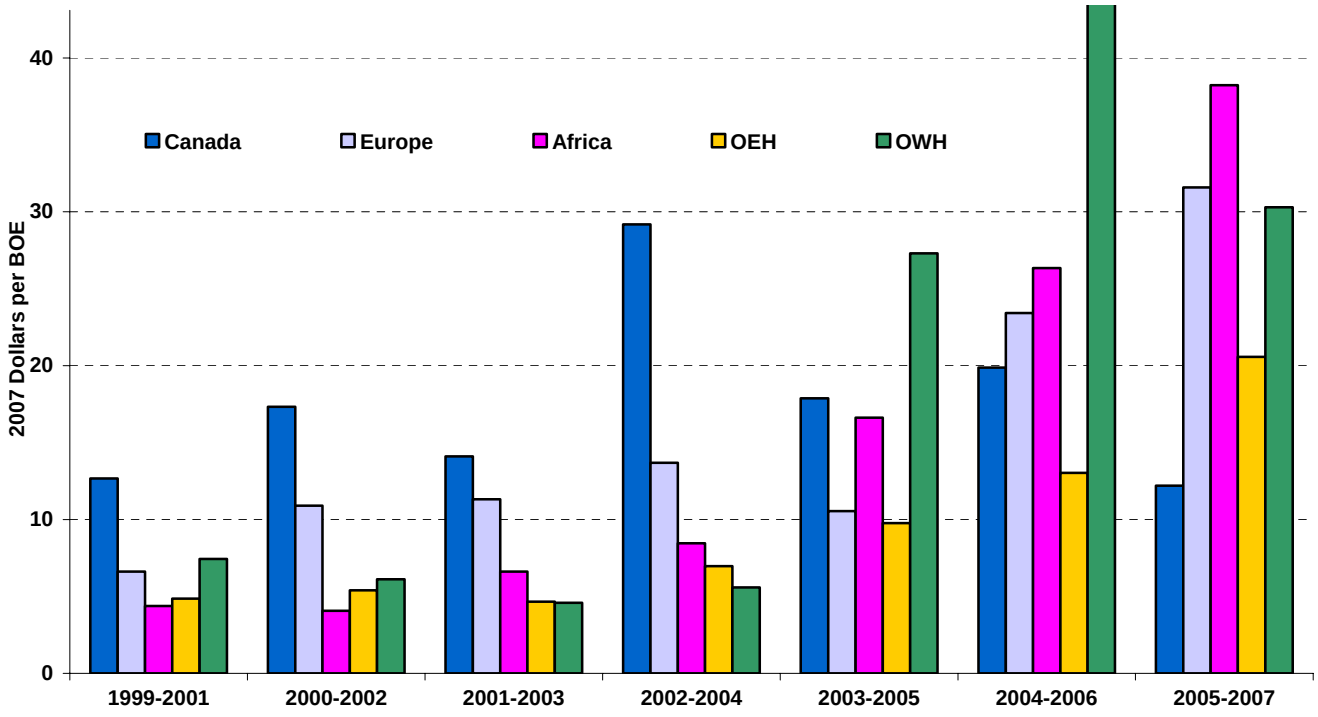
[33] This graph begins with the period 1999–2001, because it is the base period from which worldwide finding costs started their current rise. The Former Soviet Union is not included, because finding costs there have not been meaningful in the last two periods, and the Middle East is not included because finding costs there generally have been declining during the period. Excluding these regions also makes the figure more transparent.

Figure 18. Finding Costs for FRS Companies, 1981-1983 to 2005-2007



Notes: Costs are the quotient of costs and reserve additions for each three-year period. BOE = Barrels of oil equivalent.
Source: Energy Information Administration, Form EIA-28 (Financial Reporting System).

Figure 19. Finding Costs in Foreign Regions for FRS Companies, 1999-2001 to 2005-2007



Notes: Costs are the quotient of costs and reserve additions for each three-year period. BOE = Barrels of oil equivalent.
Source: Energy Information Administration, Form EIA-28 (Financial Reporting System).

Upstream Costs

Upstream costs, the sum of finding costs and lifting costs, increased for the FRS companies in five of eight FRS regions (the Former Soviet Union's costs were not meaningful) during the 2005–2007 period, with worldwide costs rising $2.11 per boe (**Table 12**).[34] Because finding costs generally have become much greater than lifting costs in recent years, upstream cost patterns are often similar to finding cost patterns for the FRS companies, except for the U.S. Onshore, Canada, and the Middle East. In the Middle East, finding costs are actually almost half as much as lifting costs. For the U.S. Onshore and Canada, finding costs are greater than lifting costs, but much less than for the other regions.

Table 12. Upstream Costs by Region for FRS Companies, 2004-2006 and 2005-2007
(2007 Dollars per Barrel of Oil Equivalent)

Region	2004-2006	2005-2007	Percent Change
United States			
Onshore	19.91	23.45	17.8
Offshore	71.69	57.20	-20.2
Total United States	23.72	26.48	11.7
Foreign			
Canada	27.30	21.11	-22.7
Europe	30.61	40.29	31.6
Former Soviet Union	NM	NM	NM
Africa	33.00	45.96	39.3
Middle East	14.70	14.85	1.0
Other Eastern Hemisphere	19.37	27.53	42.1
Other Western Hemisphere	49.04	36.13	-26.3
Total Foreign	26.91	28.58	6.2
Worldwide	23.11	25.22	9.1

NM = Not meaningful.

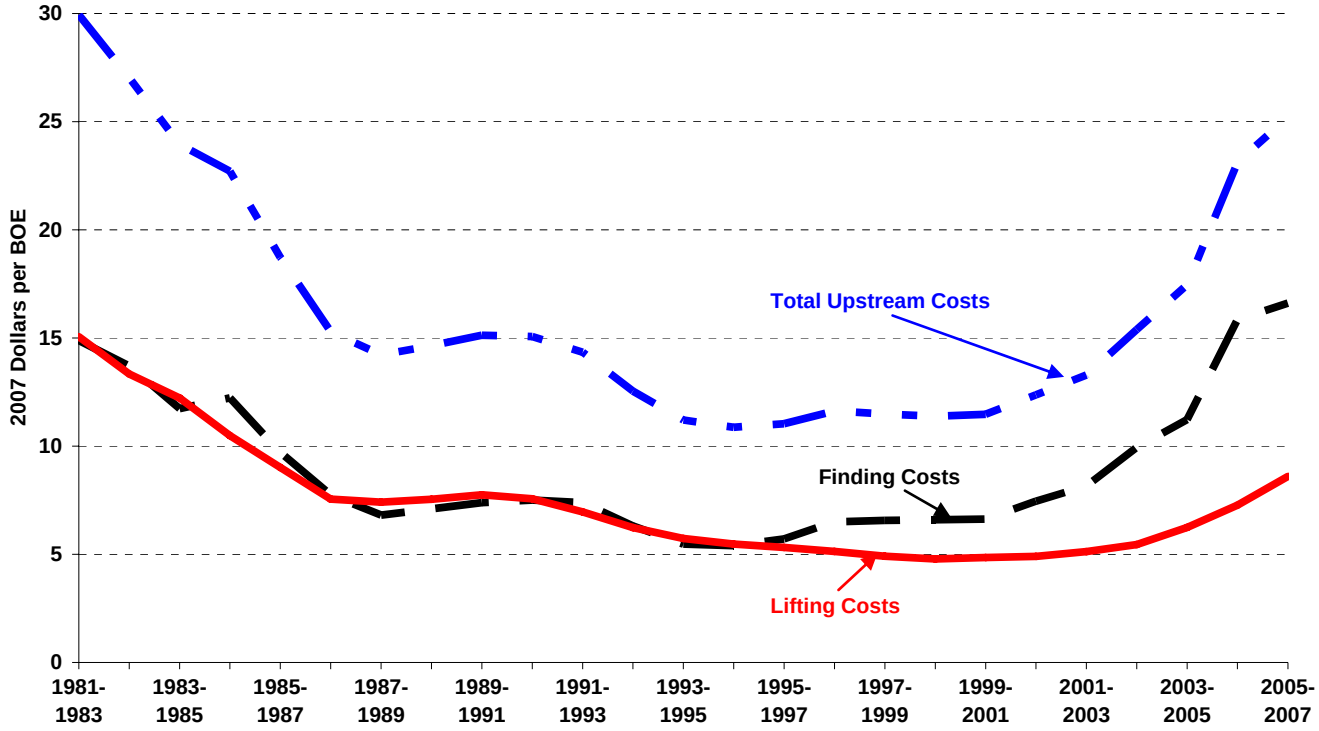
Notes: Upstream costs are finding costs plus lifting costs. Natural gas is converted to equivalent barrels of oil at 0.178 barrels per thousand cubic feet. Sum of components may not add to total due to independent rounding.

Source: Energy Information Administration, Form EIA-28 (Financial Reporting System).

Worldwide finding cost levels were similar to lifting cost levels through the middle 1990s, and, because both were then declining, upstream costs also fell (**Figure 20**). In 1995 to 1997, finding costs began to exceed lifting costs. Lifting costs continued a slow decline until the 2003–2005 period and then began to rise, reinforcing the effect of increasing finding costs on upstream costs. By the 2004–2006 period, worldwide finding costs were more than double lifting costs, although they fell back to less than double in the most recent period.

[34] Total upstream costs do not include the costs of purchasing reserves and the amount of reserves purchased. They are not meaningful for the Former Soviet Union (see note 31).

Figure 20. Worldwide Upstream, Finding, and Lifting Costs for FRS Companies, 1981-1983 to 2005-2007



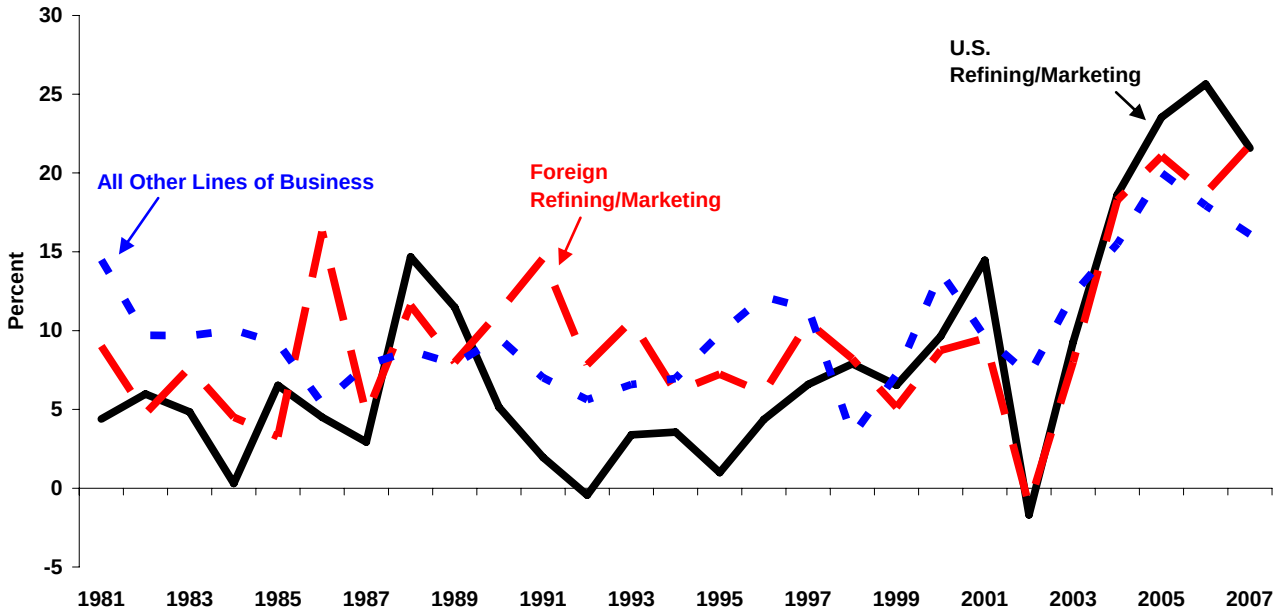
Notes: Upstream costs are finding costs plus lifting costs for each three-year period. BOE = Barrels of oil equivalent.
Source: Energy Information Administration, Form EIA-28 (Financial Reporting System).

Refining and Marketing

U.S. Refining/Marketing

The average profitability (contribution to net income divided by net investment in place) of U.S. refining/marketing operations of the respondents to the Financial Reporting System (FRS) survey reached 22 percent in 2007, the third-highest level in the 31-year history of the FRS (since 1977). The years 2004 through 2007 account for the four highest returns on investment in the history of the FRS, but are only slightly removed from the all-time low of -2 percent in 2002 (**Figure 21**). Since the 1990s, when ongoing cost-cutting efforts began, they have been a major contributing factor to the profitability of the FRS refining/marketing operations. This strategy has put downward pressure on operating costs for more than a decade **(**see **Figure 5**, above**),** lowering them in some years and diminishing the rate of increase in other years**.** Thus, despite variable product and raw materials prices over the past several years, profitability has generally been well above the average of the 1990s (i.e., 4 percent).[35] Most recently, cost-cutting efforts have been less successful as per-barrel operating costs increased in 2007 relative to the previous year (**Table 13**).

Figure 21. Return on Investment in U.S. and Foreign Refining/Marketing,[a] and All Other Lines of Business for FRS Companies, 1981-2007



[a]: International Marine has been combined with Foreign Refining/Marketing for the years 2003-2007 to avoid disclosure of company-level data.
Source: Energy Information Administration, Form EIA-28 (Financial Reporting System).

An examination of the net refined product margin (net margin), which has been found to strongly correlate with profitability,[36] can illuminate the reasons underlying changes in the profitability of U.S. refining/marketing operations. The net margin is the gross margin (essentially the difference between petroleum product prices and

[35] The weighted-average profitability of the 1990-1999 period was 4.3 percent and the weighted-average profitability of the 1991-2000 period was 5.0 percent.
[36] The net margin highly correlates with return on investment. The latest estimation of the relationship between refining margins and profitability is that the correlation coefficient is 0.93. See "Refining Margins as Predictors of Profitability" in Chapter 4 of *Performance Profiles of Major Energy Producers 2003*.

crude oil costs)[37] minus out-of-pocket operating costs per barrel of refined product sold. The net margin measures before-tax cash earnings from the production and sale of refined products.[38] The $4.78-per-barrel net margin of 2007 was the second highest (in terms of 2007 dollars)[39] in the 31-year history of the FRS (see **Figure 5**, above), falling short of the all-time high of 2006 by $0.20.

The average gross refining margin reported by the FRS companies in 2007 increased 2 percent compared with 2006 (**Table 13**). The average price received for petroleum products in 2007 ($86.78 per barrel) increased $5.81 relative to the 2006 value after adjusting for general price changes between 2006 and 2007, while raw materials and purchased product costs rose $5.55 per barrel to $74.53. These changes resulted in a $0.26-per-barrel increase in the gross refining margin to $12.25.

Table 13. Sales, Prices, Costs, and Margins in U.S. Refining/Marketing for FRS Companies, 2006-2007

	2006	2007	Percent Change 2006-2007
Refined Product Sales (Million Barrels per Day)[a]	21.3	20.1	-5.7
	(2007 dollars per barrel)		
Gasoline Average Price	86.04	92.62	7.6
Distillate Average Price	85.48	91.31	6.8
Other Products Average Price	58.60	62.20	6.1
All Refined Products Average Price	80.97	86.78	7.2
Less: Raw Materials Costs and Product Purchases	68.98	74.53	8.0
Equals: Gross Refining Margin	11.99	12.25	2.1
Less: Operating Costs	7.01	7.47	6.6
Equals: Net Refining Margin[b]	4.98	4.78	-4.1
Reseller/wholesaler spread (dealer price - wholesale price)	3.53	3.59	1.7
Retailer spread (company-operated price - dealer price)	5.01	5.70	13.6

[a]Refined product sales include sales for resale to other FRS companies and sales of imported products.

[b]See Detailed Statistical Tables, Table DS32 for the components to calculate the refined product margin.

Source: Energy Information Administration, Form EIA-28 (Financial Reporting System).

Revenues and Costs

Higher crude oil prices in 2007 (compared to 2006) put upward pressure on petroleum product prices. Similarly, industry-wide stocks of petroleum products were consistently lower through 2007 than in 2006 (**Figure 22**),[40] as

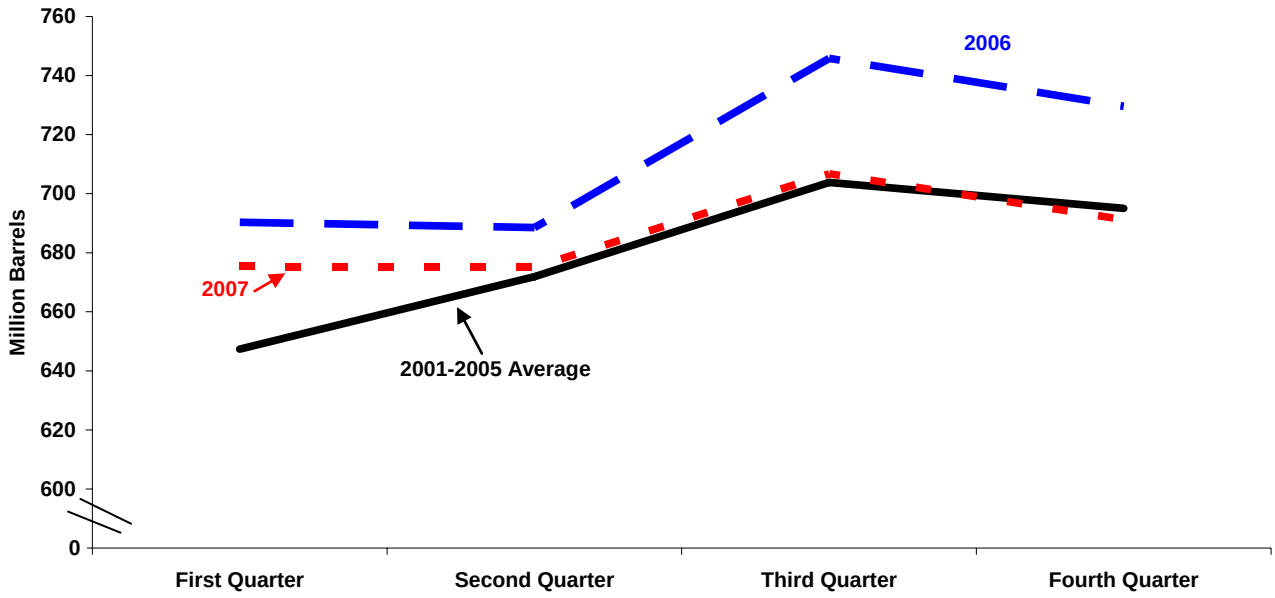
[37] More precisely, gross margins are calculated, on a per-barrel basis, by taking refined product revenues minus purchases of raw materials input to refining and refined product purchases.

[38] The net margin excludes peripheral activities such as non-petroleum product sales at convenience stores.

[39] Unless otherwise indicated, all dollar values and percentage changes in this report are based in constant 2007 dollars, adjusted using the Gross Domestic Product implicit price deflator.

[40] The stock levels of all petroleum products in 2007 were higher in all quarters relative to 2006, varying from 2 percent lower in the second quarter to 5 percent lower in the fourth quarter, but was above the quarterly average for the 2001-2005 period in most quarters, varying between less than 1 percent lower in the fourth quarter (0.55 percent) to 4 percent higher in the first quarter.

Figure 22. Quarterly Average U.S. Commercial Petroleum Product Stocks, 2001-2005 Average, 2006, and 2007



Source: Energy Information Administration, *Petroleum Supply Monthly* , DOE/EIA-0109 (Various issues, Washington, DC), Table 51.

were motor gasoline stocks, which also were consistently lower than the average for the 2001-2005 period (**Figure 23**).[41]

All of these factors tended to put upward pressure on prices for all petroleum products, particularly motor gasoline prices. Thus, tight market conditions, which had driven prices higher in 2006, continued in 2007. U.S. crude oil stock levels were generally lower in 2007 than in 2006, but remained historically high (relative to 2001-2005 averages) until the end of the year (**Figure 24**). Thus, stock levels put upward pressure on crude oil prices, and raw material and purchased product costs for FRS companies, which rose 8 percent (**Table 13**). Additionally, problems with the U.S. refining system[42] put upward pressure on product prices and may have contributed to higher crude oil stock levels (along with lower product and motor gasoline stock levels).

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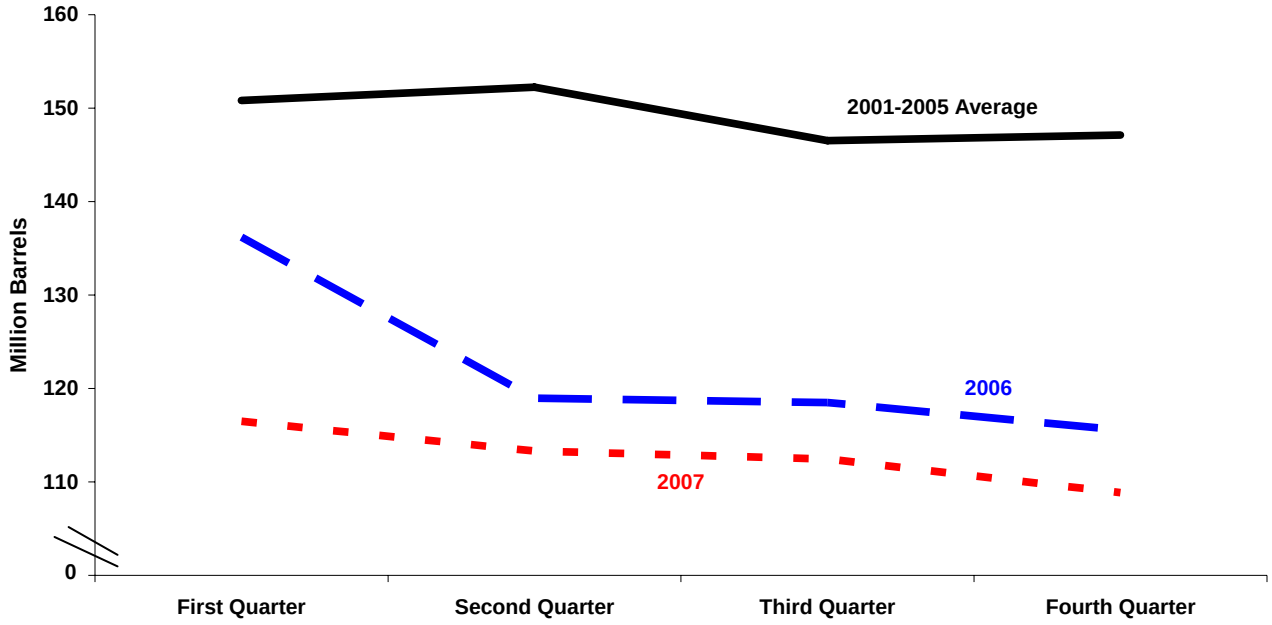
[41] The stock levels of motor gasoline in 2007 were lower in each quarter relative to both 2006, varying from a low of 5 percent in the second quarter to a high of 15 percent in the first quarter, and the average for the period of 2001-2005, varying from a low of 23 percent in the first quarter to a high of 26 percent in both the second and fourth quarters.

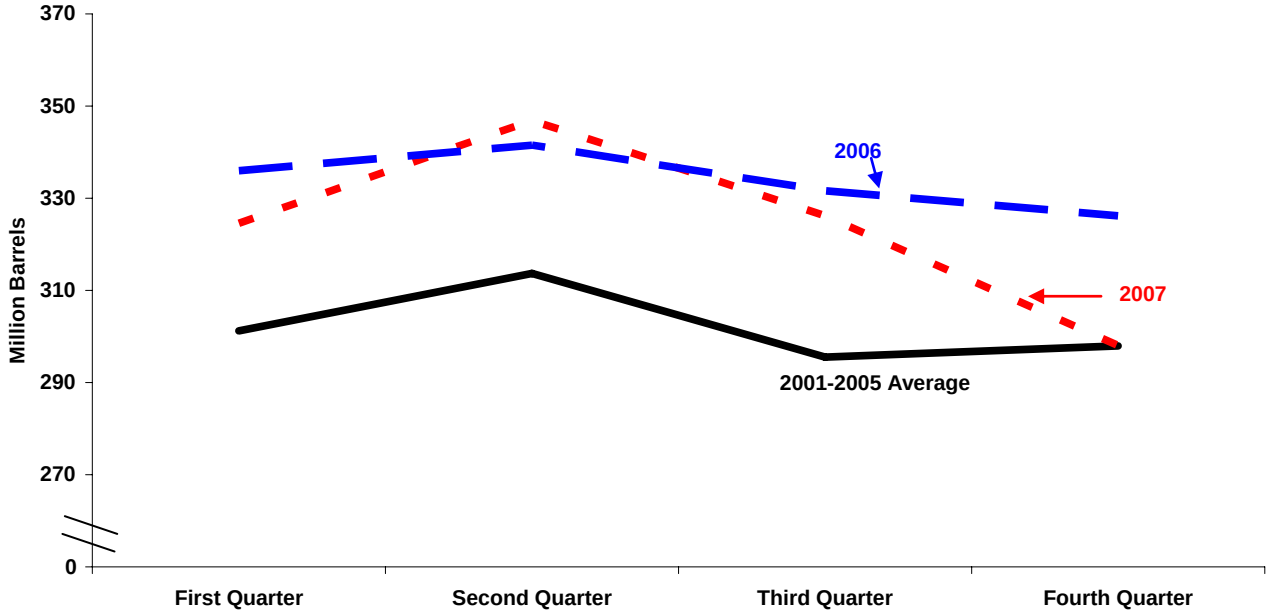
[42] In particular, BP's 467,720-barrels-per-day Texas City, Texas refinery, which went off-line March 23, 2005, remained partially off-line throughout 2007 (BP plc, *Annual Review 2007*, p. 3 and 2007 Annual Report on Form 20-F, p. 26). Additionally, a serious fire occurred in March 2007 at BP's 410,000-barrels-per-day Whiting, Indiana refinery, which impaired the refinery's "… ability to produce low-sulfur motor gasoline or diesel fuel from sour crude oil …" until near year-end (BP plc, 200 Annual Report on Form 20-F, p. 26). Hess had a small fire in early January 2007 at its 70,000-barrels-per-day Port Reading, New Jersey catalytic cracker, which shut down the unit for less than 1 week (Hess Corporation, "Hess Corporation Port Reading Refinery Temporarily Shut Down," press release (January 9, 2007 and Reuters UK, "Hess's Port Reading refinery back up after fire—trade" (January 16, 2007), which is available on-line at http://uk.reuters.com/article/oilRpt/idUKN1617028220070116 (as of October 15, 2008). Lyondell took its fluid catalytic cracker off-line for about 10 days for adjustments (Lyondell Chemical Company, "Lyondell Houston Refinery Unite to Take 10-Day Outage," press release (April 5, 2007).

Figure 23. Quarterly Average U.S. Motor Gasoline Stocks, 2001-2005 Average, 2006, and 2007



Source: Energy Information Administration, *Petroleum Supply Monthly* , DOE/EIA-0109 (Various issues, Washington, DC), Table 51.

Figure 24. Quarterly Average U.S. Crude Oil Stocks, 2001-2005 Average, 2006, and 2007



Source: Energy Information Administration, *Petroleum Supply Monthly* , DOE/EIA-0109 (Various issues, Washington, DC), Table 51.

Table 14. U.S. Refined Product Margins and Costs per Barrel Sold and Product Sales Volume for FRS Companies, 2006-2007

	2006	2007	Percent Change 2006 - 2007
	(2007 dollars per barrel)		
Gross Margin	11.99	12.25	2.1
- Marketing Costs	1.45	1.67	15.3
- Energy Costs	1.79	1.93	7.7
- Other Operating Costs	3.77	3.87	2.6
= Net Margin	4.98	4.78	-4.1
Product Sales Volume[a]	(Thousand Barrels per Day)		
Motor Gasoline	11,182	10,325	-7.7
Distillate	6,294	6,149	-2.3
Other Products	3,802	3,587	-5.7
Total	21,278	20,061	-5.7

[a]Refined product sales include sales for resale to other FRS companies and sales of imported products.
Source: Energy Information Administration, Form EIA-28 (Financial Reporting System).

FRS petroleum product sales declined 6 percent in 2007 relative to 2006 (**Table 13**). The product sales are composed chiefly of motor gasoline and distillate, which decreased 8 percent and 2 percent, respectively, but all categories of petroleum product sales declined in 2007 relative to 2006 (**Table 14**). The result of lower sales and higher petroleum product prices was a 1-percent increase in domestic petroleum product sales revenues (**Table 15**). Meanwhile, operating costs increased by a slightly larger amount than did sales revenues. This combination of increases in revenues and costs resulted in a 25-percent decrease in operating income in 2007 over that of 2006 ($26.2 billion and $34.8 billion, respectively) and a 10-percent decrease in net income relative to a year earlier ($22.4 billion and $25.0 billion, respectively).

Overall domestic operating expenses increased 2 percent between 2006 and 2007 (**Table 15**). Similarly, those operating expenses most closely associated with refining and marketing operations increased by 5 percent on a per-barrel basis between 2006 and 2007 (**Table 13**). More particularly, operating expenses associated with refining (energy costs and other operating costs) increased by $0.24[43] per barrel (4 percent), while marketing costs increased by $0.22 per barrel (**Table 14**).

Continued efforts by the FRS companies to reduce their energy costs were less successful in 2007, as costs increased by $0.14 per barrel. Although industry-wide natural gas prices were $0.19 per million cubic feet lower (after adjusting for inflation), FRS companies reported increased costs as a result of contractual obligations and increased operations.[44] FRS companies continue their efforts to contain energy costs through cogeneration projects,[45] which has been true for the last many years,[46] and implementation of digital refinery control systems.[47]

[43] Refining energy costs increased by $0.14 per barrel and other refining costs increased by $0.10 per barrel with an overall effect of a 4 percent increase between 2006 and 2007.
[44] The per-barrel energy costs are computed by dividing U.S. refining energy costs by total product sales, and, thus, may not fully reflect changes in per-unit energy costs if there are unusual changes in the net sales of the respondent companies.
[45] During 2007, Tesoro noted, "We expect to reduce energy costs … as a result of … a new cogeneration facility and boilers (Tesoro Corporation, 2007 U.S. Securities and Exchange Commission Form 10-K, p. 37)." Further Exxon Mobil noted earlier that it has "… several cogeneration facilities being progressed for start-up in future years (Exxon Mobil Corporation, *2006 Financial and Operating Review*, p. 68)."

Table 15. U.S. and Foreign Refining/Marketing[a] Financial Items for FRS Companies, 2006-2007
(Million 2007 Dollars)

	2006	2007	Percent Change 2006-2007
Domestic Refining/Marketing Operations			
Refined Product Sales Revenue	628,876	635,416	1.0
Other Revenue[b]	14,949	14,250	-4.7
Operating Expense[b, c]	609,066	623,514	2.4
Operating Income[c]	34,759	26,152	-24.8
Net Income, excluding unusual Items	25,320	20,826	-17.8
Unusual Items	-353	1,555	NM
Net Income	24,967	22,381	-10.4
Foreign Refining/Marketing Operations[a]			
Refined Product Sales Revenue	284,480	297,736	4.7
Other Revenue[b]	11,734	13,141	12.0
Operating Expense[b, c]	286,231	300,147	4.9
Operating Income[c]	9,984	10,730	7.5
Net Income, excluding unusual Items	7,557	8,444	11.7
Unusual Items	195	757	288.0
Net Income	7,752	9,201	18.7

[a]In order to prevent disclosure of company-level data the International Marine business segment has been combined with Foreign Refining/Marketing for this presentation. Relative to Foreign Refining/Marketing, International Marine is about one-tenth the size and has little material effect on the overall results of Foreign Refining/Marketing.

[b]Raw materials revenues are netted against total operating expense.

[c]Excludes Unusual Items.

NM: Not meaningful.

Source: Energy Information Administration, Form EIA-28 (Financial Reporting System).

Other operating costs related to refining increased between 2006 and 2007, from $3.77 per barrel to $3.87 per barrel after adjusting for inflation (**Table 14**). Adjustments to comply with the Clean Air Act Amendments of 1990 and the replacement of methyl tertiary butyl ether (MTBE) with ethanol have increased operating costs.[48]

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[46] See for example, Energy Information Administration, *Performance Profiles of Major Energy Producers 2001*, DOE/EIA-0206 (2001) (Washington, D.C., January 2003), p. 43. (This publication is available on the Internet through a link at http://www.eia.doe.gov/emeu/finance/histlib.html (as of October 11, 2008).)

[47] Tesoro and Exxon Mobil both noted that digital control systems were added to refineries during 2007 to improve performance, particularly lower energy costs (Exxon Mobil Corporation, *2007 Financial & Operating Review*, p. 71 and Tesoro Corporation, 2007 U.S. Securities and Exchange Commission Form 10-K, pp. 31-32.)

[48] Although EIA has no estimate of the significance of the environmental spending in 2007 for other operating costs, several companies indicated that their operating expenses attributable to environmental cost had increased. For example, Marathon reported that "[we] will continue to incur substantial capital expenditures and operating costs as a result of compliance with, and changes in environmental laws and regulations, and, as a result, our profitability could be materially reduced (Marathon Corporation, 2007 U.S. Securities and Exchange Commission Form 10-K, p. 26)." Additionally, Sunoco indicated that it is "… incurring higher operating costs as we continue to produce the low-sulfur fuels (Sunoco, Inc., 2007 U.S. Securities and Exchange Commission Form 10-K, p. 21)." Also see an EIA study that examined the effects of environmental compliance on operating costs, which is available on EIA's web site (http://www.eia.doe.gov/emeu/perfpro/ref_pi2/index.html).

Recent divestitures of refinery capacity,[49] and other refocusing, cost-control efforts in the wake of earlier mergers and acquisitions were insufficient to prevent operating costs from increasing..

Operational Changes

The FRS companies have been refocusing their marketing operations for the last several years. They have done so by making selective investment in some outlets[50] and divestiture of others. [51] However, developments during 2007 suggest that these efforts will soon almost exclusively entail divestitures. For example, in November 2007 BP announced plans to sell all of its company-owned and operated convenience stores.[52] They were hardly alone[53] in signaling a general lack of confidence that the recent high returns to U.S. refining/marketing operations would persist (or at least lack of confidence in the future profitability of marketing operations, if not also refining operations).

Marketing costs rose 15 percent in 2007 (**Table 14**) despite divestitures of FRS direct-supplied[54] motor gasoline outlets for many years (**Figure 25**) and 2 percent fewer outlets at year-end than at the beginning of the year (**Table 16**). Companies indicated that marketing costs increased because of competitive pressures; that is, that companies increased their spending to differentiate their petroleum products from those of their competitors.

Company-operated outlets were reduced by 4 percent, while dealer outlets were reduced by 2 percent during by 2007 (**Table 16**). The overall effect was 929 fewer direct-supplied FRS branded outlets at the end of 2007 than at

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[49] In particular, ConocoPhillips contributed two refineries to the unconsolidated joint venture that it and EnCana began during 2007, which is called WRB Refining LLC; Shell sold a California refinery and related assets to Tesoro; and Valero sold an Ohio refinery to Husky, a Canadian petroleum company (ConocoPhillips Company, 2007 U.S. Securities and Exchange Commission Form 10-K, p. 64; Royal Dutch Shell plc, *Annual Review and Summary Financial Statements 2007*, p. 29; and Valero Energy Corporation, 2007 U.S. Securities and Exchange Commission Form 10-K, p. 38).

[50] For example, BP noted, "We continue to improve the efficiency of our retail asset network and increase the consistency of our site offer through a process of regular review (BP plc, *2007 Annual Report on Form 20-F*, p. 30)." Exxon Mobil indicated that it uses strategic alliances with food and grocery marketers to enhance its returns from its convenience stores, noting that nonfuels (e.g., convenience products and car washes) have increased site productivity almost 30 percent since 2003 (Exxon Mobil Corporation, *2007 Financial and Operating Review*, p. 75). Similarly, Valero introduced a new convenience store concept with more food choices during 2007 (Valero Energy Corporation, "Valero Unveils the Road Runner Store Concept New Design Provides More Space for Prepared Foods," press release (December 28, 2007)). Meanwhile, Tesoro took a more traditional approach to enhancing its marketing operations by expanding them, acquiring 276 outlets from Shell and 138 outlets from USA Gasoline, all in California (Tesoro Corporation, 2007 U.S. Securities and Exchange Commission Form 10-K, pp. 30-31).

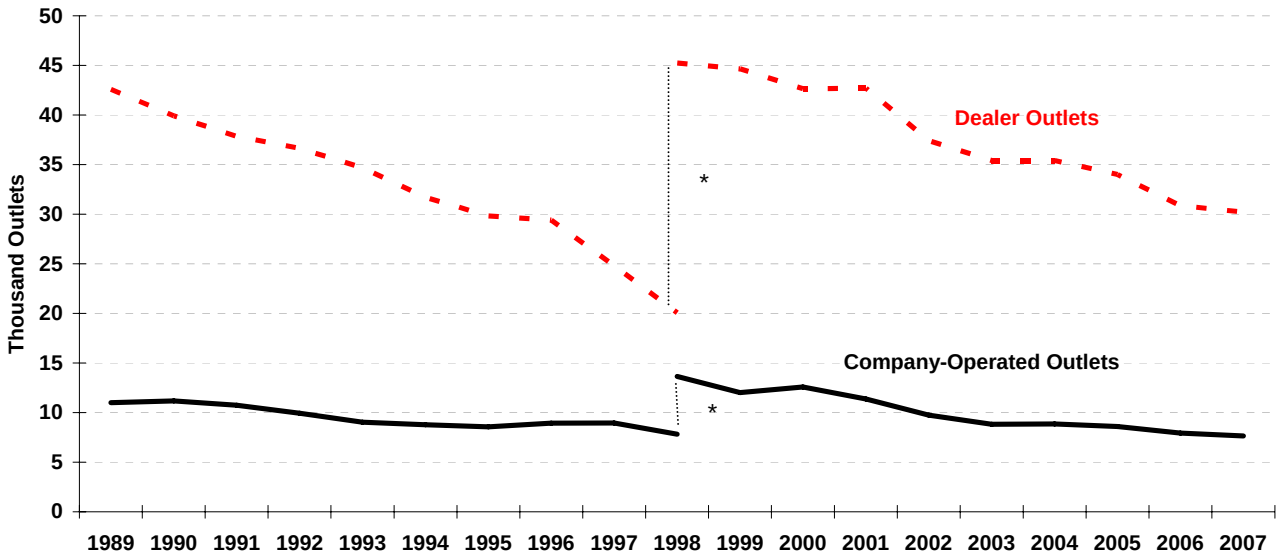
[51] ConocoPhillips and Shell indicated that they divested 250 and 54 outlets, respectively, during 2007 (ConocoPhillips Company, 2007 U.S. Securities and Exchange Commission Form 10-K, p. 25; and Royal Dutch Shell plc, 2007 U.S. Securities and Exchange Commission Form 20-F, p. 44). Less specific was Sunoco, which indicated that it had divested 211 outlets over the 2005-2007 period (Sunoco, Inc., 2007 U.S. Securities and Exchange Commission Form 10-K, p. 9). Even more general was Exxon Mobil's, which indicated that its petroleum product sales declined in 2007 relative to 2006 due to divestitures (Exxon Mobil Corporation, 2007 U.S. Securities and Exchange Commission Form 10-K, p. 36).

[52] BP plc, *2007 Annual Report on Form 20-F*, pp. 26 and 27. BP subsequently offered for sale the first 146 of an approximate 700 total outlets March 3, 2008 ("BP to Sell Retail Outlets," *Oil Daily* (March 4, 2008), p.4).

[53] In December 2006, ConocoPhillips "announced our U.S. company-owned and company-operated retail outlets, and our U.S. company-owned and dealer-operated outlets, were expected to be divested to new or existing wholesale marketers (ConocoPhillips Company, 2007 U.S. Securities and Exchange Commission Form 10-K, p. 35)." By August 27, 2008 ConocoPhillips had completed the sale of its company-operated motor gasoline outlets (Merolli, Paul, "Conoco to Exit Low-Margin Retail Market," *Oil Daily* (August 28, 2008), pp. 1-2. Similarly, Exxon Mobil announced in June 2008 that it plans to sell all of its 820 company-operated outlets (Gosmano, Jeff, "Exxon Exits Retail Business, Sees Stronger Profits Elsewhere," *Oil Daily* (June 16, 2008), p. 5.

[54] An FRS "direct-supplied" motor gasoline outlet is one that has a supply contract directly with an FRS company. Many outlets that display an FRS motor gasoline brand are not directly supplied by the FRS company whose brand the outlet displays.

Figure 25. Company-Operated and Direct-Supplied Dealer Outlets for FRS Companies, 1989 -2007



*The addition of 11 companies to the group of U.S. majors in 1998, the largest single-year change in the history of the Financial Reporting System, resulted in the vertical displacement of the series in 1998.
Note: Only outlets directly supplied by the FRS companies are included here.
Source: Energy Information Administration, Form EIA-28 (Financial Reporting System).

the beginning of 2007, which resulted in the FRS share of total U.S. outlets falling negligibly to 23 percent of the U.S. total (company-operated outlets also negligibly fell to slightly less than 5 percent). [55] Efforts to eliminate marginal outlets normally would be expected to tend to increase average productivity of the remaining outlets,[56] which is measured by the outlets' average monthly motor gasoline sales volume. This anticipated result was weakly supported by the essentially unchanged productivity between 2006 and 2007 of dealer outlets, which fell 2 percent. However, the decline in productivity of company-operated outlets, which fell 10 percent, essentially rejects the expected increase in productivity. The decline in productivity of the remaining company-operated outlets may indicate the single-mindedness with which the FRS companies attempted to divest company-operated outlets.[57]

Meanwhile, refinery capacity reported by the FRS companies decreased by almost 4 percent (**Table 17**), primarily due to the sale of three refineries. ConocoPhillips spun-off its 306,000-barrels-per-day[58] Wood River, Illinois, refinery and its 146,000-barrels-per-day Borger, Texas, refinery, creating an unconsolidated joint venture (WRB

[55] According to the *National Petroleum News*, there were 164,292 outlets in 2006 and 161,768 in 2007 (M2Media360, *National Petroleum News, 2008 Market Facts* (August 2008), p. 26.
[56] However, as some FRS companies have noted in the past, these efforts can be frustrated if productive dealers elect to change brands.
[57] Calculations such as this can be affected by the timing of the change in the status of the outlets and of differences in the timing between years. That is, divesting a large number of outlets near year-end will tend to generate an inflated average sales volume while divesting a large number of outlets near year-beginning will tend to generate a depressed average sale volume.
[58] All individual refinery capacities are from Energy Information Administration, "Refinery Capacity Report 2008" (June 2008), Table 5, which available on the Internet at http://www.eia.doe.gov/oil_gas/petroleum/data_publications/refinery_capacity_data/refcapacity.html (as of October 15, 2008).

Table 16. Motor Gasoline Distribution and Number of Direct-Supplied Branded Outlets for FRS Companies, 2006-2007

	2006	2007	Percent Change 2006-2007
	(Million Barrels)		
Third-Party Volume			
Wholesale	2,119.5	1,961.4	-7.5
Retail			
Dealer	828.4	794.8	-4.1
Company-Operated	487.2	422.6	-13.3
Total Retail	1,315.6	1,217.4	-7.5
Direct	586.6	539.9	-8.0
Total Third-Party Volume	4,021.7	3,718.7	-7.5
Intersegment Volume	59.8	49.8	-16.8
	(Number of Direct-Supplied Branded Outlets)		
Dealer Outlets	30,870	30,226	-2.1
Company-Operated Outlets	7,927	7,642	-3.6
Total Retail Outlets	38,797	37,868	-2.4
Average Monthly Outlet Volume	(Thousand Gallons per Month)		
Dealers	93.9	92.0	-2.0
Company-Operated	215.1	193.6	-10.0
All Direct-Supplied Outlets	118.7	112.5	-5.2

Source: Energy Information Administration, Form EIA-28 (Financial Reporting System).

Refining LLC) with EnCana.[59] Additionally, Valero sold its 146,200-barrels-per-day Lima, Ohio, refinery to Husky Energy Inc.[60] Tesoro's acquisition of Shell's 97,000-barrels-per-day Wilmington, California, refinery[61] increased additions to investment in place for 2007, but had no net effect on FRS refinery capacity, since both companies are part of the FRS. Additionally, many of the companies made marginal expansions to their refineries,[62] some of which increased capacity in 2007 and some of which will increase future capacity. Increased ability to process heavier and/or higher sulfur crude oil[63] and further environmental investments,[64] including those

[59] ConocoPhillips Company, 2007 U.S. Securities and Exchange Commission Form 10-K, p. 64.
[60] Valero Energy Corporation, 2007 U.S. Securities and Exchange Commission Form 10-K filing, p. 38.
[61] Tesoro Corporation, 2007 U.S. Securities and Exchange Commission Form 10-K filing, p. 29.
[62] For example, Chevron "completed modifications at the … El Segundo, California [refinery] to enable the processing of heavier crude oils ... (Chevron Corporation, 2007 U.S. Securities and Exchange Commission Form 10-K, p. 25)." ConocoPhillips noted that "… construction was completed on a 25,000-barrel-per-day coker and a new vacuum unit along with revamps of heavy oil and distillate hydrotreaters " [at its Borger, Texas refinery] (ConocoPhillips Company, 2007 U.S. Securities and Exchange Commission Form 10-K, p. 24). Marathon continues expanding its Garyville, Louisiana refinery during 2007 (Marathon Oil Corporation, 2007 U.S. Securities and Exchange Commission Form 10-K, p. 40). Motiva also announced that its owners (i.e., Royal Dutch Shell plc and Saudi Refining (itself an affiliate of ARAMCO)) had authorized a 325,000 barrel-per-day expansion at its Port Arthur, Texas refinery (Motiva Enterprises LLC, "Motiva Port Arthur Refinery to Become Largest Refinery in the United States," press release (September 21, 2007)).
[63] Several companies noted such investment. "BP continued to progress the planning for the previously mentioned investment in Canadian heavy crude oil processing capability at its Whiting refinery (BP plc, *2007 Annual Report on Form 20-F*, p. 27)." Chevron indicated that "In 2007, the company completed modifications at its refineries in El Segundo, California, to enable the processing of heavier crude oils into gasoline, diesel and other light products (Chevron Corporation, 2007 U.S. Securities and Exchange Commission Form 10-K, pp. 25 and 26)." ConocoPhillips indicated that projects at its Borger, Texas refinery increased the ability of the refinery to process heavy crude oil (ConocoPhillips Company, 2007 U.S. Securities and Exchange Commission Form 10-K, p. 24). Exxon Mobil is attempting to improve margins by reducing its raw material costs and improving its yield of high-value products (Exxon Mobil Corporation, *2007 Financial & Operating Review*, p. 71). Marathon

related to ethanol[65] and biodiesel,[66] were the major motivations for the marginal investments. The combination of transactions and marginal upgrades resulted in a 52-percent increase in U.S. refining additions to net investment in place (**Table 17**) (and led to the relatively small decline in refinery capacity despite the sale of 3 FRS refineries).

Table 17. U.S. and Foreign Refining/Marketing Investment and Refining Operating Items for FRS Companies, 2006-2007

	2006	2007	Percent Change 2006-2007
	(billion 2007 dollars)		
U.S. Refining Additions to Investment in Place	11.2	17.1	51.8
U.S. Marketing and Transportation Additions to Investment in Place	2.2	3.4	51.4
Foreign Refining/Marketing Additions to Investment in Place	5.9	3.8	-34.7
	19.4	24.3	25.6
	(Thousand Barrels per Day)		
U.S. Refining Capacity	14,652	14,101	-3.8
U.S. Refinery Output	14,726	14,168	-3.8
Foreign Refining Capacity	5,924	5,571	-6.0
Foreign Refinery Output	5,164	5,008	-3.0
	(Percent)		
U.S. Refinery Utilization Rate[1]	92.5	89.6	--
Foreign Refinery Utilization Rate[1]	88.2	85.3	--

[1]Only includes output at FRS refineries. Note that this amount does not equal the amount in Table DS1, which also contains output at refineries of others for FRS companies..

[2]Refinery utilization rate is calculated by dividing runs to stills at own refineries by the average of the year beginning and year ending crude oil distillation capacity.

--: Not applicable.

Source: Energy Information Administration, Form EIA-28 (Financial Reporting System).

"[c]ompleted a 26,000 barrel per calendar day expansion of the Detroit, Mich., refinery (*2007 Fact Book*, p. 4)." Sunoco expanded its ability to upgrade heavy petroleum products and expand its crude oil processing capability at its Toledo, Ohio refinery (Sunoco Inc., 2007 U.S. Securities and Exchange Commission Form 10-K, p. 7). Tesoro spent $124 million during 2007 "transforming an existing fluid coker unit at the Golden Eagle refinery into a delayed coker (Tesoro Corporation, 2007 U.S. Securities and Exchange Commission Form 10-K, p. 11)."

[64] Several companies indicted that they continued making investments to expand their ability to make Phase II-compliant petroleum products well into 2007, including BP, ConocoPhillips, Exxon Mobil, Lyondell, Marathon, Sunoco, Tesoro, and Valero (BP plc, 2007 U.S. Securities and Exchange Commission Form 20-F, p. 28; ConocoPhillips Company, 2007 U.S. Securities and Exchange Commission Form 10-K, p. 80; Exxon Mobil Corporation, 2007 U.S. Securities and Exchange Commission Form 10-K, p. 42 and *2007 Financial & Operating Review*, p. 73; Lyondell Chemical Company, "Lyondell Announces Capital Investment Plan for 2007," press release (January 25, 2007); Marathon Oil Corporation, *2007 Annual Report*, p. 4; Sunoco Inc., 2007 U.S. Securities and Exchange Commission Form 10-K, p. 7; Tesoro Energy Corporation, 2007 U.S. Securities and Exchange Commission Form 10-K, pp. 31-32 and "Tesoro holds dedication to celebrate completion of major clean fuel capital project," press release (June 27, 2007); and Valero Energy Corporation, 2007 U.S. Securities and Exchange Commission Form 10-K, p. 13).

[65] Marathon continues investing in various aspects of ensuring its ethanol supply (Marathon Corporation, 2007 U.S. Securities and Exchange Commission Form 10-K, p. 40 and *2007 Annual Report*, p. 22)."

[66] Chevron is focusing on biodiesel (Chevron Corporation, "Bioselect and Chevron Unveil Fully Operational Biodiesel Plant in Galveston, Texas," press release (May 29, 2007) and "Chevron and Weyerhaeuser Create Biofuels Alliance," press release (April 12, 2007)).

For the last several years the relatively complex FRS refineries (**Table 18**) provided cost savings by taking advantage of price differences between the relatively lower-cost heavy crude oils and the relatively higher-cost light crude oils because the refineries can refine a wide range of crude oils. Further, revenues were increased marginally because complex refineries can produce relatively more higher-priced, light products. However, the circumstances of 2007 diminished both aspects of this advantage.

Table 18. U.S. Refinery Configurations of FRS Companies, Selected Years, 1974-2007
(Percent)

	Downstream Capacity as a Percent of Crude Distillation Capacity													
	1974	1981	1993	1996	1997	1999	2000	2001	2002	2003	2004	2005	2006	2007
FRS Integrated Refiners[a]														
Coking	NC	NC	NC	13.0	12.6	12.9	13.9	14.1	15.8	15.4	15.7	15.4	15.4	15.9
Catalytic cracking	27.7	30.4	36.5	33.8	35.9	35.8	35.6	35.2	33.0	33.4	33.7	33.7	33.9	33.4
Catalytic reforming	17.6	22.4	25.8	24.9	23.4	22.3	22.4	22.2	21.8	21.8	21.8	21.4	21.7	21.9
Hydro cracking	5.6	5.7	9.6	9.6	9.6	10.9	11.0	10.9	10.7	10.4	10.7	10.5	11.0	11.4
Catalytic hydrotreating	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	79.5	82.3	85.8	88.0
Alkylation	4.8	5.3	7.7	6.8	7.5	7.4	7.4	7.2	7.1	7.2	7.3	7.3	7.5	7.1
FRS Non-Integrated Refiners[b]														
Coking	NC	NC	NC	11.0	12.7	12.0	12.1	12.4	12.0	13.5	14.7	14.3	14.4	14.4
Catalytic cracking	NC	NC	NC	29.8	34.1	34.0	35.5	35.5	36.3	36.7	38.4	37.2	37.2	37.1
Catalytic reforming	NC	NC	NC	18.9	21.5	22.5	21.9	21.7	21.4	21.1	21.8	20.4	20.1	20.6
Hydro cracking	NC	NC	NC	6.3	7.8	8.6	8.6	8.4	7.8	8.5	8.7	8.1	8.3	8.4
Catalytic hydrotreating	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	71.4	72.7	73.7	73.6
Alkylation	NC	NC	NC	6.0	6.8	6.0	6.3	6.3	6.4	6.4	6.9	6.6	6.6	6.6

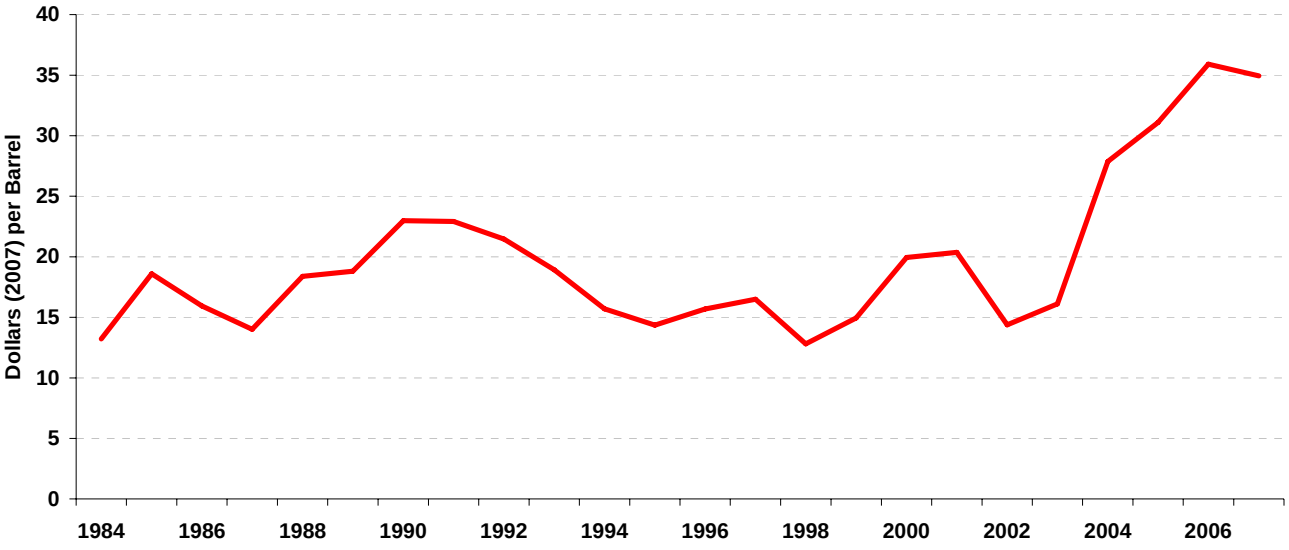
NC: Information not collected.
[a] :FRS Integrated Refiners includes BP America, Chevron, ConocoPhillips, Exxon Mobil, Marathon, Shell Oil, and Total Holdings USA.
[b]: FRS Non-Integrated Refiners includes CITGO, Lyondell Chemical (now LyondellBasell), Motiva, Sunoco, Tesoro, and Valero.
Sources: Oil and Gas Journal, "Worldwide Refinery Report," 1974, 1981, 1993, 1996, 1997, 1999, 2000, 2001, 2002, 2003, 2004, 2005, 2006, and 2007.

The difference between the price of lighter products (represented by the price of motor gasoline) and the price of heavier products (represented by the price of residual fuel oil) decreased (**Figure 26**) $0.98 per barrel between 2006 and 2007. Similarly, during 2007 the difference between the price of light crude oil and the price of heavy crude fell (**Figure 27**), lowering the discount paid for heavy crude oil from $16.50 per barrel in 2006 to $16.08 per barrel in 2007. Thus, raw materials costs were somewhat higher (**Table 13**) and product revenues were essentially unchanged (**Table 15**). However, incentives for the FRS companies to further expand their capability to process heavy crude oil appear to remain strong.[67]

The year 2007 was the third-most profitable in the 31-year history of the FRS and followed a recent series of unusually profitable years, which were preceded in 2002 by the most unprofitable year in the history of the FRS. The primary reason for the decreased profitability of the FRS U.S. refining/marketing operations in 2007 relative to 2006 was that the increase in the gross refining margin (by $0.26 per barrel) was overwhelmed by higher operating costs (by $0.46 per barrel). Increases in marketing, energy costs (by a total of $0.36 per barrel), and "other" operating costs (which increased by $0.10 per barrel). The combination of these changes resulted in a decrease of $0.20 per barrel (4 percent) in the net refining margin relative to 2006. FRS cost-cutting efforts were less successful but continue. Efforts such as divestiture of large parts of the FRS companies' motor gasoline retailing operations in the coming years (and the anticipated decline in marketing costs) and upgrading of refinery capacity to further expand the ability of the FRS companies to refine the lowest cost (and lowest quality) crude

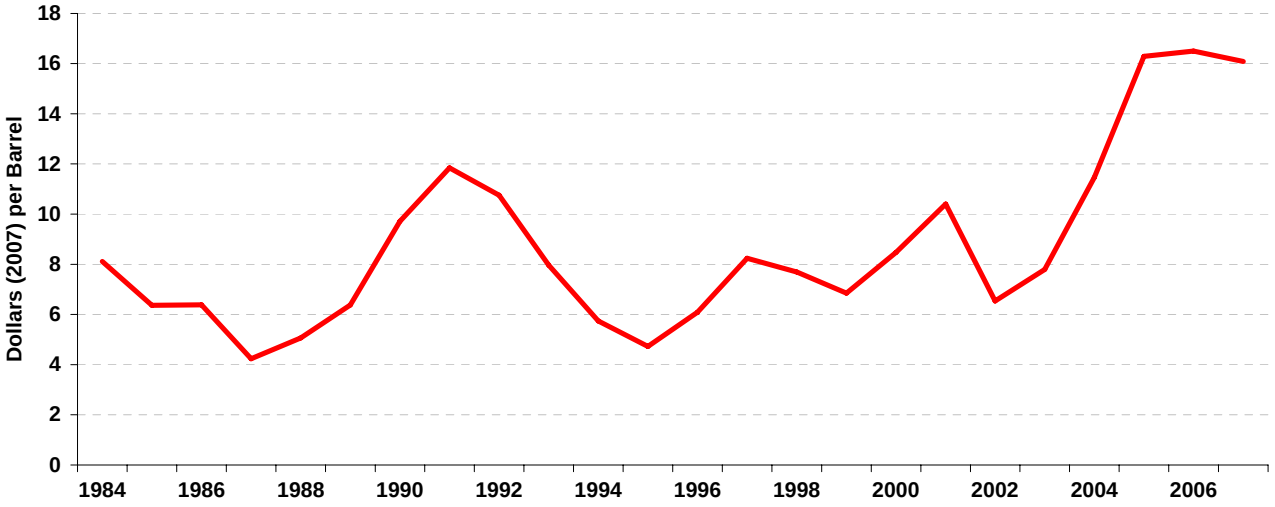
[67] For example, BP and Exxon Mobil both indicated future plans for additional investment in upgrading capacity (BP plc, 2007 Annual Report on Form 20-F, p. 46 and Exxon Mobil Corporation, *2007 Financial and Operating Review*, p. 71.).

Figure 26. Resale Price Difference Between Motor Gasoline and Residual Fuel Oil, 1984-2007



Note: Motor gasoline tends to sell for a higher price per barrel than does residual fuel oil. Thus, the vertical distance of the line in the figure from the horizontal axis indicates the premium paid for motor gasolinel relative to residual fuel oil.
Source: Energy Information Administration, *Petroleum Marketing Monthly* , DOE/EIA-0380, Table 4.

Figure 27. Price Difference Between Light Crude Oil and Heavy Crude Oil, 1984-2007



Note: Light crude oil tends to sell for a higher price per barrel than does heavy crude oil. Thus, the vertical distance of the line in the figure from the horizontal axis indicates the premium paid for light crude oil relative to heavy crude oil. The more expensive light crude oil is defined here as having an API gravity of 40.1 or greater and heavy crude oil is defined as having an API gravity of 20 or less.
Source: Energy Information Administration, *Petroleum Marketing Monthly* , DOE/EIA-0380, Tables 27 and 28 (2006 and earlier), and Tables 24 and 25 (2007, onward).

oils available represent their attempts to withstand the vicissitudes of their industry by focusing on the factors that they can most easily control.

Foreign Refining/Marketing[68]

Five years after recording the lowest profitability (−1 percent) in the 31-year history of the FRS, the companies in 2007 reported the third-highest average profit rate for FRS foreign refining/marketing operations. The average profit rate of 22 percent was 3 percentage points higher than in 2006, which was at the time the third-highest in the history of the FRS (**Figure 21**). Refined product and other revenue increased by more than $14,600 million relative to 2006, but they were largely offset by more than a $13,900-million increase in operating expense, resulting in more than a $700-million increase (8 percent) in operating income and almost a $1,500-million increase (19 percent) in net income (**Table 15**).

The FRS companies derive their foreign refining/marketing earnings from two sources: consolidated operations and unconsolidated affiliates. A fully consolidated affiliate is directly controlled by the parent corporation (although it could be owned by several companies, with the parent corporation retaining control). In addition, all operating financial information about a fully consolidated affiliate (such as revenues) is reported in the public financial disclosures of the parent corporation. Conversely, the corporate parent of an unconsolidated affiliate usually owns 50 percent, or less, of the affiliate, and does not directly control the affiliate[69] (a joint venture, for example, is usually an unconsolidated affiliate from the perspective of at least one of the partners[70]). Essentially, the unconsolidated affiliate is more of a property or holding of the parent corporation than a company that the parent actually operates. The effect on financial operations of an unconsolidated affiliate can be seen only on the parent corporation's income statement, on which the parent company reports its proportional share of the affiliate's net income.

Historically, approximately half of the FRS consolidated foreign refinery capacity is located in Europe, 51 percent in 2007, with most of the remaining consolidated refinery capacity in Asia. Meanwhile, the operations of the FRS companies' unconsolidated foreign refining/marketing affiliates have been mainly in Asia. In fact, 77 percent of FRS unconsolidated foreign refinery capacity was in Asia in 2007 (**Table 19**). Chevron owns much of the FRS Asian refinery capacity, most of which is unconsolidated.

The increase in net income between 2006 and 2007 in FRS foreign refining/marketing operations was because of increased income from both consolidated and unconsolidated operations (**Figure 28**). The former increased slightly more than $900 million, while the latter increased by more than $500 million. Worldwide petroleum demand increased by almost 2 percent, contributing somewhat to higher petroleum product prices (**Figure 29**). Additionally, the companies identified some reasons for the increased profitability of FRS consolidated and unconsolidated foreign refining/marketing operations in public statements, including increased refining margins,[71] benefits from asset rationalization efforts,[72] and, principally, asset sales[73] despite decreased sales volumes,[74] refinery utilization rates,[75] and refinery capacity[76] (**Table 17**).

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[68] For this report, the International Marine business segment has been combined with Foreign Refining/Marketing to prevent disclosure of company-level data. Relative to Foreign Refining/Marketing, International Marine is about one-tenth the size and has little material effect on the overall results of Foreign Refining/Marketing.

[69] The actual percentage of ownership necessary to convey control of an entity is open to debate and, for some purposes, can be as little as 10 percent.

[70] The Caltex joint venture was an unconsolidated affiliate for both of its parents, Chevron and Texaco, until their merger in 2002. However, most of the refinery capacity of Caltex (which was retained as an operating entity) is unconsolidated because Caltex generally owns less than 50 percent of each refinery in which it has ownership.

[71] ConocoPhillips Company, 2007 U.S. Securities and Exchange Commission Form 10-K, p. 64.

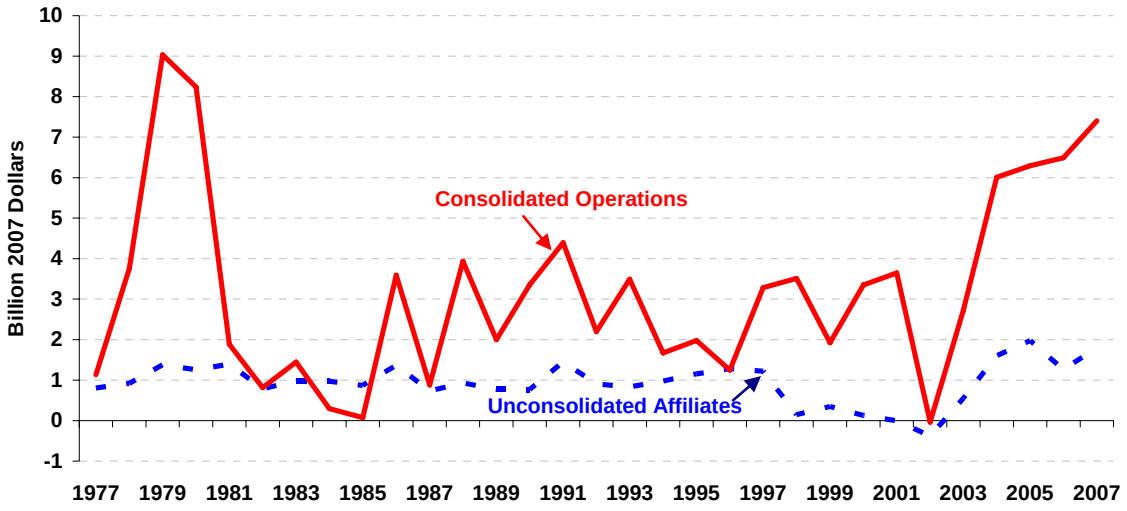
[72] ConocoPhillips Company, 2007 U.S. Securities and Exchange Commission Form 10-K, p. 64.

Table 19. Regional Distribution of Foreign Refinery Capacity for FRS Companies, 2006-2007
(Percent)

	Consolidated Operations		Unconsolidated Affiliates	
	2006	2007	2006	2007
Europe	51.7	50.7	16.4	8.8
Asia	24.2	24.7	70.7	76.5
Latin America	8.5	8.6	0.3	0.3
Canada	13.3	13.5	0.0	0.0
Other	2.4	2.4	12.7	14.4
Grand Total	100.0	100.0	100.0	100.0

Note: The region denoted as "Other" includes Africa and the Middle East.
Sources: Company Annual Reports and filings of U.S. Securities and Exchange Commission Form 10-K.

Figure 28. Foreign Refining/Marketing Net Income[a] from Consolidated Operations and Unconsolidated Affiliates of FRS Companies, 1977-2007



[a]The International Marine business segment has been combined with Foreign Refining/Marketing for the years 2003 - 2007 in order to prevent disclosure of company-level data. Relative to Foreign Refining/Marketing, International Marine is about one-tenth the size and has little material effect on the overall results of Foreign Refining/Marketing.
Source: Energy Information Administration, Form EIA-28 (Financial Reporting System).

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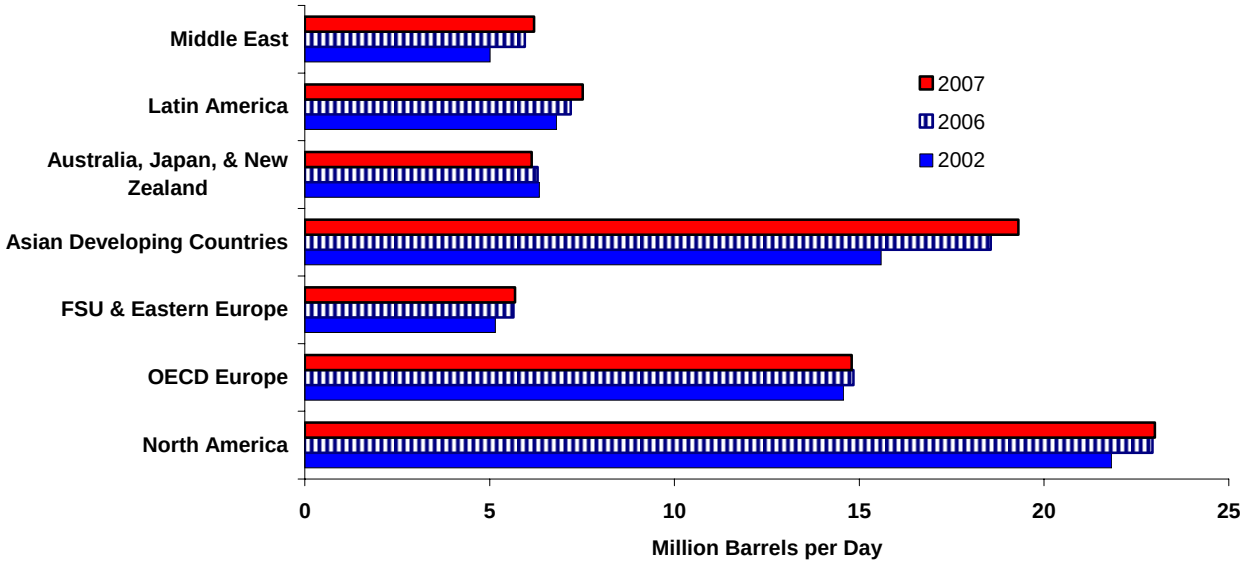
[73] Chevron Corporation, 2007 U.S. Securities and Exchange Commission Form 10-K, p. 74 and Exxon Mobil Corporation, 2007 U.S. Securities and Exchange Commission Form 10-K, p. 36.
[74] Exxon Mobil Corporation, 2007 U.S. Securities and Exchange Commission Form 10-K, p. 36..
[75] ConocoPhillips Company, 2007 U.S. Securities and Exchange Commission Form 10-K, p. 64.
[76] Chevron, ConocoPhillips, and Exxon Mobil all divested refinery capacity during 2007. Chevron sold its 31 percent interest (124,000-barrels-per-day) in the Nerefco (Netherlands) refinery in March 2007 (Chevron Corporation, 2007 U.S. Securities and Exchange Commission Form 10-K, p. 25). ConocoPhillips sold its "… 16.33 percent ownership (27,100-barrels-per-day) in Ceska Rafinerska, a.s. (CRC), consisting of two refineries located in the Czech Republic, … during 2007 (ConocoPhillips Company, 2007 U.S. Securities and Exchange Commission Form 10-K, p. 28)." Exxon Mobil sold its 110,000-barrels-per-day Ingolstadt, Germany refinery to PetroPlus Holdings A.G. April 1, 2007 (PetroPlus Holdings A.G., "Petroplus completes purchase of Ingolstadt Refinery," press release (April 2, 2007)).

Figure 29. Petroleum Consumption by Region, 2002, 2006, and 2007



Note: OECD stands for the Organization for Economic Cooperation and Development.
Source: BP plc, *BP Statistical Review of World Energy* (June 2008), p. 11.

Consolidated Operations

Earnings from the FRS companies' consolidated operations increased (**Figure 28**) more than $900 million (14 percent) between 2006 and 2007, providing $7,405 million of net income. The FRS consolidated operations generated higher earnings by selectively upgrading (or expanding the number of) marketing outlets[77] and reducing its costs by divesting non-core assets, particularly retail assets[78] but also refinery capacity.[79]

Higher earnings from consolidated FRS foreign refining/marketing operations occurred within an improved (relative to 2006) industry environment of higher refining margins and essentially unchanged (**Figure 29**) (0.3 percent lower) European petroleum demand. Further, European refining margins (represented by the

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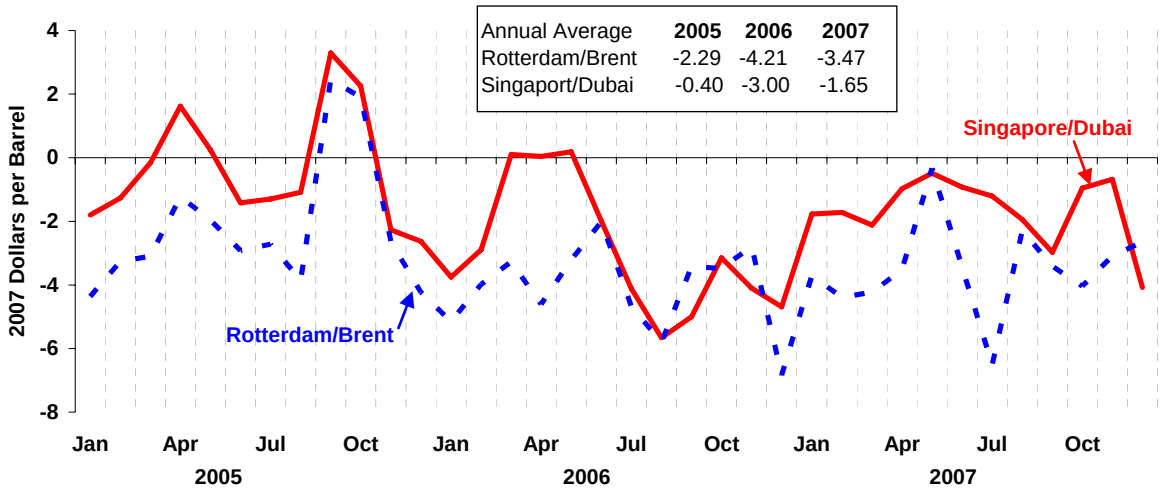
[77]Exxon Mobil uses "... an integrated approach when developing new business opportunities, such as our refining, petrochemicals, and fuels marketing venture in Fujian, China ... (Exxon Mobil Corporation, 2007 Financial & Operating Review, p. 71)."

[78]"Chevron Corporation ... announced the completion of the sale by its subsidiaries in Belgium, the Netherlands and Luxembourg (Benelux) of their fuels marketing business to Dutch company Delek Benelux B.V., a subsidiary of Israeli company Delek Group (Chevron Corporation, "Chevron Completes Sale of Benelux Fuels Marketing Business to Delek," press release (August 9, 2007))." Further, Chevron "…sold its interest in about 500 individual service station sites, primarily in the United Kingdom and Latin America (Chevron Corporation, 2007 U.S. Securities and Exchange Commission Form 10-K, p. 27)."Additionally, ConocoPhillips "… sold 377 of our fueling stations in six European countries to LUKOIL ... . As of December 31, 2007, agreements were signed for the sale of Norway, Sweden, and Denmark marketing assets (ConocoPhillips Company, 2007 U.S. Securities and Exchange Commission Form 10-K, p. 29)."

[79] Chevron, ConocoPhillips, and Exxon Mobil all divested European refinery capacity during 2007. Chevron sold its 31-percent interest (124,000-barrels-per-day) in the Nerefco (Netherlands) refinery in March 2007 (Chevron Corporation, 2007 U.S. Securities and Exchange Commission Form 10-K, p. 25). ConocoPhillips sold its "… 16.33 percent ownership (27,100-barrels-per-day) in Ceska Rafinerska, a.s. (CRC), consisting of two refineries located in the Czech Republic, … during 2007 (ConocoPhillips Company, 2007 U.S. Securities and Exchange Commission Form 10-K, p. 28)." Exxon Mobil sold its 110,000-barrels-per-day Ingolstadt, Germany refinery to PetroPlus Holdings A.G. April 1, 2007 (PetroPlus Holdings A.G., "Petroplus completes purchase of Ingolstadt Refinery," press release (April 2, 2007)).

Rotterdam/Brent reforming/cracking netback minus the West Texas Intermediate spot price) were generally higher during 2007 than during 2006 (**Figure 30**). As a result, the average margin for all of 2007 was $0.74 per barrel higher (in 2007 dollars) than the average margin for 2006.

Figure 30. Foreign Gross Refining Margins,[a] 2005-2007



[a] Gross refining margin is defined as netback crude oil price less spot crude oil price. The netback price is calculated by multiplying the spot price of each refined product by the percentage share in the yield of a barrel of crude oil. Transport and out-of-pocket refining costs are then subtracted to arrive at netback price.
Note: The gross refining margin for Dubai crude oil refined in Singapore is used a proxy for Asia/Pacific gross refining margins. Similarly, the gross refining margin for Brent crude oil refined in Rotterdam is used as a proxy for European gross refining margins.
Source: Energy Intelligence Group, *Oil Market Intelligence,* p. 12, **2005**: July 2005 and January 2006; **2006**: July 2006 and January 2007; and **2007**: July 2007 and January 2008.

Unconsolidated Operations

During 2007, the FRS companies' unconsolidated affiliates generated $1,796 million of net income, which was 43 percent higher than the 2006's $1,259 million (in 2007 dollars). Company public disclosures included some reasons for the higher earnings generated by the Asian operations of the FRS companies, which included higher gains on asset sales,[80] and higher margins and lower feedstock costs during the first half of the year.[81] Cost-cutting efforts included upgrading refinery capacity[82] and refocusing marketing operations.[83]

Higher earnings occurred in a stronger, relative to 2006, industry environment. Consumption of petroleum products in Asia (comprising Asian Developing Countries, which grew by 4 percent and Australia, Japan, and New Zealand, which collectively declined by 3 percent) increased between 2006 and 2007 (**Figure 29**) by slightly more than 2 percent.

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[80] Exxon Mobil Corporation, 2007 U.S. Securities and Exchange Commission Form 10-K, p. 36.
[81] Chevron Corporation, Chevron Supplement to Annual Report 2007, p. 49.
[82] In late 2007, Chevron's GS Caltex affiliate "… completed commissioning of new facilities associated with a $1.5 billion upgrade project at the 680,000-barrel-per-day Yeosu refining complex in South Korea … [which] is expected to increase the yield of high-value refined products … and reduce feedstock cost through an increase in the refinery's ability to process heavy oil (Chevron Corporation, 2007 U.S. Securities and Exchange Commission Form 10-K, p. 26)."
[83] ConocoPhillips "… completely divested … marketing operations in Thailand and Malaysia (ConocoPhillips Company, 2007 U.S. Securities and Exchange Commission Form 10-K, p.29)."

Industry-wide Asian refining margins of 2007 were higher than those of 2006 for most of the year (**Figure 30**) (except for March, April, and May). The early-year decrease in refining margins (relative to 2006) was insufficient to prevent the average annual gross refining margin for Asia (represented by the Singapore/Dubai topping/reforming netback minus the West Texas Intermediate spot price) for 2007 from exceeding that of 2006 by $1.34 per barrel (in 2007 dollars). The higher margins of 2007 put upward pressure on earnings from unconsolidated operations, resulting in an all-time high for unconsolidated FRS foreign refining/marketing operations.

FRS companies' foreign refining/marketing earnings increased substantially because of slightly higher worldwide petroleum product consumption (2 percent) and higher industry gross refining margins in the two major regions in which the FRS companies operate—Europe and Asia. However, the exceptional profitability of FRS foreign refining/marketing operations in 2007 appears chiefly from asset sales, this can only be successful in the short-term. Thus, longer-term strategies such as expansion and enhancement of operations and cost-cutting measures likely will continue to occupy prominent positions in the companies' ongoing strategic actions in the future.

About the Financial Reporting System Companies

Changes in the Financial Reporting System Companies for the 2007 Reporting Year

For the 2007 reporting year, 25 major energy companies (**Table 20**) reported their financial and operating data to the Energy Information Administration's (EIA) Financial Reporting System (FRS) on Form EIA-28. The number of companies (referred to as the FRS companies in this report) decreased by two from 2006 with the addition of Alenco, and the departure of Burlington Resources, Dominion Resources, and Kerr McGee.

Table 20. The FRS Companies in 2007

Alenco Inc.	Exxon Mobil Corporation
Amerada Hess Corporation	Lyondell Chemical Corporation
Anadarko Petroleum Corporation	Marathon Oil Corporation
Apache Corporation	Motiva Enterprises, L.L.C.
BP America, Inc.	Occidental Petroleum Corporation
Chesapeake Energy Corporation	Shell Oil Company
Chevron Corporation	Sunoco, Inc.
CITGO Petroleum Corporation	Tesoro Petroleum Corporation
ConocoPhillips Company	The Williams Companies, Inc.
Devon Energy Corporation	Total Holdings USA, Inc.
El Paso Corporation	Valero Energy Corp.
EOG Resources, Inc.	XTO Energy, Inc.
Equitable Resources, Inc.	

Note: Five of the FRS companies are owned by foreign companies: Alenco—owned by Encana Corporation; BP America—owned by BP plc; CITGO—owned by Petroleos de Venezuela, S.A.; Shell Oil—owned by Royal Dutch Shell plc.; and Total Holdings USA—owned by Total S.A.

Alenco Inc., the U.S. affiliate of the Canadian-based EnCana Corporation, was added due to incremental growth in its U.S. natural gas production. Burlington Resources and Kerr McGee were acquired by ConocoPhillips and Anadarko Petroleum, respectively, in 2006. They provided partial-year submissions in 2006 and continue in the FRS as part of the acquiring FRS company. Dominion Resources sold most of its oil and natural gas production assets and no longer met the selection criteria for the FRS.

Additionally, Basell acquired the FRS respondent Lyondell Chemical late in 2007, creating LyondellBasell Industries.[84] However, the transaction had a negligible effect on the reporting by Lyondell Chemical Corporation for 2007 (the effect of the transaction is anticipated to be more tangible for the 2008 reporting year).

Although the composition of the FRS group of companies changes over time, the changes usually are incremental, as evident from the above discussion. A company is added to the survey when, through growth or acquisition, it meets the criteria classifying it as a major energy company. Typically, no more than two companies are added to the survey in any given year. The new companies usually are relatively small compared to the existing FRS group, so the effect on the aggregate totals is marginal. The year 1998 was an exception. Because of a change in the FRS criteria, 11 companies were added to the FRS group. Companies rarely exit unless through merger, in which case the assets of the exiting company are absorbed into the surviving company. Thus, despite occasional year-to-year changes in the FRS group composition, comparisons are still meaningful and informative.

[84] See, "Basell and Lyondell Complete Merger Creating LyondellBasell Industries" (December 20, 2007), available at http://lyondellbasell.mediaroom.com/index.php?s=43&item=370 (as of October 7, 2008).

The FRS Companies' Importance in the U.S. Economy

The FRS companies occupy a significant position in the U.S.[85] economy. In 2007, operating revenues of the FRS companies totaled $1.444 trillion, which is equal to 14 percent of the $10.601 trillion in revenues of the Fortune 500 corporations.[86,87]

The reporting companies engage in a wide range of business activities, but their most important activities are in the energy sector. They derived about 93 percent, or $1,517 billion, of allocated operating revenues[88] from energy lines of business and derived nearly all of these revenues from their core petroleum operations (**Figure 31**). A majority of these companies are multinational, with 42 percent of the majors' net investment located abroad. Worldwide petroleum and natural gas market developments are of primary importance to these companies' financial performance.

In 2007, the FRS companies accounted for 42 percent of total U.S. crude oil and natural gas liquids (NGL) production,[89] 43 percent of natural gas production, 78 percent of U.S. refining capacity, and 0.5 percent of U.S. electricity net generation (**Figure 32**). During 2007, these companies devoted about 83 percent of their assets and 85 percent of new investments to sustaining various aspects of petroleum production, processing, transportation, and marketing.

Energy production, other than petroleum, has been a relatively small but growing part of the FRS companies' operations since 1994. During 2007, the combined operating revenues of the downstream natural gas, electricity, and other energy operations[90] of the FRS companies totaled $250 billion, or 15 percent of allocated revenues. The importance of electric power operations to the FRS companies substantially declined with the exit of Dominion Resources for the 2007 reporting year as the FRS share of U.S. electricity generation capacity fell from 3 percent in 2006 to 0.5 percent for 2007.

Nonenergy businesses, mainly chemicals, accounted for 7 percent, or $109 billion, of the FRS companies' allocated revenues in 2007. During the 1980s, the FRS companies were major producers of domestic uranium. However, no FRS company has produced uranium oxide domestically since 1991.

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[85] For the purposes of this report, the term "United States" includes the 50 states, the District of Columbia, Puerto Rico, and the U.S. Virgin Islands.

[86] Unless otherwise indicated, all dollar values and percentage changes in this report are based in constant 2007 dollars, adjusted using the Gross Domestic Product implicit price deflator.

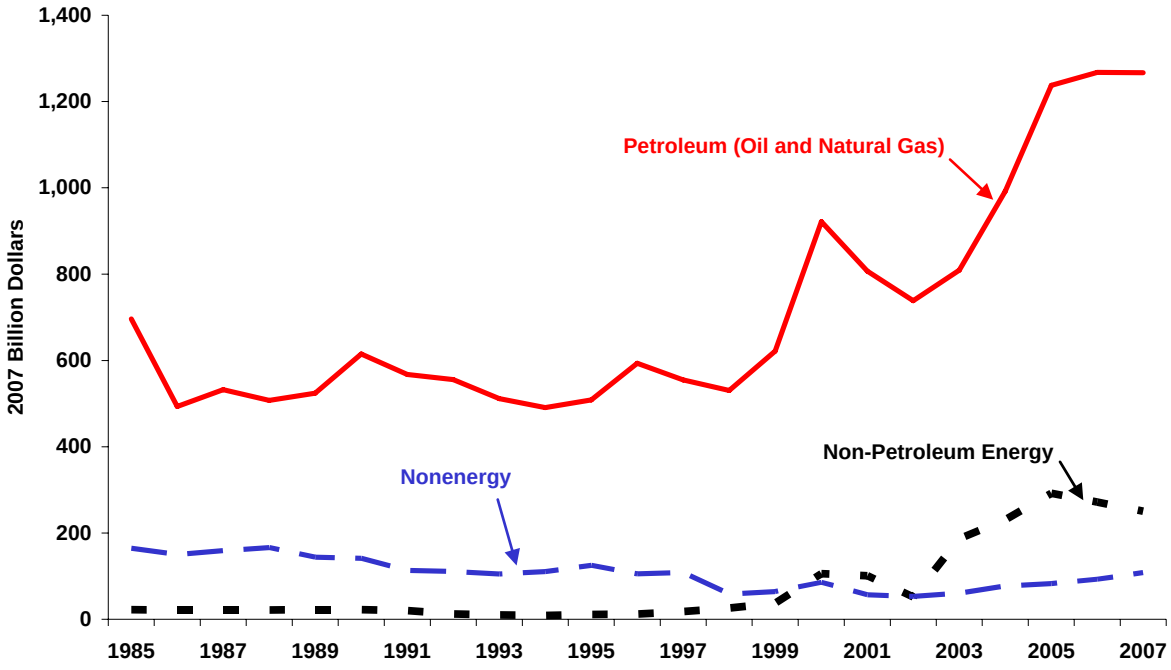
[87] The Fortune 500 is a list of the 500 largest U.S. corporations, ranked by revenues, published annually by *Fortune* magazine (http://money.cnn.com/magazines/fortune/fortune500/2008/full_list/ [as of September 25, 2008]).

[88] The sum of allocated operating revenue ($1,626 billion) exceeds corporate operating revenue ($1,444 billion) because allocated revenues include revenues from sales within the company and between different lines of business, in addition to the revenue from sales by the company to third parties (i.e., those outside the company). However, revenues from intersegment sales are eliminated in calculating corporate operating revenue, which includes only sales by the company to third parties.

[89] Note that U.S. totals include royalty production, while the FRS companies' production levels do not. Thus, these calculations understate the FRS companies' share of crude oil and NGL production and natural gas production.

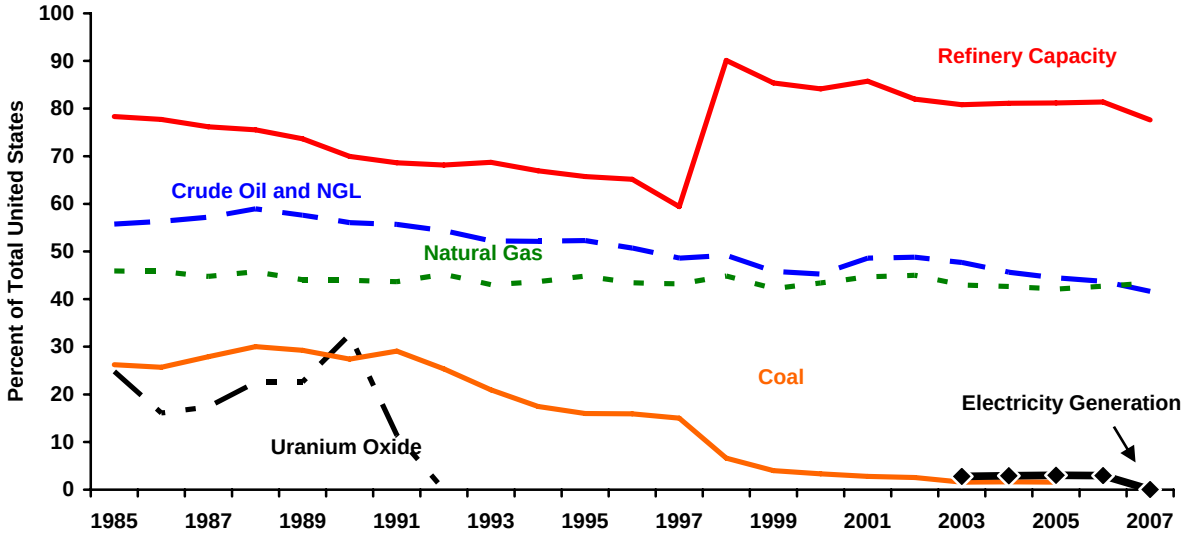
[90] Beginning with the 2003 reporting year, "other energy" operations include coal operations. Before 2003, coal was a separate line of business. Financial information for coal operations now is merged with that of the other energy operations.

Figure 31. Operating Revenues by Line of Business for FRS Companies, 1985-2007



Source: Energy Information Administration, Form EIA-28 (Financial Reporting System).

Figure 32. Shares of U.S. Energy Production[a] and Refinery Capacity for FRS Companies, 1985-2007



[a]Oil and natural gas production for the FRS companies includes only the production that is owned by the FRS companies; it does not include any interests not owned by the FRS companies (e.g., royalty interests owned by others). Total production for the United States includes the interests of all owners.

Note: The FRS companies last produced uranium in 1991 and coal production data were last collected in 2005. A change in the FRS criteria brought several additional refiners into the survey in 1998.

Sources: Detailed Statistical Table TS6; Total industry uranium oxide production is from Energy Information Administration, *Uranium Industry Annual 1992,* DOE/EIA-0478(92) (Washington, DC, October 1993).

About *Performance Profiles*

The Energy Information Administration (EIA)'s *Performance Profiles of Major Energy Producers* is a comprehensive annual financial review and analysis of the domestic and worldwide activities and operations of the major U.S.-based energy-producing companies. *Performance Profiles* primarily examines companies' operations on a consolidated corporate level, by individual lines of business, by major functions within each line of business, and by geographic regions. The review focuses on annual aggregate changes in profits, cash flow, and investment in the United States and international energy industry resulting from major energy companies' current operations. *Performance Profiles* also explores changes in the majors' exploration and development expenditures and their success in finding and developing oil and natural gas reserves. The analysis in this report is based on detailed financial and operating data submitted each year to the EIA on Form EIA-28, the Financial Reporting System (FRS). The FRS companies derive the bulk of their revenues and income from petroleum operations, which includes natural gas production. EIA supplements the FRS data with additional information from the companies' annual reports and press releases, disclosures to the U.S. Securities and Exchange Commission, news reports and articles, and complementary energy industry data.

Lines of Business. The FRS collects financial and operating information for the combined corporate entity and by lines of business within the company. The lines of business consist of petroleum, downstream natural gas (including natural gas liquid processing and natural gas pipelines), electric power, nonenergy, and other energy (including coal, nuclear, renewable fuels, and nonconventional fuels). The petroleum line of business is further segmented into production (including oil and natural gas exploration, development, and production), refining/marketing, crude and petroleum product pipelines (for domestic petroleum), and international marine transport (for foreign petroleum).

Authorities. The information in *Performance Profiles* responds to the requirements of the FRS, found in Public Law (P.L.) 95-91, the Department of Energy Organization Act of 1977. The EIA is required to submit an annual data and analysis report on the FRS information to the Congress. The EIA considers the U.S.-based energy companies that respond to FRS Form EIA-28 to be U.S. majors. Per the requirements of P.L. 95-91, the EIA Administrator designates major energy-producing companies, selecting them from publicly available data, as respondents to the FRS. Currently, the EIA Administrator uses the following selection criteria: U.S.-based publicly owned companies or U.S.-based subsidiaries of publicly owned foreign companies that have at least 1 percent of either production or reserves of oil (crude oil and natural gas liquids) or natural gas in the United States, or 1 percent of either refining capacity or petroleum product sales in the United States.

Uniqueness. Because the EIA collects Form EIA-28 data on a uniform, segmented basis, the comparability of information across energy lines of business is unique to the FRS. For example, the FRS enables comparison of petroleum activities of the major U.S. energy companies (and financial returns attributable to these activities) to activities in other lines of energy business (e.g., coal and alternative energy, downstream natural gas, and electric power) or nonenergy areas (such as chemicals). Similarly, the FRS enables comparison of financial returns and operating results from domestic activities to results from foreign activities and operations. FRS respondents are also required to report upstream expenditures and data on reserves and production by specified world regions. This information often is not available in company annual reports.

Related EIA Reports. Other energy financial analysis reports are listed at http://www.eia.doe.gov/emeu/finance/pubs.html. Previously, *Performance Profiles* included a separate chapter on foreign investment trends and transactions in U.S. energy resources, assets, and companies. However, EIA now publishes this report, *Foreign Direct Investment in U.S. Energy*, separately. The report assesses the degree of foreign ownership of energy assets in the United States, as required under Section 657, Subpart 8, of P.L. 95-91. This act requires an annual report to Congress that presents "a summary of activities in the United States by companies which are foreign owned or controlled and which own or control United States energy sources and supplies."

Additional Information. Also, see *About the FRS Survey* for information concerning the format of Form EIA-28, important financial reporting concepts and accounting principles, and other information about the FRS. For a glossary of terms and definitions used in this report, see http://www.eia.doe.gov/emeu/perfpro/glossary.html. The FRS web site (http://www.eia.doe.gov/emeu/finance) provides information about P.L. 95-91 and Form EIA-28 and access to other related financial information.

Data File Information. Historical FRS data are available from EIA's File Transfer Protocol (FTP) site. These data, which cover the years 1977 through 2007, are published in EIA's annual editions of *Performance Profiles of Major Energy Producers*. The two types of data are 1) aggregate data from the FRS survey form and 2) multiyear tables (formerly known as Appendix B of *Performance Profiles of Major Energy Producers*). FRS 1977–2007 data files can be downloaded from the EIA FTP site by accessing the following EIA web site: http://www.eia.doe.gov/emeu/finance/page2.html. For further assistance, please contact the National Energy Information Center by telephone at 202-586-8800, by fax at 202-586-0727, by TTY at 202-586-1181, or by e-mail at infoctr@eia.doe.gov. For further information on FRS data, please contact Greg Filas by telephone at 202-586-1347, by fax at 202-586-9753, or by e-mail at greg.filas@eia.doe.gov.

About the Financial Reporting System (FRS) Survey

Authorities. The Financial Reporting System (FRS) was established in 1977 under Section 205 (h) of the Department of Energy Organization Act (Public Law [P.L.] 91-95). This statute requires the Energy Information Administration (EIA) to "identify and designate major energy-producing companies" and to develop and implement a data reporting program for energy financial and operating information from these companies.

Financial and Operating Information. The FRS is designed to permit review of the functional performance of the major U.S. energy-producing companies in total, as well as by specific functions and geographic areas of operation. The financial reporting schedules obtain data on revenues, costs, and profits, thereby indicating financial flows and performance characteristics. In addition, Form EIA-28 collects balance sheet data (e.g., accumulated property, plant, and equipment), along with data on new investment in these accounts. To complement the financial data, the FRS includes a series of statistical schedules to trace physical activity patterns and to evaluate several physical and financial relationships.

Confidentiality. The EIA collects the information in accordance with the confidential information protection provisions of Title 5, Subtitle A, P.L. 107-347 and other applicable Federal laws and uses it for statistical purposes only. EIA keeps survey responses confidential and does not disclose the responses in identifiable form to anyone other than employees or agents without consent of the company. However, the EIA selects names of the companies based on publicly available information, which is not confidential and is publicly released.

Uniform Basis. The legislation establishing the FRS requires the reporting of individual company financial and operating data to be on a "uniform and standardized basis" so that the data can be aggregated and comparisons can be made across companies and groups of companies. The data permit the EIA to do the following:

- Develop a "statistically accurate profile of each line of commerce in the energy industry in the United States"
- Evaluate "company revenues, profits, cash flow, and investments in total"
- Analyze "the competitive structure of sectors and functional groupings within the energy industry"
- Segregate and describe company financial and operating data "by energy source and geographic area"
- Determine the costs associated with segmental energy functions such as "exploration, development, production, processing, transportation, and marketing"

Accounting Information. The legislation also required the EIA to consult with the U.S. Securities and Exchange Commission in an effort to be consistent with other Federal financial accounting practices. Accordingly, the FRS reporting form (Form EIA-28) necessarily incorporates a number of specific energy financial accounting principles and conventions. Details on these financial accounting concepts and principles are available on EIA's web site at: www.eia.doe.gov/emeu/perfpro/appenda.html. More information is available as follows:

- Survey Format (see http://www.eia.doe.gov/emeu/perfpro/appenda.html#rptfrmt)
- Petroleum Segment Overview (see http://www.eia.doe.gov/emeu/perfpro/appenda.html#petovw)
- Selection of Reporting Companies (see http://www.eia.doe.gov/emeu/perfpro/appenda.html#criteria)
- Financial Analysis Guide (see http://www.eia.doe.gov/emeu/perfpro/appenda.html#faguide)
- Accounting Practices (see http://www.eia.doe.gov/emeu/perfpro/appenda.html#acctpr).

Form EIA-28. The reporting companies submit annual data to EIA on Form EIA-28. The FRS Form EIA-28 is available in Portable Document Format (PDF) file (www.eia.doe.gov/emeu/perfpro/form/eia28_2007.pdf) and as an Excel spreadsheet (ftp.eia.doe.gov/pub/energy.overview/frs/eia28_2007.xls). The 39-page form comprises 22 schedules. In addition, those companies that publicly disclose Financial Accounting Standard (FAS) 69 supplementary oil and gas information for the total of their equity investments' upstream expenditures, drilling activities, reserves, and production, are required to report this information on a subset of Form EIA-28 by the geographical regions of Schedules 5211, 5241, and 5246. The equity affiliate reporting form, Form EIA-28EA (in PDF, 470 KB) comprises four schedules and is 10 pages long.

The survey form's filing instructions are available for viewing as a PDF file at: www.eia.doe.gov/emeu/perfpro/form/eia28_instructions_2007.pdf. FRS survey data are available in Excel spreadsheets for viewing online or downloading to a personal computer.

Following is a breakdown of the form by schedule:

Consolidated Company Operations

Schedule 5100 - Classification Information
Schedule 5110 - Consolidating Statement of Income
Schedule 5111 - Research & Development Funding & Expenditures
Schedule 5112 - Analysis of Income Taxes
Schedule 5120 - Selected Consolidated Data (Balance Sheet)
Schedule 5131 - Consolidated Statement of Cash Flows
Schedule 5150 - Eliminations in Consolidation

Petroleum Operations

Schedule 5210 - Statement of Income
Schedule 5211 - Refining, Exploration & Production Operations
Schedule 5212 - Purchases & Sales of Raw Materials & Refined Products
Schedule 5241 - Exploration, Development, & Production Statistics
Schedule 5242 - Refining Statistics
Schedule 5245 - Sources & Dispositions of Crude & NGL's
Schedule 5246 - Proved Petroleum Reserves
Schedule 5250 - Eliminations in Consolidation

Downstream Natural Gas Operations

Schedule 5710 - Statement of Income
Schedule 5711 - General Operating Expense Detail
Schedule 5712 - Purchases & Sales of Natural Gas and NGLs
Schedule 5741 - Output Statistics

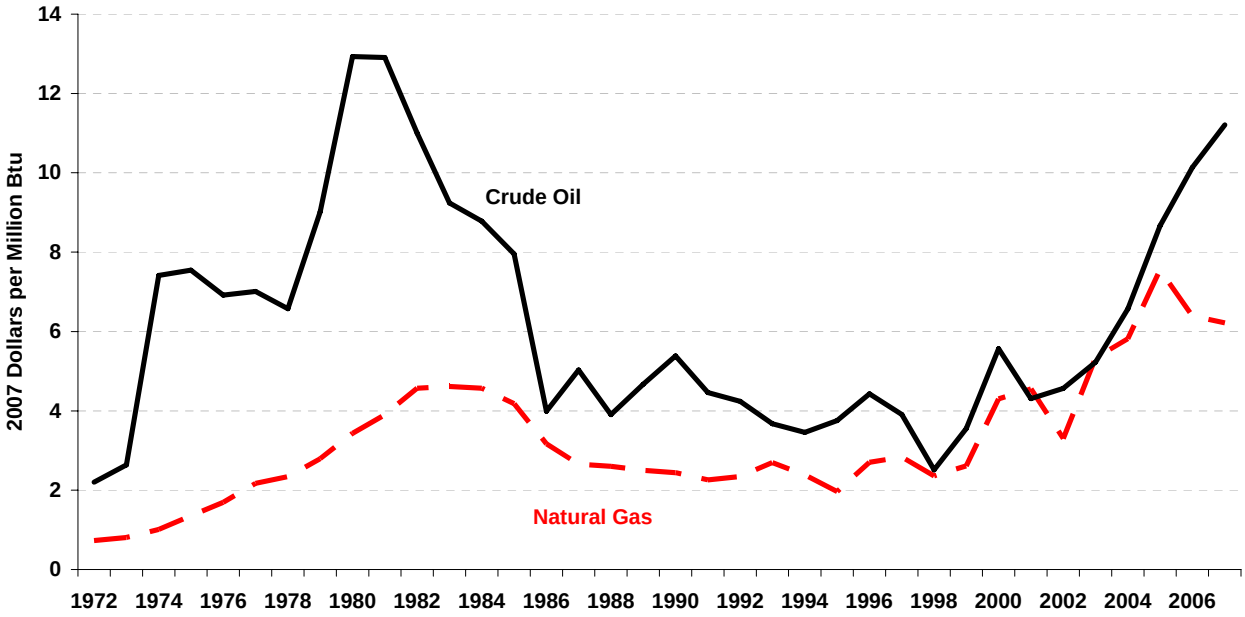
Electric Power Operations

Schedule 5810 - Statement of Income
Schedule 5811 - General Operating Expense Detail
Schedule 5812 - Purchases & Sales of Fuels and Electric Power
Schedule 5841 - Capacity & Output Statistics

Overview of 2007 Petroleum and Natural Gas Markets

The Financial Reporting System (FRS) companies' financial results for 2007 were driven by the same factors as in 2006: substantially higher prices for crude oil and petroleum products, tempered by a decline in the price of natural gas. Crude oil prices (imported refiner acquisition cost) increased 11 percent from 2006 (in constant 2007 dollars),[91] to $67.04 per barrel, the highest level since 1981.[92] Natural gas wellhead prices decreased 3 percent to $6.39 per thousand cubic feet (mcf) in 2007.[93] Together, these changes increased the difference between crude oil and natural gas prices on a million British thermal unit (Btu) basis to nearly $5, the largest gap since 1982. A gap of under $2 had been the norm from 1992 through 2005 (**Figure 33**).

Figure 33. Imported Refiner Acquisition Cost of Crude Oil and Natural Gas Wellhead Prices, 1972-2007



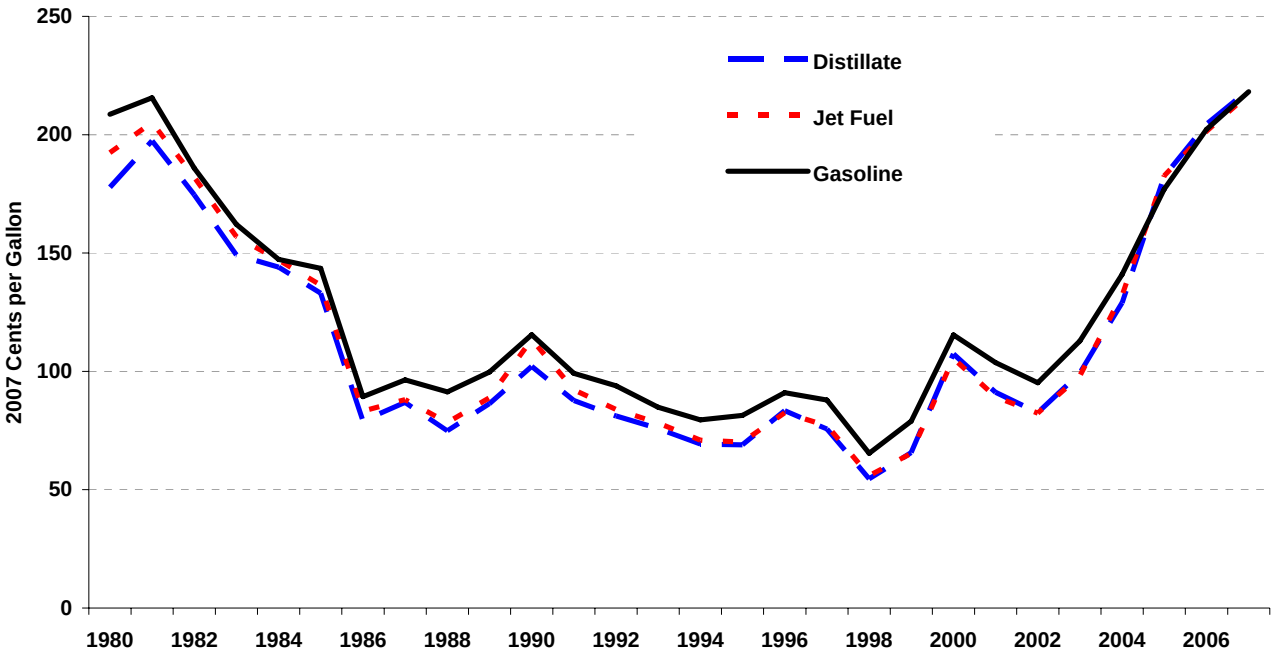
Source: Crude Oil Price: Energy Information Administration, *Monthly Energy Review*, DOE-EIA-0035 (2008/09) (Washington, DC, September 2008), Table 9.1; Natural Gas Price: Energy Information Administration, *Monthly Energy Review*, DOE/EIA-0035 (2008/09) (Washington, DC, September 2008), Table 9.11; Heat Content Factors: Energy Information Administration, *Monthly Energy Review*, DOE/EIA-0035 (2008/09) (Washington, DC, September 2008), Tables A2 and A4.

Gross refining margins in 2007 increased slightly for gasoline and jet fuel, but dropped slightly for distillate, as petroleum product prices generally rose slightly more than the increase in crude oil prices. Gasoline, jet fuel, and distillate prices each increased between 7 and 8 percent in 2007, to the highest levels the Energy Information Administration (EIA) has ever reported (**Figure 34**). Gasoline, distillate, and jet fuel prices remained tightly bunched, between $2.17 and $2.19 per gallon in 2007.

World oil demand increased 0.9 million barrels per day (mmbd) (1.0 percent) from the 2006 level to 85.8 mmbd in 2007 (**Table 21**). The rate of increase has dropped each of the last 3 years (**Figure 35**). Supply, which includes the production of crude oil, natural gas liquids (NGLs) and other liquids, and refinery processing gain, was 84.4 mmbd in 2007. Supply was nearly unchanged from 2006 and remained lower than demand, resulting in a bigger

[91] Unless otherwise indicated, all dollar values and percentage changes in this report are based in constant 2007 dollars, adjusted using the gross domestic product implicit price deflator.
[92] Energy Information Administration, *Monthly Energy Review*, DOE/EIA-0035 (2008/09) (Washington, DC, September 2008), Table 9.1.
[93] Energy Information Administration, *Monthly Energy Review*, DOE-EIA-0035 (2008/09) (Washington, DC, September 2008), Table 9.11.

Figure 34. Refiner Prices of Petroleum Products for Resale, 1980-2007



Source: Energy Information Administration, Refiner Petroleum Product Prices by Sales Type, available at http://tonto.eia.doe.gov/dnav/pet/xls/pet_pri_refoth_dcu_nus_a.xls (as of October 13, 2008).

Table 21. World Petroleum Balance, 2006-2007
(Million Barrels per Day)

	Quarterly 2007				Annual	
	Q1	Q2	Q3	Q4	2006	2007
Demand	85.8	84.9	85.6	86.9	84.9	85.8
Supply	83.9	84.2	84.2	85.3	84.5	84.4
Supply from Inventories	1.9	0.7	1.3	1.7	0.4	1.4

Note: Supply from Inventories includes statistical discrepancy.
Source: Energy Information Administration, *International Petroleum Monthly* (September 2008), Table 2.1.

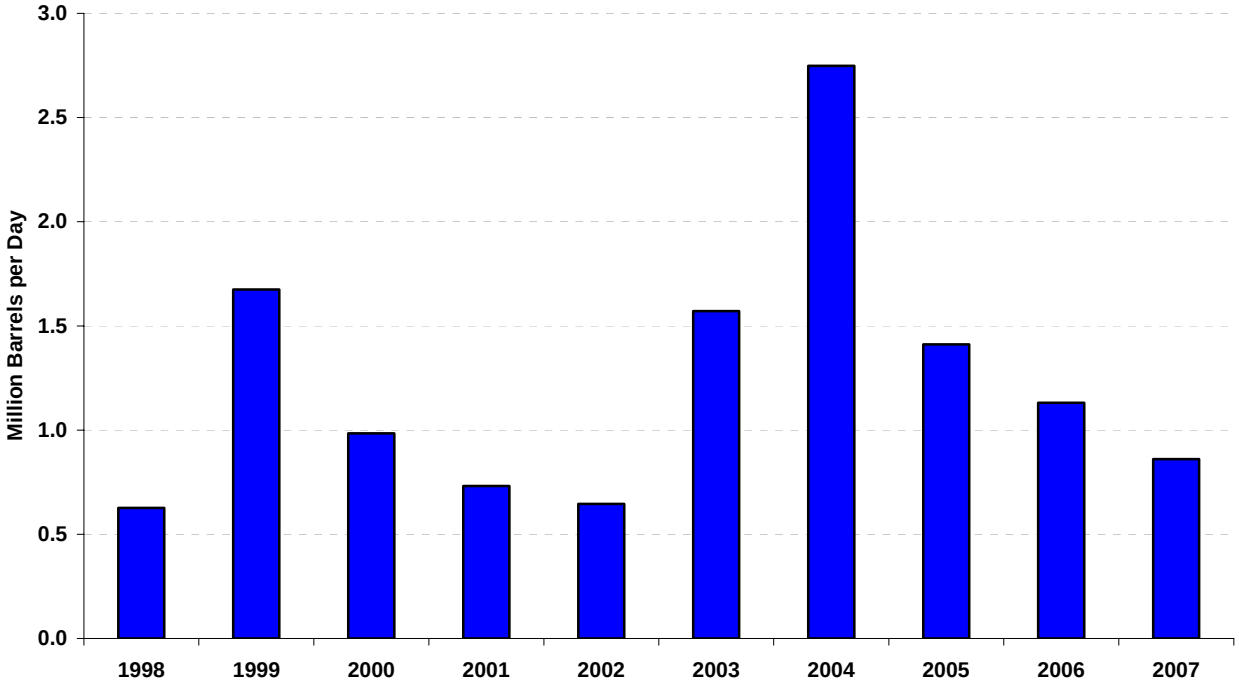
decrease in petroleum inventories of 1.4 mmbd in 2007. Worldwide reserve additions replaced 95 percent of crude oil and NGL production in 2007. The reserve replacement rate for non-Organization of the Petroleum Exporting Countries was 93 percent.[94]

Petroleum product demand (represented by petroleum product supplied) in the United States remained level in 2007 at 20.7 mmbd (**Table 22**). This steady demand follows the previous year's decline of 0.6 percent, the first decline since 2001. Small increases in gasoline, distillate, and residual fuel consumption in 2007 were offset by decreases in jet fuel and other petroleum products (**Figure 36**).

Domestic crude oil production fell 38,000 barrels per day (0.7 percent) in 2007 from 2006, while NGL production grew 44,000 barrels per day (2.5 percent). Net imports of petroleum decreased by 355,000 barrels per day (2.9 percent) in 2007. The balance of demand was met by 341,000 barrels per day from petroleum product inventories and other inputs.

[94] Calculated from reserves and production data in BP plc, *BP Statistical Review of World Energy* (June 2008), pp. 6, 8.

Figure 35. World Oil Consumption, Change from Previous Year, 1998-2007



Source: Energy Information Administration, *International Petroleum Monthly* , September 2008, Table 4.6, available at http://www.eia.doe.gov/ipm/ (as of October 13, 2008).

Table 22. U.S. Petroleum Balance, 2006-2007
(Million Barrels per Day)

	Quarterly 2007				Annual	
	Q1	Q2	Q3	Q4	2006	2007
Demand	20.8	20.6	20.7	20.6	20.7	20.7
Crude Oil Production	5.1	5.2	4.9	5.0	5.1	5.1
NGL Production	1.7	1.8	1.8	1.9	1.7	1.8
Other Inputs	1.5	1.8	1.6	1.7	1.5	1.6
Net Imports	12.0	12.5	12.2	11.5	12.4	12.0
Supply from Inventories	0.5	-0.6	0.1	0.6	-0.1	0.1

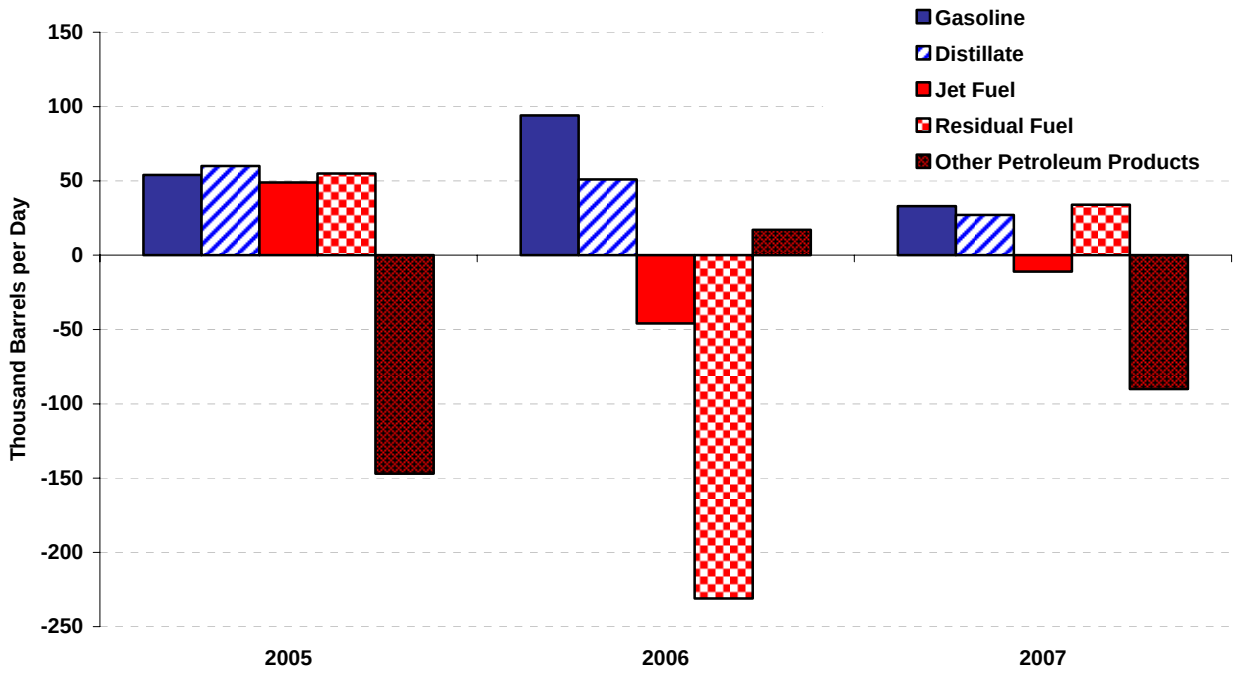
Note: Other Inputs includes adjustments and refinery processing gain.
Source: Calculated from Energy Information Administration, *Monthly Energy Review* , DOE-EIA-0035 (2008/09) (Washington, DC, September 2008), Tables 3.1 and 3.2.

Crude oil and NGL reserve additions in the United States in 2007 exceeded production for the year; the combined reserve replacement rate for crude oil and NGLs was 140 percent.[95]

U.S. refineries increased output in 2007 by 19,000 barrels per day (0.1 percent) from 2006.[96] That increase in output, combined with level petroleum product demand, led to the 2.9-percent drop in net imports of petroleum previously mentioned.

[95] Reserve additions include revisions and adjustments, net sales and acquisitions, and total discoveries. Energy Information Administration, *Advance Summary: U.S. Crude Oil, Natural Gas, and Natural Gas Liquids Reserves 2007 Annual Report* (October 2008), Table 1.
[96] Calculated from Energy Information Administration, U.S. Refinery and Blender Net Production Data, available at http://tonto.eia.doe.gov/dnav/pet/xls/pet_pnp_refp_dc_nus_mbblpd_a.xls (as of October 17, 2008).

Figure 36. U. S. Petroleum Product Consumption, Change from Previous Year, 2005-2007



Source: Calculated from Energy Information Administration, Petroleum Product Supplied Data, available at http://tonto.eia.doe.gov/dnav/pet/xls/pet_cons_psup_dc_nus_mbblpd_a.xls (as of October 13, 2008).

Table 23. U.S. Natural Gas Balance, 2006-2007
(Trillion Cubic Feet)

	Quarterly 2007				Annual	
	Q1	Q2	Q3	Q4	2006	2007
Demand	7.1	4.9	5.2	5.9	21.7	23.1
Natural Gas Production	4.6	4.8	4.9	5.0	18.5	19.3
Other Inputs	0.1	0.1	0.0	-0.4	0.2	-0.2
Net Imports	1.0	1.0	1.0	0.8	3.5	3.8
Supply from Inventories	1.5	-1.0	-0.7	0.4	-0.4	0.2

Note: Other Inputs includes supplemental gaseous fuels and the balancing item.
Source: Energy Information Administration, *Monthly Energy Review*, DOE-EIA-0035 (2008/09) (Washington, DC, September 2008), Table 4.1.

Natural gas demand in the United States increased 6.5 percent in 2007 to 23.1 trillion cubic feet (**Table 23**). Domestic natural gas production increased 4.3 percent in 2007 over 2006 production. The jump in natural gas demand caused natural gas imports to increase by 9.3 percent, nearly bringing supply and demand into balance for the year. U.S. natural gas reserve additions more than doubled production for 2007, with a reserve replacement rate for natural gas of 237 percent.[97]

[97] Reserve additions include revisions and adjustments, net sales and acquisitions, and total discoveries. Energy Information Administration, *Advance Summary: U.S. Crude Oil, Natural Gas, and Natural Gas Liquids Reserves 2007 Annual Report* (October 2008), Table 1.

Acronyms

API	American Petroleum Institute
boe	barrels of oil equivalent
Btu	British thermal unit
DD&A	depreciation, depletion, and amortization
DOE	U.S. Department of Energy
E&P	exploration and production
EIA	Energy Information Administration
FAS	Financial Accounting Standard
FRS	Financial Reporting System
FTP	File Transfer Protocol
GDP	gross domestic product
LNG	liquefied natural gas
mcf	thousand cubic feet
mmbd	million barrels per day
mmcf	million cubic feet
MTBE	methyl tertiary butyl ether
NGL	natural gas liquids
OECD	Organization for Economic Cooperation and Development
OPEC	Organization of the Petroleum Exporting Countries
P.L.	Public Law
PP&E	property, plant, and equipment
ROE	return on equity
ROI	return on net investment in place

Brief Description of Financial Terms

For additional information, see the Glossary beginning on page 39 of the Form EIA-28 instructions, available at http://www.eia.doe.gov/emeu/perfpro/form/eia28_instructions_2007.pdf.

Additions to Investment in Place: See Capital Expenditure.

Capital Expenditure: Also referred to as Additions to Investment in Place. Funds (including cash) used by a company to acquire or upgrade physical assets such as property, industrial buildings, or equipment that are expected to provide benefits for more than just the current year. Additions to property, plant and equipment as well as additions to investments and advances to unconsolidated affiliates are classified as capital expenditures.

Cash Flow From Operations: The amount of cash a company generates from operations, defined as net income after taxes plus depreciation and other noncash expenses.

Current Expenditure: An expenditures that is expected to provide benefit only in the current year and is classified as an expense in the income statement.

Development Expenditures: Costs of developmental wells, facilities and support equipment used to access and prepare oil and gas deposits for production.

Exploration Expenditures: Costs of locating oil and gas deposits, including the costs of retaining and carrying undeveloped property, geological and geophysical costs, and the costs of drilling and equipping exploratory wells.

Extensions and Discoveries: Reserve additions (see below) that result from the extension of previously discovered reservoirs or the discovery of new fields or reservoirs.

Finding Costs: The per-barrel costs of adding oil or gas proved reserves.

Gross Refining Margin: The difference between the revenue from the sale of petroleum products (e.g., motor gasoline) and the cost of the raw materials (e.g., crude oil) used to produce the products.

Improved Recovery: Reserve additions (see below) resulting from the application of improved recovery techniques.

Lifting (Production) Costs: See Production Costs.

Lines of Business: The FRS lines of business consist of petroleum, downstream natural gas (including NGL processing and natural gas pipelines), electric power, nonenergy, and other energy (including coal, nuclear, renewable fuels, and nonconventional fuels). The petroleum line of business is further segmented into production (including oil and natural gas exploration, development, and production), refining/marketing, crude and petroleum product pipelines (for domestic petroleum), and international marine transport (for foreign petroleum).

Net Income: A company's total earnings, or profit. Net income is calculated by taking revenues less the cost of doing business, depreciation, interest, taxes and other expenses. This number is an important measure of how profitable the company is over a period of time.[98]

Net Investment In Place: The value of property, plant, and equipment net of depreciation, plus investments and advances to unconsolidated affiliates.

Net Refining Margin: The difference between the gross refining margin and the costs of producing and selling the petroleum products (e.g., refining energy costs and selling costs).

Production (Lifting) Costs: The per-barrel costs associated with the extraction of a mineral reserve from a producing property.

Production Expenditures: The costs of extracting oil and gas from oil and gas deposits.

Profitability: The measure of a company's or an industry's net income relative to the equity or capital provided by its investors. Profitability for the consolidated FRS companies can be measured by return on equity (ROE). Because stockholders' equity is a corporate concept, the lines of business within the company use return on investment (ROI) as a measure of profitability. Net investment in place consists of the value of property, plant, and equipment net of depreciation, plus investments and advances to unconsolidated affiliates.

Return on Equity (ROE): Net income as a percentage of shareholders' equity. ROE measures performance (i.e, net income) relative to the value of stockholders' equity (retained earnings plus other equity) in the company.

Return on Investment (ROI): Net income divided by net investment in place for that segment. ROI measures performance relative to the value of investments by the company in property, plant and equipment (PP&E) (long-term capital assets) for a particular business segment or project.

Regions: The FRS regions consist of U.S. Onshore, U.S. Offshore, Canada, Europe, Former Soviet Union, Africa, Middle East, Other Eastern Hemisphere (primarily Asia Pacific), and Other Western Hemisphere (primarily South America).

Reserve Additions: The quantity of oil and gas reserves added each year as a result of exploration and development activities. Reserve additions are reported in three categories: reserve revisions, improved recovery, and extensions and discoveries.

Reserve Revisions: Changes (upward or downward) made to previous estimates as a result of new information obtained from development drilling and production history or from changes in economic factors.

Reserve Replacement Ratio: The amount of oil and gas reserves added in a year divided by the amount of oil and gas produced during that same year.

Reserves-to-Production Ratio: The number of years that oil and gas reserves would last at the current production rate.

Unusual Items: Accounting changes, asset dispositions and write-downs, tax adjustments, and related items that affect net income but are not part of normal operations.

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[98] See the dictionary on Investopedia.com for additional information. Investopedia.com can be found at http://www.investopedia.com (as of October 6, 2008).

Detailed Statistical Tables

Time Series Tables

Table T1. Consolidated Balance Sheet for FRS Companies, 2001-2007
(Billion 2007 Dollars)

Balance Sheet Items	2001	2002	2003	2004	2005	2006	2007
Assets							
Current Assets:							
Cash & Marketable Securities	21.8	22.4	30.4	60.8	74.0	64.6	61.6
Trade Accounts & Notes Receivable	61.1	90.5	95.6	122.7	130.3	131.0	146.8
Inventories:							
Raw Materials & Products	27.4	26.7	30.1	32.3	35.4	39.3	39.6
Materials & Supplies	8.5	8.7	6.4	6.8	7.3	8.3	8.5
Other Current Assets	31.3	31.5	23.2	27.6	67.7	56.4	46.4
Total Current Assets	172.5	179.8	185.7	250.2	314.8	299.6	302.8
Non-current Assets:							
Property, Plant & Equipment (PP&E)							
Gross PP&E	943.0	950.2	975.5	1,047.5	1,062.6	1,148.8	1,211.7
Depletion, and Amortization	-437.1	-436.6	-446.2	-486.8	-477.6	-481.9	-514.6
Net PP&E	505.9	513.6	529.4	560.7	585.0	666.9	697.0
Investments & Advances to Unconsolidated Affiliates	67.0	62.0	61.3	71.6	79.3	87.1	103.1
Other Non-current Assets	114.5	133.0	111.4	122.7	131.6	138.3	137.3
Total Non-current Assets	687.5	708.6	702.2	755.0	796.0	892.3	937.5
Total Assets	860.0	888.4	887.8	1,005.2	1,110.7	1,191.9	1,240.3
Liabilities & Stockholders' Equity							
Liabilities							
Current Liabilities							
Trade Accounts & Notes Payable	106.0	105.6	99.4	122.2	142.8	152.0	167.4
Other Current Liabilities	80.9	74.6	70.4	86.6	128.4	126.4	105.5
Long-Term Debt	154.5	177.1	167.7	182.0	167.5	173.9	175.3
Deferred Income Tax Credits	90.1	87.5	93.6	103.1	107.5	125.1	122.8
Other Deferred Credits	27.3	32.1	32.1	33.7	35.8	33.4	35.4
Other Long-Term Items	51.1	60.0	55.9	62.0	69.7	71.9	82.8
Minority Interest in Consolidated Affiliates	18.2	12.6	11.7	13.4	10.3	11.0	11.5
Total Liabilities	528.1	549.4	530.8	603.0	662.1	693.8	700.6
Stockholders' Equity:							
Retained Earnings	245.4	237.0	246.2	287.8	354.8	425.3	510.2
Other Equity	86.6	102.0	110.8	114.3	93.8	72.7	29.5
Total Stockholders' Equity	331.9	339.0	357.0	402.1	448.6	498.1	539.7
Total Liabilities & Stockholders' Equity	860.0	888.4	887.8	1,005.2	1,110.7	1,191.9	1,240.3
Memo:							
Foreign Currency Translation Adjustment Cumulative at Year End	-5.9	-2.3	3.1	8.7	5.3	7.5	16.7
Foreign Currency Translation Adjustment for the Current Year	-1.2	3.6	8.1	4.7	-3.2	3.9	8.3

Source: Energy Information Administration, Form EIA-28 (Financial Reporting System).

Table T2. Research and Development Expenditures for FRS Companies, 2001-2007
(Million 2007 Dollars)

	2001	2002	2003	2004	2005	2006	2007
Sources of R&D Funds							
Federal Government	W	W	W	13	W	W	W
Internal Company	1,804	2,003	1,715	1,650	1,822	2,112	2,544
Other Sources	W	W	W	27	W	W	W
Total Sources	1,837	2,016	1,727	1,691	1,849	2,220	2,623
Breakdown of R&D Expenditures							
Oil & Natural Gas Recovery	693	534	417	555	654	815	972
Gas to Liquids	0	0	59	42	90	W	49
Other Petroleum	440	754	402	292	337	399	554
Coal Gasification/Liquefaction	W	W	W	W	W	W	W
Other Coal	0	W	0	0	0	0	0
Downstream Natural Gas	NA	NA	8	0	0	W	0
Wind Generation	NA	NA	0	0	0	0	W
Solar Generation	NA	NA	5	W	W	W	W
Distributed Generation	NA	NA	0	0	0	0	0
Fuel Cells	NA	NA	8	11	W	W	W
Other Nonconventional Energy	W	W	61	124	211	407	410
Nonenergy	615	595	761	663	534	511	560
Unassigned	W	W	W	W	W	W	W
Total Expenditures	1,837	2,016	1,727	1,691	1,849	2,220	2,623

NA = Data not available prior to 2003.
W = Data withheld to avoid disclosure.
Source: Energy Information Administration, Form EIA-28 (Financial Reporting System).

Table T3. Consolidated Statement of Cash Flows for FRS Companies, 2001-2007
(Million 2007 Dollars)

Cash Flows [1]	2001	2002	2003	2004	2005	2006	2007
Cash Flows From Operations							
Net Income	44,153	23,681	64,665	88,757	126,371	134,910	124,770
Minority Interest in Income	2,541	1,228	1,936	2,304	2,954	2,197	2,250
Noncash Items:							
Depreciation, Depletion, & Allowance	54,265	52,358	49,381	51,642	52,081	58,158	63,764
Dry Hole Expense, This Year	2,743	2,214	1,878	2,136	1,862	3,273	2,531
Deferred Income Taxes	3,680	-164	6,793	4,377	4,470	9,133	1,832
Recognized Undistributed (Earnings)/Losses of Unconsolidated Affiliates	-372	1,316	-1,609	-4,984	-5,707	-3,949	-5,601
(Gain)/Loss on Disposition of Property, Plant, & Equipment (PP&E)	-1,376	-1,580	-2,148	-1,948	-4,997	-5,653	-13,024
Changes in Operating Assets and Liabilities and Other Noncash Items	3,332	-731	-744	7,361	2,839	-9,201	6,230
Other Cash Items, Net	-4,084	7,874	-1,785	-952	194	10,638	8,225
Net Cash Flow From Operations	104,883	86,195	118,367	148,693	180,067	199,504	190,977
Cash Flows From Investing Activities							
Additions to PP&E:							
Due to Mergers and Acquisitions	-47,940	-39,301	-12,800	-11,079	-39,665	-81,864	-22,307
Other	-69,401	-65,746	-73,253	-76,365	-89,293	-107,460	-122,530
Total Additions to PP&E	-117,341	-105,047	-86,053	-87,445	-128,958	-189,323	-144,837
Additions to Investments and Advances	-11,801	-8,658	-3,988	-6,765	-12,152	-10,305	-19,742
Proceeds From Disposals of PP&E	8,990	17,464	18,143	21,553	38,021	42,760	33,364
Other Investment Activities, Net	9,836	34,008	5,148	4,807	24,513	-21,723	27,482
Cash Flow From Investing Activities	-110,317	-62,234	-66,750	-67,850	-78,575	-178,591	-103,733
Cash Flows From Financing Activities							
Proceeds From Long-Term Debt	64,340	39,208	29,673	20,285	31,415	84,065	72,787
Proceeds From Equity Security Offerings	7,333	5,610	9,455	8,895	11,095	23,215	2,101
Reductions in Long-Term Debt	-40,092	-32,043	-29,527	-20,154	-35,287	-51,358	-63,207
Purchase of Treasury Stock	-8,745	-5,382	-6,823	-15,336	-33,708	-42,845	-54,141
Dividends to Shareholders	-20,046	-20,406	-48,203	-39,998	-42,113	-39,556	-33,325
Other Financing Activities, Including Net Change in Short-Term Debt	4,502	-8,122	2,811	-12,273	-16,671	-2,670	-9,000
Cash Flow From Financing Activities	7,292	-21,135	-42,614	-58,580	-85,268	-29,149	-84,785
Effect of Exchange Rate on Cash	-360	657	919	951	-947	1,020	2,550
Net Increase/(Decrease) in Cash and Cash Equivalents	1,498	3,483	9,921	23,214	15,277	-7,216	5,009

[1] Items that add to cash are positive, and items that use cash are shown as negative values.
Source: Energy Information Administration, Form EIA-28 (Financial Reporting System).

Table T4. Composition of Income Taxes for FRS Companies, 2001-2007
(Million 2007 Dollars)

	2001	2002	2003	2004	2005	2006	2007
Income Taxes (as per Financial Statements)							
Current Paid or Accrued:							
U.S. Federal, before Investment Tax Credit & Alternative Minimum Tax	10,311	449	8,463	17,674	26,296	25,888	24,692
U.S. Federal Investment Tax Credit	-288	-282	-266	-220	-342	-130	-50
Effect of Alternative Minimum Tax	-739	79	-372	-502	-323	-150	87
U.S. State & Local Income Taxes	1,248	550	1,232	2,246	3,676	3,196	3,010
Foreign Income Taxes							
Canada	1,333	1,421	1,764	2,606	3,634	3,194	3,045
Europe[1]	7,455	6,412	7,544	12,119	16,248	19,709	16,277
Former Soviet Union [2]	168	49	178	139	499	1,068	1,793
Africa	3,577	3,317	4,336	6,662	10,254	16,859	16,901
Middle East	2,266	2,016	2,382	2,927	4,136	6,236	8,753
Other Eastern Hemisphere	1,961	1,925	3,111	3,302	3,697	5,541	5,725
Other Western Hemisphere	813	769	1,269	2,048	3,159	2,265	2,126
Total Foreign	17,574	15,910	20,585	29,804	41,627	54,873	54,620
Total Current	28,105	16,706	29,643	49,002	70,934	83,676	82,359
Deferred							
U.S. Federal, before Investment Tax Credit	2,812	277	5,371	2,432	1,622	6,763	2,526
U.S. Federal Investment Tax Credit	-12	-21	-19	-19	-18	-14	1
Effect of Alternative Minimum Tax	761	-79	377	487	321	166	-45
U.S. State & Local Income Taxes	30	87	349	102	106	940	71
Foreign	663	-220	641	927	2,395	1,163	-411
Total Deferred	4,254	45	6,719	3,930	4,425	9,018	2,142
Total Income Tax Expense	32,360	16,751	36,362	52,931	75,359	92,695	84,501
Reconciliation of Accrued U.S. Federal Income Tax Expense To Statutory Rate							
Consolidated Pretax Income/(Loss)	79,854	41,597	100,805	141,169	199,207	225,310	207,444
Less: Foreign Source Income not Subject to U.S. Tax	10,435	10,138	20,064	31,344	40,747	30,280	27,173
Equals: Income Subject to U.S. Tax	69,419	31,458	80,741	109,825	158,460	195,030	180,271
Less: U.S. State & Local Income Taxes	1,047	397	1,075	2,290	3,799	4,087	2,888
Less: Applicable Foreign Income Taxes Deducted	96	290	355	361	607	1,662	1,182
Equals: Pretax Income Subject to U.S. Tax	68,276	30,772	79,311	107,174	154,054	189,281	176,201
Tax Provision Based on Previous Line	23,914	10,767	27,765	37,154	53,897	66,216	61,657
Increase/(Decrease) in Taxes Due To:							
Foreign Tax Credits Recognized	-9,961	-8,375	-12,820	-16,031	-24,018	-31,846	-33,350
U.S. Federal Investment Tax Credit Recognized	-569	-282	-289	-262	-443	-345	-132
Statutory Depletion	-1	-3	-7	-7	-11	-10	-36
Effect of Alternative Minimum Tax	19	0	0	-14	0	5	25
Other	-681	-1,681	-1,084	-983	-1,860	-1,499	-953
Actual U.S. Federal Tax Provision (Refund)	12,721	426	13,564	19,857	27,564	32,520	27,211

[1] Prior to 2006, this region comprised of European member countries of the OECD.

[2] Prior to 2006, this region comprised of the Former Soviet Union and East Europe.

Source: Energy Information Administration, Form EIA-28 (Financial Reporting System).

Table T5. U.S. Taxes Other Than Income Taxes for FRS Companies, 2001-2007
(Million 2007 Dollars)

	2001	2002	2003	2004	2005	2006	2007
Production Taxes							
Oil and Natural Gas Production	2,932	2,515	3,521	3,858	5,174	5,770	7,319
Other Energy	W	40	W	37	35	W	W
Other [1]	W	0	W	0	0	W	W
Total Production Taxes	2,974	2,555	3,552	3,896	5,209	5,798	7,344
Superfund	W	W	W	W	W	W	W
Import Duties	W	W	W	W	W	W	W
Sales, Use, and Property	2,777	2,714	2,278	2,651	2,898	3,186	3,083
Payroll	1,396	1,289	1,277	1,300	1,394	1,465	1,428
Other Taxes	639	435	454	673	576	674	374
Total Taxes Paid (Other Than Income Taxes)	7,886	7,079	7,673	8,611	10,154	11,249	12,411
Excise Taxes Collected	51,847	49,984	47,189	49,701	50,039	49,408	48,049

[1] Nonenergy, and beginning in 2003, Downstream Natural Gas.
W = Data withheld to avoid disclosure.
Source: Energy Information Administration, Form EIA-28 (Financial Reporting System).

Table T6. Selected U.S. Operating Statistics for FRS Companies and U.S. Industry, 2001-2007

Operating Statistics	2001	2002	2003	2004	2005	2006	2007
Petroleum and Natural Gas							
Net Production							
Crude Oil and Natural Gas Liquids				(million barrels)			
FRS Companies	1,363.2	1,346.4	1,277.8	1,207.8	1,120.8	1,076.7	1,040.2
U.S. Industry[1]	2,805.0	2,759.0	2,679.0	2,646.0	2,521.0	2,463.0	2,522.0
FRS as a Percent of U.S. Industry[2]	48.6	48.8	47.7	45.6	44.5	43.7	41.2
Natural Gas				(billion cubic feet)			
FRS Companies	8,838.0	8,712.5	8,343.6	8,174.0	7,774.5	7,925.5	8,356.3
U.S. Industry[1]	19,779.0	19,353.0	19,425.0	19,168.0	18,458.0	18,545.0	19,466.0
FRS as a Percent of U.S. Industry[2]	44.7	45.0	43.0	42.6	42.1	42.7	42.9
Net Imports							
Crude Oil and Natural Gas Liquids				(million barrels)			
FRS Companies	716.1	630.5	737.8	918.4	732.5	657.7	589.6
U.S. Industry[1]	3,620.1	3,523.2	3,539.0	3,909.7	3,988.7	3,985.3	3,843.2
FRS as a Percent of U.S. Industry	19.8	17.9	20.8	23.5	18.4	16.5	15.3
Refinery Capacity				(thousand barrels per day)			
FRS Companies	15,153.0	14,198.0	14,279.0	14,409.0	14,532.0	14,652.0	14,101.0
U.S. Industry[1]	17,367.4	17,338.9	17,500.0	17,729.0	17,912.0	18,021.0	18,171.0
FRS as a Percent of U.S. Industry	87.2	81.9	81.6	81.3	81.1	81.3	77.6
Refinery Output[3]				(thousand barrels per day)			
FRS Companies	14,936.0	14,676.0	14,587.0	15,082.0	15,039.0	14,726.0	14,168.0
U.S. Industry[1]	17,688.9	17,654.5	17,969.5	18,297.0	18,252.0	17,975.0	18,561.0
FRS as a Percent of U.S. Industry	84.4	83.1	81.2	82.4	82.4	81.9	76.3
Electric Power							
Net Summer Capacity				(million kilowatts)			
FRS Companies	NA	NA	NA	33.7	34.0	34.4	9.3
U.S. Industry	848.3	905.3	948.4	962.9	978.0	986.2	998.8
FRS as a Percent of U.S. Industry	NA	NA	NA	3.5	3.5	3.5	0.9
Net Generation				(billion kilowatthours)			
FRS Companies	NA	NA	NA	112.4	121.6	119.9	19.5
U.S. Industry	3,736.6	3,858.5	3,883.2	3,970.6	4,055.4	4,064.7	4,159.5
FRS as a Percent of U.S. Industry	NA	NA	NA	2.8	3.0	2.9	0.5

[1] U.S. area is defined to include the 50 States, District of Columbia, U.S. Virgin Islands, and Puerto Rico.

[2] FRS companies' production does not include royalty interest production. Total U.S. production includes the royalty interest portion of the FRS companies' production. Therefore, the data presented in this table for the FRS companies and for total industry are not directly comparable. However, an estimate can be made by multiplying the FRS companies' data by 7/6 to account for the royalty interest.

[3] For FRS companies, includes refinery output at own refineries for own account and at others' refineries for own account.

NA = Not available.

Note: The data for total U.S. production of crude oil and natural gas liquids and natural gas (dry) utilized in this report are taken from Energy Information Administration, Form EIA-23 (Annual Survey of Domestic Oil and Gas Reserves); see U.S. Crude Oil, Natural Gas, and Natural Gas Liquids Reserves 2007 Annual Report December 2008). This source is utilized in order to preserve consistency between production reported in the context of oil and gas reserves and reserve additions and production reported elsewhere in this report. However, the official Energy Information Administration U.S. totals for crude oil and natural gas plant production are 2,499 million barrels in 2007 and 2,497 million barrels in 2006. (See Energy Information Administration, Petroleum Supply Annual 2006 and 2007 reports, Volume I (September 2007 and July 2008), table 1.) For dry natural gas production, the official Energy Information Administration U.S. totals are 19,278 billion cubic feet in 2007 and 18,476 billion cubic feet in 2006. (See Energy Information Administration, Natural Gas Monthly, October 2008, Table 1.)

Sources: Industry data - Petroleum net production: Energy Information Administration (EIA), Form EIA-23; see Advance Summary of the U.S. Crude Oil, Natural Gas, and Natural Gas Liquids Reserves, 2007 Annual Report (October 2008). Net imports: Energy Information Administration, Form EIA-814, Monthly Imports Report, and data compiled for the International Energy Agency by the Petroleum Supply Division, Office of Oil and Gas, EIA. Refinery capacity and refinery output: EIA, Forms EIA-820 (Annual Refinery Report) and EIA-810 (Monthly Refinery Report); see Petroleum Supply Annual, 2003 and 2004. Electric capacity and electric generation: EIA, Form EIA-860, Annual Electric Generator Reports; Form EIA-867, Annual Nonutility Power Producer Report; Form EIA-860A, Annual Electric Generator Report—Utility; Form EIA-860B, Annual Electric Generator Report—Nonutility; Form EIA-906 and Form EIA-759, Power Plant Reports; see FRS companies' data - Energy Information Administration, Form EIA-28 (Financial Reporting System).

Table T7. Oil and Natural Gas Exploration and Development Expenditures for FRS Companies, United States and Foreign, 2001-2007
(Million 2007 Dollars)

	2001	2002	2003	2004	2005	2006	2007
United States							
Exploration							
Acquisition of Unproved Acreage	4,127	2,623	1,564	2,819	3,980	18,935	7,580
Geological and Geophysical	887	944	742	940	1,044	1,195	1,355
Drilling and Equipping [1]	3,833	2,938	2,843	2,492	3,833	5,701	5,117
Other	901	957	792	953	1,082	1,134	1,263
Total Exploration	9,748	7,462	5,941	7,205	9,940	26,966	15,315
Development							
Acquisition of Proved Acreage	8,639	8,708	6,814	8,304	14,305	37,129	7,957
Lease Equipment	4,467	3,824	4,094	4,204	3,711	5,381	5,390
Drilling and Equipping [1]	13,656	12,318	11,915	14,089	19,045	26,475	29,904
Other [2]	3,107	4,272	1,860	1,678	2,380	3,373	5,869
Total Development	29,869	29,122	24,683	28,275	39,440	72,358	49,120
Total U.S. Exploration and Development	39,617	36,584	30,624	35,479	49,380	99,323	64,435
Foreign							
Exploration							
Acquisition of Unproved Acreage	5,495	2,976	1,516	668	5,438	4,693	947
Geological and Geophysical	1,203	1,080	975	1,056	1,047	1,299	1,278
Drilling and Equipping [1]	3,132	2,424	2,526	2,767	2,908	3,484	3,848
Other	1,341	994	1,069	958	1,328	1,320	1,424
Total Exploration	11,171	7,474	6,085	5,449	10,721	10,796	7,497
Development							
Acquisition of Proved Acreage	14,259	9,890	3,446	512	11,384	16,446	471
Lease Equipment	3,728	2,919	5,294	5,112	6,075	6,158	5,821
Drilling and Equipping [1]	8,261	9,246	11,027	12,344	14,299	16,610	14,112
Other [2]	4,639	6,549	5,912	4,303	7,614	10,756	14,797
Total Development	30,887	28,604	25,678	22,271	39,373	49,970	35,201
Total Foreign Exploration and Development	42,058	36,078	31,763	27,720	50,093	60,766	42,698

[1] Expenditure incurred in a given year not cumulative (includes work-in-progress adjustment).

[2] Includes support equipment.

Source: Energy Information Administration, Form EIA-28 (Financial Reporting System).

Table T8. Exploration and Development Expenditures by Region for FRS Companies, 2001-2007
(Million 2007 Dollars)

	2001	2002	2003	2004	2005	2006	2007
Exploration Expenditures							
U.S. Onshore	5,592	3,476	2,042	3,580	5,454	15,109	10,755
U.S. Offshore	4,156	3,986	3,899	3,624	4,486	11,857	4,560
Total United States	9,748	7,462	5,941	7,205	9,940	26,966	15,315
Canada	4,562	1,948	1,476	1,437	1,981	2,162	1,599
Europe[1]	885	1,406	708	453	891	1,026	1,029
Former Soviet Union[2]	438	541	778	322	623	154	177
Africa	1,848	1,486	1,852	1,472	2,259	2,437	2,084
Middle East	231	139	149	139	332	476	49
Other Eastern Hemisphere	1,729	1,289	745	968	4,016	1,531	1,632
Other Western Hemisphere	1,479	665	376	658	618	3,010	927
Total Foreign	11,171	7,474	6,085	5,449	10,721	10,796	7,497
Worldwide Exploration Expenditures	20,919	14,936	12,026	12,654	20,660	37,761	22,812
Development Expenditures							
U.S. Onshore	22,776	22,203	14,560	20,373	31,901	56,649	39,585
U.S. Offshore	7,093	6,918	10,123	7,902	7,540	15,709	9,535
Total United States	29,869	29,122	24,683	28,274	39,440	72,358	49,120
Canada	13,368	5,742	4,045	4,369	7,638	15,250	4,192
Europe[1]	5,402	9,857	5,744	4,372	5,561	8,215	7,083
Former Soviet Union[2]	593	923	1,609	1,913	6,012	2,326	2,751
Africa	4,643	4,369	8,493	6,084	9,092	10,762	10,434
Middle East	634	751	950	1,252	1,207	2,753	3,109
Other Eastern Hemisphere	4,111	5,835	3,940	3,149	8,715	5,285	5,191
Other Western Hemisphere	2,136	1,127	897	1,132	1,147	5,379	2,441
Total Foreign	30,887	28,604	25,678	22,271	39,373	49,970	35,201
Worldwide Development Expenditures	60,756	57,726	50,361	50,545	78,813	122,328	84,321
Total Exploration and Development Expenditures							
U.S. Onshore	28,368	25,680	16,601	23,953	37,354	71,758	50,340
U.S. Offshore	11,249	10,904	14,023	11,526	12,026	27,565	14,095
Total United States	39,617	36,584	30,624	35,479	49,380	99,323	64,435
Canada	17,930	7,690	5,521	5,806	9,619	17,411	5,791
Europe[1]	6,287	11,263	6,452	4,825	6,452	9,241	8,112
Former Soviet Union[2]	1,031	1,464	2,387	2,235	6,636	2,480	2,928
Africa	6,490	5,855	10,345	7,556	11,350	13,199	12,518
Middle East	865	890	1,099	1,391	1,539	3,230	3,158
Other Eastern Hemisphere	5,840	7,124	4,685	4,117	12,732	6,817	6,823
Other Western Hemisphere	3,615	1,792	1,274	1,790	1,765	8,389	3,368
Total Foreign	42,058	36,078	31,763	27,719	50,093	60,766	42,698
Worldwide Exploration and Development Expenditures	81,674	72,662	62,387	63,199	99,473	160,090	107,133

[1] Prior to 2006, this region was comprised of European member countries of the OECD.

[2] Prior to 2006, this region was comprised of the Former Soviet Union and East Europe.

Source: Energy Information Administration, Form EIA-28 (Financial Reporting System).

Table T9. Production (Lifting) Costs by Region for FRS Companies, 2001-2007
(Million 2007 Dollars)

	2001	2002	2003	2004	2005	2006	2007
United States							
Taxes Other Than Income Taxes	2,932	2,515	3,521	3,858	5,174	5,770	7,319
Other Costs	12,142	11,897	11,738	12,766	14,312	17,536	21,116
Total Production Costs	15,074	14,412	15,259	16,625	19,486	23,307	28,435
U.S. Onshore	11,511	11,098	11,879	12,730	15,000	18,569	23,474
U.S. Offshore	3,563	3,314	3,380	3,895	4,486	4,738	4,961
Canada							
Royalty Expenses	0	0	0	0	0	0	0
Taxes Other Than Income Taxes	123	125	134	128	151	148	144
Other Costs	2,155	2,648	3,173	2,842	3,455	3,619	3,749
Total Production Costs	2,278	2,774	3,307	2,970	3,605	3,767	3,893
Europe[1]							
Royalty Expenses	W	56	W	W	0	W	W
Taxes Other Than Income Taxes	W	524	W	W	1,223	W	W
Other Costs	4,091	3,928	4,614	4,489	5,118	5,058	5,908
Total Production Costs	4,857	4,509	5,500	5,182	6,341	6,652	7,209
Former Soviet Union[2]							
Royalty Expenses	W	0	0	W	15	0	0
Taxes Other Than Income Taxes	W	0	34	W	231	77	67
Other Costs	181	128	199	294	407	413	540
Total Production Costs	223	128	233	358	653	490	607
Africa							
Royalty Expenses	W	0	0	0	W	W	W
Taxes Other Than Income Taxes	W	434	664	853	W	W	W
Other Costs	1,619	1,990	1,963	2,300	2,451	2,812	3,670
Total Production Costs	2,161	2,423	2,627	3,152	3,770	4,689	6,057
Middle East							
Royalty Expenses	0	0	0	0	0	0	0
Taxes Other Than Income Taxes	64	53	23	26	18	1,848	916
Other Costs	476	577	581	590	615	854	827
Total Production Costs	541	630	604	616	633	2,703	1,743
Other Eastern Hemisphere							
Royalty Expenses and							
Taxes Other Than Income Taxes	617	667	760	1,009	1,237	1,293	1,657
Other Costs	2,259	2,302	2,067	2,816	2,385	2,600	3,156
Total Production Costs	2,876	2,969	2,827	3,826	3,622	3,893	4,813
Other Western Hemisphere							
Royalty Expenses and							
Taxes Other Than Income Taxes	167	317	441	547	717	723	599
Other Costs	702	728	651	601	957	978	1,134
Total Production Costs	869	1,045	1,092	1,148	1,674	1,701	1,733
Total Foreign							
Royalty Expenses	179	173	W	W	W	273	254
Taxes Other Than Income Taxes	2,142	2,004	W	W	W	7,288	6,817
Other Costs	11,484	12,302	13,249	13,932	15,387	16,333	18,984
Total Production Costs	13,806	14,479	16,190	17,252	20,298	23,894	26,055

[1]Prior to 2006, consisted of only European members of the OECD.

[2]Prior to 2006, also included East Europe.

W = Data withheld to avoid disclosure.

Source: Energy Information Administration, Form EIA-28 (Financial Reporting System).

Table T10. Oil and Natural Gas Acreage for FRS Companies, 2001-2007
(Thousand Acres)

	2001	2002	2003	2004	2005	2006	2007
Net Acreage							
U.S. Onshore							
Developed	34,332	37,103	36,721	38,287	38,702	39,682	36,760
Undeveloped	43,293	40,280	42,891	39,891	44,631	48,650	54,662
U.S. Offshore							
Developed	5,881	5,281	5,375	5,520	5,106	4,544	4,381
Undeveloped	20,933	21,929	20,875	22,006	20,917	18,755	16,022
Foreign							
Developed	32,903	37,603	33,952	33,561	34,990	36,572	36,206
Undeveloped	424,465	429,394	312,769	273,697	300,277	291,292	298,319
Gross Acreage							
U.S. Onshore							
Developed	63,721	69,641	65,367	64,704	64,550	62,892	60,567
Undeveloped	69,790	64,841	66,918	62,194	69,544	75,411	84,186
U.S. Offshore							
Developed	11,317	9,802	9,331	9,818	8,947	7,306	6,937
Undeveloped	30,523	32,384	31,134	32,548	30,772	26,915	22,961
Foreign							
Developed	70,112	81,171	70,516	65,597	78,233	92,075	90,538
Undeveloped	834,500	799,007	608,666	532,672	546,357	509,714	507,220

Source: Energy Information Administration, Form EIA-28 (Financial Reporting System).

Table T11. U.S. Net Wells Completed for FRS Companies and Industry, and Net In-Progress Wells at Year End for FRS Companies, 2001-2007

	2001	2002	2003	2004	2005	2006	2007
Number of Net Wells Completed During Year for FRS Companies							
Onshore							
Net Exploratory Wells							
Dry Holes	122	119	93	86	65	64	69
Oil Wells	59	21	19	27	29	12	57
Natural Gas Wells	351	164	164	226	294	360	509
Total Exploratory Wells	533	304	275	338	388	435	635
Net Development Wells							
Dry Holes	266	220	225	197	222	184	139
Oil Wells	1,815	1,187	1,567	2,005	2,006	2,274	1,875
Natural Gas Wells	5,226	4,982	5,539	6,246	7,248	8,737	8,991
Total Development Wells	7,307	6,389	7,331	8,448	9,476	11,194	11,005
Offshore							
Net Exploratory Wells							
Dry Holes	63	52	43	39	33	30	25
Oil Wells	39	35	20	11	11	10	5
Natural Gas Wells	63	53	36	29	24	22	15
Total Exploratory Wells	165	140	98	78	67	63	44
Net Development Wells							
Dry Holes	38	38	13	14	16	15	12
Oil Wells	240	135	95	85	99	102	90
Natural Gas Wells	170	134	75	73	56	62	49
Total Development Wells	448	307	183	172	172	178	151
Total United States							
Net Exploratory Wells							
Dry Holes	185	171	135	125	98	94	93
Oil Wells	98	56	38	37	39	22	62
Natural Gas Wells	415	217	199	254	318	383	523
Total Exploratory Wells	698	443	373	416	455	498	679
Net Development Wells							
Dry Holes	305	259	238	211	239	199	151
Oil Wells	2,054	1,321	1,662	2,090	2,105	2,375	1,965
Gas Wells	5,396	5,116	5,614	6,319	7,304	8,798	9,039
Total Development Wells	7,755	6,696	7,514	8,620	9,648	11,373	11,155
Number of Net Wells Completed During Year for Total Industry							
Net Exploratory Wells							
Dry Holes	1,716	1,283	1,266	1,200	1,577	1,870	1,455
Oil Wells	330	239	326	353	429	576	747
Natural Gas Wells	972	701	892	1,323	1,452	1,559	3,307
Total Exploratory Wells	3,018	2,223	2,484	2,876	3,458	4,005	5,509
Net Development Wells							
Dry Holes	2,716	2,327	2,422	2,274	3,067	3,711	3,200
Oil Wells	7,856	5,987	7,139	7,350	9,404	11,763	11,796
Natural Gas Wells	20,431	16,027	18,630	20,493	25,945	30,028	27,996
Total Development Wells	31,003	24,341	28,191	30,117	38,418	45,502	42,992
Number of Net In-Progress Wells At Year End for FRS Companies							
Onshore							
Exploratory Wells	85	66	84	126	134	184	190
Development Wells	1,052	1,315	1,209	1,785	2,162	2,133	2,373
Total In-Progress Wells	1,138	1,381	1,293	1,911	2,295	2,317	2,563
Offshore							
Exploratory Wells	56	55	46	52	58	25	25
Development Wells	63	47	78	108	87	73	84
Total In-Progress Wells	118	102	124	159	145	98	109
Total United States							
Exploratory Wells	141	120	130	177	192	209	215
Development Wells	1,115	1,362	1,286	1,893	2,249	2,206	2,457
Total In-Progress Wells	1,256	1,482	1,416	2,071	2,441	2,415	2,672

Note: Sum of components may not equal total due to independent rounding.

Sources: Industry data - Energy Information Adminstration, *Monthly Energy Review*, October 2008, Table 5.2. Crude Oil and Natural Gas Wells Drilled.

FRS companies' data - Energy Information Administration, Form EIA-28 (Financial Reporting System).

Table T12. U.S. Net Drilling Footage and Net Producing Wells For FRS Companies and Industry, 2001-2007

	2001	2002	2003	2004	2005	2006	2007
FRS Companies							
Onshore				(thousand feet)			
Exploratory Well Footage							
Dry Hole Footage	1,085	1,000	823	821	640	660	615
Oil Well Footage	397	141	152	273	374	132	899
Natural Gas Well Footage	2,016	1,284	1,655	2,213	3,019	2,988	4,194
Total Exploratory Footage	3,498	2,425	2,630	3,307	4,033	3,780	5,708
Development Well Footage							
Dry Hole Footage	2,029	1,716	1,507	1,475	1,599	1,403	932
Oil Well Footage	9,435	6,928	8,716	10,352	10,314	12,705	9,856
Natural Gas Well Footage	26,653	32,078	40,507	44,999	53,568	65,745	74,612
Total Development Footage	38,117	40,722	50,730	56,827	65,481	79,853	85,400
Offshore							
Exploratory Well Footage							
Dry Hole Footage	1,004	652	628	632	616	507	410
Oil Well Footage	551	589	289	167	184	180	114
Natural Gas Well Footage	759	697	504	391	309	303	159
Total Exploratory Footage	2,314	1,938	1,421	1,191	1,110	990	683
Development Well Footage							
Dry Hole Footage	353	369	165	163	161	135	109
Oil Well Footage	2,260	1,362	1,216	833	966	895	1,044
Natural Gas Well Footage	1,917	1,370	905	834	685	746	531
Total Development Footage	4,530	3,101	2,286	1,830	1,812	1,776	1,684
Total United States							
Exploratory Well Footage							
Dry Hole Footage	2,089	1,652	1,451	1,453	1,256	1,167	1,025
Oil Well Footage	948	730	441	440	558	312	1,013
Natural Gas Well Footage	2,775	1,981	2,159	2,605	3,328	3,291	4,353
Total Exploratory Footage	5,812	4,363	4,051	4,498	5,142	4,770	6,391
Development Well Footage							
Dry Hole Footage	2,382	2,085	1,672	1,638	1,760	1,538	1,041
Oil Well Footage	11,695	8,290	9,932	11,185	11,280	13,600	10,900
Natural Gas Well Footage	28,570	33,448	41,412	45,833	54,253	66,491	75,143
Total Development Footage	42,647	43,823	53,016	58,656	67,293	81,629	87,084
Total Industry							
Exploratory Well Footage							
Dry Hole Footage	11,312	8,587	8,826	8,134	8,551	11,107	13,054
Oil Well Footage	2,435	1,611	1,996	2,957	3,700	4,452	5,236
Natural Gas Well Footage	6,909	5,062	5,912	8,036	9,191	9,845	10,990
Total Exploratory Footage	20,656	15,260	16,734	19,127	21,442	25,404	29,280
Development Well Footage							
Dry Hole Footage	14,013	12,098	14,739	11,922	13,243	18,425	21,699
Oil Well Footage	36,334	26,401	30,002	33,734	42,312	56,042	74,850
Natural Gas Well Footage	102,922	87,326	110,559	119,917	150,587	184,659	216,978
Total Development Footage	153,269	125,825	155,300	165,573	206,142	259,127	313,527
Number of Net Producing Wells for FRS Companies				(number of wells)			
Onshore							
Oil Wells	66,667	69,021	71,863	69,048	67,632	74,817	74,223
Natural Gas Wells	82,083	89,102	105,439	116,741	125,681	137,862	135,330
Total Producing Wells	148,750	158,123	177,302	185,789	193,313	212,679	209,553
Offshore							
Oil Wells	4,738	4,384	3,777	3,187	2,562	2,453	2,647
Natural Gas Wells	3,606	3,011	2,306	2,264	1,697	1,317	1,196
Total Producing Wells	8,344	7,395	6,083	5,450	4,258	3,770	3,843
Total United States							
Oil Wells	71,405	73,405	75,640	72,234	70,193	77,270	76,870
Natural Gas Wells	85,689	92,113	107,744	119,005	127,378	139,179	136,526
Total Producing Wells	157,094	165,518	183,384	191,239	197,571	216,450	213,396

Note: Sum of components may not equal total due to independent rounding.

Sources: Well footage, U.S. - Energy Information Administration,*Annual Energy Review*, June 23, 2008, Tables 4.6 and 4.7.

FRS companies' data - Energy Information Administration, Form EIA-28 (Financial Reporting System).

Table T13. Foreign Net Wells Completed, In-Progress Wells, and Producing Wells by Region for FRS Companies, 2001-2007

	2001	2002	2003	2004	2005	2006	2007
Canada							
Net Wells Completed During Year							
Exploratory Wells							
Dry Holes	106.4	156.6	146.4	106.1	174.2	37.9	35.0
Oil Wells	63.1	74.0	51.0	46.7	23.6	23.9	40.7
Natural Gas Wells	165.9	329.4	454.6	263.6	536.4	202.2	111.5
Total Exploratory Wells	335.4	560.0	652.0	416.4	734.2	264.0	187.2
Development Wells							
Dry Holes	228.8	151.2	161.4	160.3	85.4	173.5	45.5
Oil Wells	818.1	794.1	586.4	547.0	493.5	734.3	711.9
Natural Gas Wells	2,025.1	2,381.1	2,651.9	3,657.6	3,319.8	3,206.4	1,496.0
Total Development Wells	3,072.1	3,326.4	3,399.7	4,364.9	3,898.7	4,114.2	2,253.4
Net In-Progress Wells at Year End	307.2	190.0	275.8	274.3	459.2	336.5	249.7
Net Producing Wells							
Oil Wells	17,640.5	14,203.0	13,167.6	12,287.0	10,637.6	10,028.2	9,825.8
Natural Gas Wells	25,230.5	26,434.9	28,418.4	31,906.3	33,387.3	32,287.4	31,847.4
Total Producing Wells	42,870.9	40,637.9	41,586.0	44,193.2	44,024.9	42,315.6	41,673.2
Europe and Former Soviet Union [1]							
Net Wells Completed During Year							
Exploratory Wells							
Dry Holes	15.6	11.2	12.7	17.0	19.4	8.6	7.5
Oil Wells	25.9	5.3	6.1	W	W	19.3	W
Natural Gas Wells	8.6	3.1	3.5	W	W	2.2	W
Total Exploratory Wells	50.1	19.6	22.3	26.5	29.3	30.1	16.8
Development Wells							
Dry Holes	5.4	W	W	W	5.9	3.6	W
Oil Wells	91.8	63.0	98.6	97.4	138.6	106.7	59.4
Natural Gas Wells	31.8	W	W	W	17.8	13.4	W
Total Development Wells	129.0	108.8	127.6	128.3	162.3	123.7	83.1
Net In-Progress Wells at Year End	69.3	38.7	49.1	39.1	65.6	44.2	43.3
Net Producing Wells							
Oil Wells	1,478.2	1,225.7	1,325.3	1,376.1	1,352.9	1,118.4	1,227.0
Natural Gas Wells	717.2	788.7	639.1	616.0	612.0	545.2	647.0
Total Producing Wells	2,195.4	2,014.4	1,964.4	1,992.1	1,964.9	1,663.6	1,874.0
Africa and Middle East							
Net Wells Completed During Year							
Exploratory Wells							
Dry Holes	21.9	26.8	25.2	23.7	22.9	20.1	28.3
Oil Wells	W	W	29.1	27.6	W	22.4	W
Natural Gas Wells	W	W	5.6	3.3	W	6.7	W
Total Exploratory Wells	50.9	67.5	59.9	54.6	59.0	49.2	53.8
Development Wells							
Dry Holes	W	11.3	13.2	8.5	14.3	17.9	17.8
Oil Wells	159.8	209.4	293.7	307.6	341.7	354.4	412.0
Natural Gas Wells	W	13.5	8.7	19.3	12.3	16.3	19.8
Total Development Wells	186.9	234.2	315.6	335.4	368.3	388.6	449.6
Net In-Progress Wells at Year End	35.4	57.0	64.6	64.0	67.1	84.3	89.9
Net Producing Wells							
Oil Wells	2,063.8	2,209.2	2,357.1	2,780.1	3,150.4	3,394.4	3,673.1
Natural Gas Wells	121.2	140.2	152.0	140.6	150.1	139.1	220.6
Total Producing Wells	2,185.0	2,349.4	2,509.1	2,920.7	3,300.5	3,533.5	3,893.7

See footnotes at end of table.

Table is continued on the following page.

Table T13. Foreign Net Wells Completed, In-Progress Wells, and Producing Wells by Region for FRS Companies, 2001-2007 (Continued)

	2001	2002	2003	2004	2005	2006	2007
Other Eastern Hemisphere							
Net Wells Completed During Year							
Exploratory Wells							
Dry Holes	39.1	36.8	37.2	26.9	21.9	22.7	21.0
Oil Wells	19.9	11.0	8.9	14.9	18.2	12.1	9.0
Natural Gas Wells	42.3	26.6	13.4	21.9	4.8	19.9	17.4
Total Exploratory Wells	101.3	74.4	59.5	63.7	44.9	54.7	47.4
Development Wells							
Dry Holes	7.1	3.0	2.5	3.6	7.7	2.7	0.5
Oil Wells	595.3	554.8	649.6	341.5	250.0	356.0	497.3
Natural Gas Wells	117.0	201.7	147.9	103.4	123.8	193.6	141.2
Total Development Wells	719.4	759.5	800.0	448.5	381.5	552.3	639.0
Net In-Progress Wells at Year End	67.1	30.9	50.5	41.9	26.0	84.3	97.6
Net Producing Wells							
Oil Wells	7,852.9	7,458.6	7,794.1	7,900.2	7,774.9	8,190.8	8,535.8
Natural Gas Wells	1,090.3	1,288.8	1,275.4	1,146.4	594.4	1,059.3	1,526.1
Total Producing Wells	8,943.2	8,747.4	9,069.5	9,046.6	8,369.3	9,250.1	10,061.9
Other Western Hemisphere							
Net Wells Completed During Year							
Exploratory Wells							
Dry Holes	31.9	13.2	10.7	11.2	12.4	12.7	5.3
Oil Wells	W	W	3.8	W	13.2	18.4	12.0
Natural Gas Wells	W	W	0.0	W	5.5	9.1	5.0
Total Exploratory Wells	40.0	21.3	14.5	16.3	31.1	40.2	22.3
Development Wells							
Dry Holes	W	W	W	W	5.4	8.2	W
Oil Wells	240.5	217.0	218.0	216.9	225.9	359.3	424.9
Natural Gas Wells	W	W	W	W	23.1	35.5	W
Total Development Wells	262.9	245.1	236.2	237.9	254.4	403.0	487.2
Net In-Progress Wells at Year End	47.4	31.6	8.6	19.5	18.0	25.6	55.5
Net Producing Wells							
Oil Wells	2,580.2	2,439.6	2,721.4	2,880.2	2,715.6	5,175.7	5,655.0
Natural Gas Wells	262.7	274.0	288.5	311.0	308.7	740.6	804.2
Total Producing Wells	2,842.9	2,713.6	3,009.9	3,191.2	3,024.3	5,916.3	6,459.2
Total Foreign							
Net Wells Completed During Year							
Exploratory Wells							
Dry Holes	214.9	244.6	232.2	184.9	250.8	102.0	97.1
Oil Wells	136.0	134.3	98.9	98.8	96.8	96.1	86.1
Natural Gas Wells	226.8	363.9	477.1	293.9	550.9	240.1	144.3
Total Exploratory Wells	577.7	742.8	808.2	577.5	898.5	438.2	327.5
Development Wells							
Dry Holes	252.5	171.2	184.3	183.8	118.7	205.9	76.9
Oil Wells	1,905.5	1,838.3	1,846.3	1,510.4	1,449.7	1,910.7	2,105.5
Natural Gas Wells	2,212.2	2,664.5	2,848.5	3,820.7	3,496.8	3,465.2	1,729.9
Total Development Wells	4,370.3	4,674.0	4,879.1	5,514.9	5,065.2	5,581.8	3,912.3
Net In-Progress Wells at Year End	526.4	348.2	448.6	438.8	635.9	574.9	536.0
Net Producing Wells							
Oil Wells	31,615.6	27,536.1	27,365.5	27,223.6	25,631.4	27,907.5	28,916.7
Natural Gas Wells	27,421.9	28,926.6	30,773.4	34,120.2	35,052.5	34,771.6	35,045.3
Total Producing Wells	59,037.4	56,462.7	58,138.9	61,343.8	60,683.9	62,679.1	63,962.0

[1]Europe combined with the former Soviet Union to avoid disclosure.

W = data withheld to avoid disclosure.

Source: Energy Information Administration, Form EIA-28 (Financial Reporting System).

Table T14. U.S. and Foreign Refining/Marketing Sources and Dispositions of Crude Oil and Natural Gas Liquids for FRS Companies, 2001-2007
(million barrels)

	2001	2002	2003	2004	2005	2006	2007
U.S. Refining/Marketing							
Sources							
Acquisitions from U.S. Production Segment	1,358	1,368	1,195	982	972	916	810
Purchases from Other U.S. Segments and Unconsolidated Affiliates	2,629	1,709	1,130	646	456	383	354
Purchases from Third Parties	3,679	4,219	4,784	5,323	5,623	5,049	4,474
Net Transfers from Foreign Refining/Marketing Segment	716	631	738	918	732	658	590
Total Sources	8,383	7,926	7,847	7,869	7,784	7,005	6,228
Dispositions							
Net Change in Inventories	-1	-28	30	19	4	-12	-4
Input to Refineries	4,668	4,715	4,791	4,967	4,937	4,984	4,664
Sales to:							
Unaffiliated Third Parties	3,391	3,056	2,655	2,764	2,726	1,958	1,522
Other Segments Excluding Foreign Refining/Marketing	325	183	372	119	117	75	46
Total Dispositions	8,383	7,926	7,847	7,869	7,784	7,005	6,228
Foreign Refining/Marketing							
Sources							
Acquisitions from Foreign Production Segment	1,661	1,590	1,502	1,635	1,635	1,674	1,572
Purchases							
Other Foreign Segments	W	W	W	W	W	W	W
Unconsolidated Affiliates	W	W	W	W	W	W	W
Unaffiliated Third Parties							
Foreign Access	W	W	W	W	W	W	W
Foreign Governments (Open Market)	W	W	W	W	W	W	W
Other Unaffiliated Third Parties	2,459	1,626	1,816	1,953	1,923	1,930	1,922
Net Transfers to U.S. Refining/Marketing Segment	-716	-631	-738	-918	-732	-658	-590
Total Sources	4,200	3,287	3,328	3,624	3,724	3,744	3,567
Dispositions							
Net Change in Inventories	-2	0	17	-4	1	-7	1
Input to Refineries	1,682	1,639	1,646	1,768	1,805	1,838	1,816
Sales	2,520	1,647	1,666	1,860	1,918	1,912	1,750
Total Dispositions	4,200	3,287	3,328	3,624	3,724	3,744	3,567

W = Data withheld to avoid disclosure.
Source: Energy Information Administration, Form EIA-28 (Financial Reporting System).

Table T15. U.S. Purchases and Sales of Oil, Natural Gas, Other Raw Materials, and Refined Products for FRS Companies, 2001-2007

	2001	2002	2003	2004	2005	2006	2007
Purchases							
U.S. Refining/Marketing Segment				**Values (million 2007 dollars)**			
Raw Materials							
Crude Oil and NGL	224,923	214,040	246,346	322,888	423,764	432,028	422,483
Natural Gas	45,571	38,806	2,577	1,372	1,881	4,415	3,866
Other Raw Materials	9,188	9,143	12,877	20,893	22,056	24,805	29,361
Total Raw Materials	279,682	261,988	261,801	345,152	447,701	461,247	455,710
Refined Products							
Motor Gasoline	75,598	70,046	76,891	104,980	127,007	128,011	128,337
Distillate Fuels	36,651	31,081	30,918	36,473	54,569	55,187	55,997
Other Refined Products	22,109	17,886	20,590	24,675	27,848	26,662	19,192
Total Refined Products	134,358	119,013	128,398	166,129	209,424	209,860	203,526
U.S. Production Segment							
Crude Oil and NGL	2,316	829	1,432	1,560	W	W	0
Natural Gas	16,513	13,553	2,135	0	0	0	0
Total Raw Materials	18,829	14,382	3,567	1,560	W	W	0
Sales							
U.S. Refining/Marketing Segment							
Raw Materials							
Crude Oil and NGL	101,417	86,570	96,553	120,952	157,676	127,020	105,752
Natural Gas	44,051	37,814	W	0	0	0	0
Other Raw Materials	2,578	1,086	W	3,745	2,505	W	3,289
Total Raw Materials	148,046	125,470	101,037	124,696	160,180	W	109,041
Refined Products							
Motor Gasoline	196,265	184,012	205,326	269,566	322,561	351,191	349,042
Distillate Fuels	97,939	86,407	96,856	125,581	179,338	196,354	204,934
Other Refined Products	47,005	42,601	52,641	60,350	77,281	81,331	81,440
Total Refined Products	341,208	313,019	354,823	455,497	579,180	628,875	635,416
U.S. Production Segment							
Crude Oil and NGL	36,990	35,612	39,495	47,500	55,536	62,222	65,806
Natural Gas	55,450	46,136	44,605	47,270	58,075	51,018	48,704
Total Raw Materials	92,440	81,748	84,099	94,770	113,612	113,240	114,510
Purchases							
U.S. Refining/Marketing Segment				**Volumes**			
Raw Materials							
Crude Oil and NGL (million barrels)	8,383	7,926	7,847	7,869	7,784	7,005	6,228
Natural Gas (billion cubic feet)	9,147	10,458	441	224	240	661	613
Refined Products (million barrels)							
Motor Gasoline	1,892	1,886	1,811	1,896	1,763	1,549	1,435
Distillate Fuels	987	952	780	689	723	664	621
Other Refined Products	625	583	542	572	494	345	257
Total Refined Products	3,504	3,420	3,133	3,157	2,980	2,558	2,313
U.S. Production Segment							
Crude Oil and NGL (million barrels)	88	37	47	44	W	W	0
Natural Gas (billion cubic feet)	3,461	3,956	365	0	0	0	0
Sales							
U.S. Refining/Marketing Segment							
Raw Materials							
Crude Oil and NGL (million barrels)	3,716	3,239	3,026	2,883	2,843	2,033	1,568
Natural Gas (billion cubic feet)	8,460	9,783	W	0	0	0	0
Refined Products (million barrels)							
Motor Gasoline	4,539	4,598	4,354	4,502	4,278	4,082	3,768
Distillate Fuels	2,540	2,465	2,288	2,321	2,349	2,297	2,244
Other Refined Products	1,528	1,332	1,422	1,506	1,534	1,388	1,309
Total Refined Products	8,606	8,395	8,064	8,330	8,161	7,766	7,322
U.S. Production Segment							
Crude Oil and NGL (million barrels)	1,498	1,433	1,336	1,237	1,077	1,097	1,050
Natural Gas (billion cubic feet)	11,957	13,078	8,466	7,959	7,556	7,781	8,217

Note: Beginning in 2003, purchases of natural gas by the Petroleum line of business are for own use only, and sales of natural gas are to the downstream natural gas line of business.

Source: Energy Information Administration, Form EIA-28 (Financial Reporting System).

Table T16. U.S. and Foreign Petroleum Refining Statistics for FRS Companies, 2001-2007							
	2001	2002	2003	2004	2005	2006	2007
U.S. Refining							
Runs to Stills				(thousand barrels per calendar day)			
At Own Refineries	13,875	13,307	13,278	13,786	13,742	13,520	12,886
By Refineries of Others	23	0	0	0	0	0	0
Total Runs to Stills	13,898	13,307	13,278	13,786	13,742	13,520	12,886
Refinery Output at Own Refineries and Refineries of Others							
Reformulated Motor Gasoline	2,060	1,991	1,726	1,707	1,723	1,066	987
Oxygenated Motor Gasoline	588	552	515	574	283	109	178
Other Motor Gasoline	4,337	4,420	4,656	4,770	4,960	5,606	5,271
Total Motor Gasoline	6,985	6,963	6,897	7,051	6,966	6,781	6,436
Distillate Fuels	4,305	4,140	4,370	4,565	4,621	4,520	4,479
Other Refined Products	3,646	3,573	3,320	3,466	3,452	3,425	3,253
Total Refinery Output	14,936	14,676	14,587	15,082	15,039	14,726	14,168
Refinery Capacity at End of Year	15,153	14,198	14,279	14,409	14,532	14,652	14,101
				(number of refineries)			
Number of Wholly-Owned Refineries	99	84	79	79	76	76	71
Foreign Refining							
Runs to Stills				(thousand barrels per calendar day)			
At Own Refineries	4,620	4,778	4,550	4,886	5,043	5,094	4,900
By Refineries of Others	0	0	0	0	0	0	0
Total Runs to Stills	4,620	4,778	4,550	4,886	5,043	5,094	4,900
Refinery Output at Own Refineries							
Motor Gasoline	1,293	1,427	1,400	1,445	1,500	1,459	1,448
Distillate Fuels	1,744	2,041	1,971	2,054	2,088	2,132	2,080
Other Refined Products	1,729	1,405	1,251	1,406	1,546	1,573	1,480
Total Refinery Output at Own Refineries	4,766	4,873	4,622	4,905	5,134	5,164	5,008
Refinery Output at Refineries of Others							
Motor Gasoline	0	0	0	0	0	0	0
Distillate Fuels	0	0	0	0	0	0	0
Other Refined Products	0	0	0	0	0	0	0
Total Refinery Output at Refineries of Others	0	0	0	0	0	0	0
Total Refinery Output	4,766	4,873	4,622	4,905	5,134	5,164	5,008
Refinery Capacity at End of Year	5,572	5,642	5,374	5,698	5,633	5,924	5,571
				(number of refineries)			
Number of Wholly-Owned Refineries	23	22	19	19	19	20	22
Number of Partially-Owned Refineries	18	19	19	19	19	19	17

Source: Energy Information Administration, Form EIA-28 (Financial Reporting System).

Table T17. U.S. Refining/Marketing Dispositions of Refined Products by Channel of Distribution for FRS Companies, 2001-2007

U.S. Dispositions	2001	2002	2003	2004	2005	2006	2007
Motor Gasoline				**Values (million 2007 dollars)**			
Intersegment Sales	2,950	4,025	1,914	4,410	4,599	5,017	4,538
U.S. Third-Party Sales							
Wholesale-Resellers	81,671	78,863	112,376	134,070	163,824	178,410	177,605
Company Operated Automotive Outlets	26,728	21,461	23,855	38,520	41,323	45,174	42,193
Company Lessee and Open Automotive Outlets	53,588	48,040	40,275	56,840	64,309	72,654	74,818
Other (Industrial, Commercial and Other Retail)	31,328	31,623	26,905	35,725	48,507	49,936	49,888
Total Third-Party Sales	193,315	179,987	203,411	265,156	317,962	346,173	344,504
Total Motor Gasoline Sales	196,265	184,012	205,326	269,566	322,561	351,191	349,042
Distillate Fuels							
Intersegment Sales	626	2,745	1,190	2,345	2,808	3,476	3,578
Third-Party Sales	97,313	83,662	95,666	123,236	176,530	192,878	201,356
Total Distillate Fuels Sales	97,939	86,407	96,856	125,581	179,338	196,354	204,934
Other Refined Products							
Intersegment Sales	8,642	5,145	4,769	7,633	10,013	10,579	10,726
Third-Party Sales	38,362	37,456	47,872	52,718	67,268	70,752	70,714
Total Other Refined Products Sales	47,005	42,601	52,641	60,350	77,281	81,331	81,440
Total U.S. Refined Products							
Intersegment Sales	12,218	11,915	7,873	14,387	17,420	19,073	18,842
Third-Party Sales	328,990	301,104	346,949	441,109	561,760	609,802	616,574
Total U.S. Refined Products Sales	341,208	313,019	354,823	455,497	579,180	628,875	635,416
Motor Gasoline				**Volumes (million barrels)**			
Intersegment Sales	79	101	45	79	64	60	50
U.S. Third-Party Sales							
Wholesale-Resellers	1,956	2,045	2,508	2,344	2,221	2,119	1,961
Company Operated Automotive Outlets	545	464	432	534	504	487	423
Company Lessee and Open Automotive Outlets	1,182	1,167	797	909	845	828	795
Other (Industrial, Commercial and Other Retail)	777	820	572	636	644	587	540
Total Third-Party Sales	4,460	4,496	4,309	4,423	4,214	4,022	3,719
Total Motor Gasoline Sales	4,539	4,598	4,354	4,502	4,278	4,082	3,768
Distillate Fuels							
Intersegment Sales	17	85	30	45	39	43	40
Third-Party Sales	2,522	2,380	2,258	2,276	2,309	2,254	2,204
Total Distillate Fuels Sales	2,540	2,465	2,288	2,321	2,349	2,297	2,244
Other Refined Products							
Intersegment Sales	258	162	125	160	176	153	145
Third-Party Sales	1,269	1,170	1,298	1,346	1,358	1,235	1,164
Total Other Refined Products Sales	1,528	1,332	1,422	1,506	1,534	1,388	1,309
Total U.S. Refined Products							
Intersegment Sales	354	348	200	285	279	256	235
Third-Party Sales	8,252	8,046	7,864	8,045	7,881	7,511	7,087
Total U.S. Refined Products Sales	8,606	8,395	8,064	8,330	8,161	7,766	7,322
Number of Active Automotive Outlets at Year End				**Number of Automotive Outlets**			
Company Operated	11,380	9,745	8,804	8,848	8,585	7,927	7,642
Lessee Dealers	11,474	9,347	8,746	8,223	6,746	6,123	5,694
Open Dealers	31,231	28,056	26,657	27,183	27,252	24,747	24,532
Total Outlets	54,085	47,148	44,207	44,254	42,583	38,797	37,868

Source: Energy Information Administration, Form EIA-28 (Financial Reporting System).

Table T18. U.S. Refining/Marketing Revenues and Costs for FRS Companies, 2001-2007
(Million 2007 Dollars)

Revenues and Costs	2001	2002	2003	2004	2005	2006	2007
Refined Product Revenues	341,208	313,019	354,823	455,497	579,180	628,875	635,416
Refined Product Costs							
Raw Materials Processed [1]	128,201	132,569	154,814	215,957	284,367	325,877	342,200
Refinery Energy Expense	13,247	10,555	12,854	12,495	15,754	13,920	14,139
Other Refinery Expense	14,362	18,632	16,713	16,158	17,673	18,788	19,923
Product Purchases	134,358	119,013	128,398	166,129	209,424	209,860	203,526
Other Product Supply Expense	7,666	14,446	11,026	6,673	8,453	10,456	8,379
Marketing Expense [2]	15,997	15,972	12,340	14,118	13,114	11,275	12,258
Total Refined Product Costs	313,830	311,187	336,145	432,130	548,785	590,176	600,425
Refined Product Margin	27,378	1,832	18,678	23,366	30,395	38,699	34,991
Refined Products Sold (million barrels)	8,606.3	8,394.7	8,063.7	8,329.9	8,160.5	7,766.4	7,322.2
Dollars per Barrel Margin [3]	3.18	0.22	2.32	2.81	3.72	4.98	4.78
Other Refining/Marketing Revenues [4]	19,796	18,260	12,019	15,340	16,972	12,986	12,060
Other Refining/Marketing Expenses							
Depreciation, Depletion, & Allowance	6,153	6,460	6,912	6,101	5,870	6,261	6,763
Other [5]	21,861	14,733	12,283	10,005	10,877	10,665	14,136
Total Other Expenses	28,014	21,192	19,194	16,106	16,747	16,926	20,899
Refining/Marketing Operating Income	19,159	-1,101	11,502	22,600	30,620	34,759	26,152
Miscellaneous Revenue & Expense [6]	2,183	1,152	1,558	2,237	3,490	3,575	5,700
Less Income Taxes	7,338	77	4,690	8,297	11,888	13,401	10,444
Refining/Marketing Net Income	13,984	-1,553	8,371	16,635	22,221	24,967	22,381

[1]Represents reported cost of raw materials processed at refineries, less any profit from raw material trades or exchanges by refining/marketing.

[2]Excludes costs of nonfuel goods and services and tires, batteries, and accessories (TBA).

[3]Dollars per barrel of refined product sold.

[4]Includes revenues from transportation services supplied (non-federally regulated), TBA sales, and miscellaneous.

[5]Includes general and administrative expenses, research and development costs, costs of transportation services supplied to others, and expenses for TBA.

[6]Includes other revenue and expense items, extraordinary items, and cumulative effect of accounting changes.

Source: Energy Information Administration, Form EIA-28 (Financial Reporting System).

Table T19. U.S. Petroleum Refining/Marketing General Operating Expenses for FRS Companies, 2001-2007
(Million 2007 Dollars)

General Operating Expenses	2001	2002	2003	2004	2005	2006	2007
Raw Material Supply							
Raw Material Purchases	279,682	261,988	261,801	345,152	447,702	461,247	455,710
Other Raw Material Supply Expense	4,910	5,198	3,624	4,412	7,467	4,859	5,389
Total Raw Material Supply Expense	284,592	267,186	265,425	349,564	455,168	466,107	461,099
Less: Cost of Raw Materials Input To Refining	133,858	139,371	164,903	219,961	291,233	332,468	346,464
Net Raw Material Supply	150,734	127,815	100,521	129,603	163,935	133,639	114,635
Refining							
Raw Materials Input to Refining	133,858	139,371	164,903	219,961	291,233	332,468	346,464
Less: Raw Material Used as Refinery Fuel	8,345	9,147	9,574	8,911	10,621	10,383	9,858
Refinery Process Energy Expense	13,247	10,555	12,854	13,096	15,754	13,920	14,139
Other Refining Operating Expenses	17,150	20,078	18,178	17,709	19,123	20,751	22,113
Refined Product Purchases	134,358	119,013	128,398	166,129	209,424	209,860	203,526
Other Refined Product Supply Expenses	7,666	14,446	11,026	6,673	8,454	10,456	8,379
Total Refining	297,933	294,316	325,786	414,656	533,366	577,071	584,763
Marketing							
Cost of Other Products Sold	11,463	9,979	7,958	5,880	7,087	5,885	9,708
Other Marketing Expenses	15,997	15,972	12,340	14,118	13,114	11,275	12,258
Subtotal	27,461	25,951	20,298	19,998	20,201	17,161	21,966
Expense of Transport Services for Others	4,683	505	630	368	323	258	302
Total Marketing	32,144	26,456	20,927	20,366	20,525	17,418	22,268
Total U.S. Refining/Marketing Segment General Operating Expenses	480,811	448,586	447,234	564,626	717,826	728,128	721,666

Source: Energy Information Administration, Form EIA-28 (Financial Reporting System).

Current Year Tables

Table C1. Selected Financial Items for the FRS Companies and All Manufacturing Companies, 2006-2007

Selected Financial Items	FRS Companies		All Manufacturing Companies	
	2006	2007	2006	2007
Income Statement	(billion 2007 dollars)			
Operating Revenues	1,426.1	1,444.2	5,946.1	6,056.2
Operating Expenses	1,226.7	1,270.6	5,525.5	5,642.8
Operating Income	199.4	173.6	420.5	413.5
Interest Expense	12.1	10.9	98.4	109.6
Other Income[1]	40.3	46.6	401.3	401.3
Income Taxes	92.7	84.5	138.1	158.8
Net Income	134.9	124.8	487.0	436.8

[1] "Other Income" includes other revenue and expense (excluding interest expense), discontinued operations, extraordinary items, and accounting changes.

Sources: All Manufacturing Companies: U.S. Census Bureau, Quarterly Financial Report. FRS companies' data - Energy Information Administration, Form EIA-28 (Financial Reporting System).

Table C2. Balance Sheet Items and Financial Ratios for FRS Companies and All Manufacturing Companies, 2006-2007

	FRS Companies		All Manufacturing Companies	
	2006	2007	2006	2007
Balance Sheet				
Assets	(billion 2007 dollars)			
Current Assets	299.6	302.8	2,072.6	2,060.7
Noncurrent Assets				
Property, Plant, and Equipment (PP&E)				
Gross	1,148.8	1,211.7	2,636.8	2,644.7
and Amortization (DD&A)	481.9	514.6	1,419.2	1,415.7
Net PP&E	666.9	697.0	1,217.7	1,229.0
Investments and Advances	87.1	103.1	NA	NA
Other Noncurrent Assets	138.3	137.3	NA	NA
Subtotal Noncurrent Assets	892.3	937.5	4,389.4	4,768.1
Total Assets	1,191.9	1,240.3	6,462.0	6,828.8
Liabilities and Stockholders Equity				
Liabilities				
Current Liabilities	278.5	272.9	1,525.1	1,546.5
Long-Term Debt	173.9	175.3	1,151.0	1,247.2
Other Long-Term Items	230.4	240.9	NA	NA
Minority Interest	11.0	11.5	NA	NA
Subtotal Liabilities and Other Items	693.8	700.6	3,660.6	3,809.5
Stockholders' Equity				
Retained Earnings	425.3	510.2	1,744.9	1,857.3
Other Equity	72.7	29.5	1,056.4	1,162.0
Subtotal Stockholders' Equity	498.1	539.7	2,801.4	3,019.3
Total Liabilities and Stockholders' Equity	1,191.9	1,240.3	6,462.0	6,828.8
Financial Ratios	(percent)			
Net Income/Stockholders' Equity	27.1	23.1	17.4	14.5
Net Income plus Interest/Total Invested Capital	21.9	19.0	14.8	12.8
Dividends/Net Cash Flow from Operations	19.8	17.4	NA	NA
Long-term Debt/Stockholders' Equity	34.9	32.5	41.1	41.3

NA = Not available.

Sources: All Manufacturing Companies: U.S. Census Bureau, Quarterly Financial Report. FRS companies' data - Energy Information Administration, Form EIA-28 (Financial Reporting System).

Table C3. Consolidating Statement of Income for FRS Companies, 2007
(Million Dollars)

Income Statement Items	Consol-idated	Eliminations & Non-traceables	Petroleum	Other Energy	Downstream Natural Gas	Electric Power	Non-energy
Operating Revenues	1,444,175	-181,681	1,267,019	3,754	224,531	21,975	108,577
Operating Expenses							
General Operating Expenses	1,190,270	-178,575	1,029,551	2,890	212,925	24,769	98,710
Depreciation, Depletion, & Allowance	63,764	1,071	56,887	253	2,618	208	2,727
General & Administrative	16,570	2,511	8,903	165	1,195	190	3,606
Total Operating Expenses	1,270,604	-174,993	1,095,341	3,308	216,738	25,167	105,043
Operating Income	173,571	-6,688	171,678	446	7,793	-3,192	3,534
Other Revenue & (Expense)							
Earnings of Unconsolidated Affiliates	24,824	-674	18,909	W	3,505	W	2,806
Other Dividend & Interest Income	5,462	5,462	NA	NA	NA	NA	NA
Gain/Loss on Disposition of Property, Plant, & Equipment	13,024	230	10,896	W	1,537	W	352
Interest Expenses & Financial Charges	-10,850	-10,850	NA	NA	NA	NA	NA
Minority Interest in Income	-2,250	-2,250	NA	NA	NA	NA	NA
Foreign Currency Translation Effects	-145	-145	NA	NA	NA	NA	NA
Other Revenue & (Expense)	3,808	3,808	NA	NA	NA	NA	NA
Total Other Revenue & (Expense)	33,873	-4,419	29,805	-108	5,042	395	3,158
Pretax Income	207,444	-11,107	201,483	338	12,835	-2,797	6,692
Income Tax Expense	84,501	-3,421	84,355	-445	4,043	-1,092	1,061
Discontinued Operations	W	W	1,774	0	W	W	W
Extraordinary Items and Cumulative Effect of Accounting Changes	W	W	0	0	W	W	W
Net Income	124,770	-7,773	118,902	783	8,794	-1,562	5,626

NA = Not available.
W = Data withheld to avoid disclosure.
Note: Sum of components may not equal total due to independent rounding, eliminations, and nontraceables.
Source: Energy Information Administration, Form EIA-28 (Financial Reporting System).

Table C4. Consolidating Statement of Income for FRS Companies, U.S. and Foreign Petroleum Segments, 2007
(Million Dollars)

Income Statement Items	U.S. Petroleum				Foreign Petroleum		
	Consoli-dated	Production	Refining/ Marketing	Pipe-lines[1]	Consoli-dated	Production	Refining/ Marketing & Int'l Marine[2]
Operating Revenues							
Raw Material Sales	170,719	114,510	109,041	W	196,679	157,556	172,837
Refined Products Sales	634,411	W	635,416	0	295,814	W	297,736
Transportation Revenues	1,235	66	798	2,783	3,905	W	7,520
Management and Processing Fees	2,178	W	2,190	W	2,131	59	2,379
Other	13,985	2,602	11,262	821	2,712	-426	3,242
Total Operating Revenues	822,528	117,651	758,707	10,733	501,241	157,326	483,714
Operating Expenses							
General Operating Expenses	703,974	36,662	721,666	10,209	382,327	52,317	469,809
Depreciation, Depletion, & Allowance	31,840	24,788	6,763	289	25,047	22,515	2,532
General & Administrative	6,838	2,599	4,126	113	2,065	1,422	643
Total Operating Expenses	742,652	64,049	732,555	10,611	409,439	76,254	472,984
Operating Income	79,876	53,602	26,152	122	91,802	81,072	10,730
Other Revenue & (Expense)							
Earnings of Unconsolidated Affiliates	7,335	3,028	W	W	11,575	9,778	1,796
Gain(Loss) on Disposition of Property, Plant, & Equipment	6,329	4,686	W	W	4,567	3,074	1,493
Total Other Revenue & (Expense)	13,664	7,714	5,700	250	16,142	12,852	3,289
Pretax Income	93,540	61,316	31,852	372	107,944	93,924	14,019
Income Tax Expense	31,978	21,422	10,444	112	52,377	47,559	4,818
Discontinued Operations	W	W	W	0	W	W	0
Extraordinary Items and Cumulative Effect of Accounting Changes	W	W	W	0	W	W	0
Contribution To Net Income	62,696	40,055	22,381	260	56,207	47,005	9,201

[1]Beginning in 2003, natural gas and natural gas liquids pipelines are part of the downstream natural gas line of business. See Table B35.
[2]Foreign Refining/Marketing and International Marine are combined to avoid disclosure.
W = Data withheld to avoid disclosure.
Source: Energy Information Administration, Form EIA-28 (Financial Reporting System).

Table C5. Consolidating Statement of Income for FRS Companies, U.S. and Foreign Downstream Natural Gas Segments, 2007
(Million Dollars)

Income Statement Items	U.S. Downstream Natural Gas					Consolidated Foreign
	Consolidated	Processing	Marketing/ Trading	Transmission	Distribution	
Operating Revenues						
Natural Gas Sales	135,784	24,676	130,009	--	W	42,929
LNG Products Sales	1,069	W	W	--	W	2,401
NGL Products Sales	25,561	14,793	16,142	--	0	9,481
Transportation Sales	4,521	181	152	4,207	W	W
Other Product Sales	69	W	W	W	W	0
Trading/Derivatives	-64	0	-64	0	0	1,216
Management and Processing Fees	1,131	977	121	W	W	W
Other Revenues	3,505	911	2,265	329	0	197
Total Operating Revenues	171,576	41,959	149,515	4,588	766	56,799
Operating Expenses						
General Operating Expenses	162,291	40,709	144,600	1,596	638	54,478
Depreciation, Depletion, & Allowance	1,562	707	W	741	W	1,056
General & Administrative	1,092	W	321	478	W	103
Total Operating Expenses	164,945	W	145,009	2,815	W	55,637
Operating Income	6,631	W	4,506	1,773	W	1,162
Other Revenue & (Expense)						
Earnings of Unconsolidated Affiliates	833	W	W	W	W	2,672
Gain(Loss) on Disposition of Property, Plant, & Equipment	1,537	W	W	W	W	0
Total Other Revenue & (Expense)	2,370	W	565	1,208	W	2,672
Pretax Income	9,001	W	5,071	2,981	W	3,834
Income Tax Expense	3,204	W	1,776	1,071	W	839
Discontinued Operations	0	0	0	0	0	W
Extraordinary Items and Cumulative Effect of Accounting Changes	0	0	0	0	0	W
Contribution To Net Income	5,797	W	3,295	1,910	W	2,997

-- = Not applicable.

W = Data withheld to avoid disclosure.
Note: Worldwide eliminations between segments and U.S. eliminations between segments are omitted from this table.
Source: Energy Information Administration, Form EIA-28 (Financial Reporting System).

Table C6. Consolidating Statement of Income for FRS Companies, U.S. and Foreign Electric Power Segments, 2007
(Million Dollars)

Income Statement Items	U.S. Electric Power			Consolidated Foreign
	Consolidated	Generation	Marketing/ Trading	
Operating Revenues				
Power Sales	19,664	W	19,232	1,995
Transportation Sales	0	--	0	0
Other Product Sales	0	--	0	W
Trading/Derivatives	W	--	W	0
Other Revenues	159	W	W	W
Total Operating Revenues	19,865	697	19,297	2,110
Operating Expenses				
General Operating Expenses	22,843	760	22,212	1,926
Depreciation, Depletion, & Allowance	137	W	W	71
General & Administrative	165	W	W	25
Total Operating Expenses	23,145	853	22,421	2,022
Operating Income	-3,280	-156	-3,124	88
Other Revenue & (Expense)				
Earnings of Unconsolidated Affiliates	87	W	W	307
Gain(Loss) on Disposition of Property, Plant, & Equipment	W	W	W	0
Income Tax Expense	-1,116	-31	-1,085	24
Contribution To Net Income	-1,933	-151	-1,773	371

-- = Not applicable.
W = Data withheld to avoid disclosure.

Note: Sum of components may not equal total due to independent rounding, eliminations, and nontraceables. Additionally, worldwide eliminations between segments and U.S. eliminations between segments, and U.S. Distribution are omitted from this table.
Source: Energy Information Administration, Form EIA-28 (Financial Reporting System).

Table C7. Net Property, Plant, and Equipment (PP&E), Additions to PP&E, Investments and Advances, and Depreciation, Depletion, and Amortization (DD&A), by Lines of Business for FRS Companies, 2007
(Million Dollars)

	Year End Balance		Activity During Year		
	Net PP&E	Investments & Advances to Unconsolidated Affiliates	Additions to PP&E	Additions to Investments & Advances to Unconsolidated Affiliates	DD&A
Petroleum					
United States					
Production	255,013	7,842	60,474	740	24,788
Refining/Marketing					
Refining	73,336	9,652	13,530	3,548	4,434
Marketing	14,470	1,117	2,017	W	2,137
Refining/Marketing Transport					
Pipelines	1,735	836	268	469	89
Marine	1,231	W	W	0	84
Other	701	W	W	W	19
Total U.S. Refining/Marketing	91,473	12,263	16,342	4,139	6,763
Rate Regulated Pipelines					
Refined Products	3,704	433	375	65	148
Crude Oil and Liquids	4,010	954	400	30	141
Total Rate Regulated Pipelines	7,714	1,387	775	95	289
Total U.S. Petroleum	354,200	21,492	77,591	4,974	31,840
Foreign					
Production	199,955	49,985	40,330	12,957	22,515
Refining/Marketing & International Marine[1]	33,946	8,338	3,242	593	2,532
Total Foreign Petroleum	233,901	58,323	43,572	13,550	25,047
Total Petroleum	588,101	79,815	121,163	18,524	56,887
Downstream Natural Gas					
United States					
Processing:					
NGL Production	3,418	1,142	471	W	188
Other Processing	W	W	W	0	W
LNG Import/Export Facilities	W	W	W	W	W
Total Processing	11,627	1,308	2,943	181	707
Marketing/Trading	2,497	44	902	W	W
Transmission:					
Pipelines	16,242	1,386	1,902	W	590
Storage	707	W	36	0	23
Other	2,828	W	53	0	128
Total Transmission	19,777	1,396	1,991	W	741
Total Distribution	606	15	43	0	W
Total U.S. Downstream Natural Gas	34,507	2,763	5,879	247	1,562
Total Foreign Downstream Natural Gas	14,597	4,664	3,328	131	1,056
Total Downstream Natural Gas	49,104	7,427	9,207	378	2,618

[1]Foreign Refining/Marketing and International Marine combined to avoid disclosure.

W = Data withheld to avoid disclosure.

Source: Energy Information Administration, Form EIA-28 (Financial Reporting System).

Table is continued on the following page.

Table C7. Net Property, Plant, and Equipment (PP&E), Additions to PP&E, Investments and Advances, and Depreciation, Depletion, and Amortization (DD&A), by Lines of Business for FRS Companies, 2007 (Continued)
(Million Dollars)

	Year End Balance		Activity During Year		
	Net PP&E	Investments & Advances to Unconsolidated Affiliates	Additions to PP&E	Additions to Investments & Advances to Unconsolidated Affiliates	DD&A
Electric Power					
United States:					
Generation	626	561	W	W	W
Marketing/Trading	0	0	0	0	W
Transmission	0	0	0	0	0
Distribution	0	0	0	0	0
Total U.S. Electric Power	626	561	W	W	137
Total Foreign Electric Power	1,907	1,897	W	0	71
Total Electric Power	2,533	2,458	315	W	208
Other Energy					
U.S. Nonconventional Oil	1,010	W	279	0	30
Other U.S.	849	W	266	127	65
Total Worldwide Other Energy	12,492	455	7,652	127	253
Nonenergy					
Foreign Chemicals	8,408	3,490	1,416	88	766
U.S. Chemicals	21,043	6,735	1,723	303	1,831
Foreign Other Nonenergy	81	W	W	W	W
U.S. Other Nonenergy	2,589	W	W	W	W
Total Nonenergy	32,121	12,892	3,707	634	2,727
Nontraceable	12,662	W	2,793	0	1,071
Consolidated	697,013	103,133	144,837	19,742	63,764

W = Data withheld to avoid disclosure.
Source: Energy Information Administration, Form EIA-28 (Financial Reporting System).

Table C8. Return on Investment for Lines of Business for FRS Companies Ranked by Total Energy Assets, 2006-2007
(Percent)

Line of Business	All FRS		Top Four		Five through Twelve		All Other	
	2006	2007	2006	2007	2006	2007	2006	2007
Petroleum	21.2	17.8	22.4	18.5	20.0	18.0	19.0	15.3
U.S. Petroleum	19.9	16.7	21.9	17.7	17.7	17.3	19.9	14.5
Oil and Natural Gas Production	18.2	15.2	21.6	19.2	14.8	14.3	17.7	11.2
Refining/Marketing	25.6	21.6	25.1	16.6	25.9	25.9	26.2	23.9
Pipelines	2.7	2.9	4.5	2.4	-12.5	1.4	7.8	6.9
Foreign Petroleum	22.9	19.2	22.8	19.0	28.8	20.6	15.9	19.0
Oil and Natural Gas Production	23.7	18.8	23.8	18.7	29.3	19.7	15.7	18.8
Refining/Marketing	18.6	21.9	18.1	21.1	23.6	30.5	390.9	406.7
International Marine	W	W	W	W	0.0	0.0	0.0	0.0
Downstream Natural Gas[1]	5.7	15.6	9.4	19.6	5.7	19.7	0.9	4.6
Electric Power[1]	5.6	-31.3	16.8	13.9	5.3	-533.5	-83.9	52.4
Nuclear, Nonconventional, & Coal	11.1	6.0	15.4	23.0	-43.6	-5.1	12.7	4.9
Nonenergy	14.6	12.5	22.2	17.9	-3.4	3.0	9.7	7.4

[1]The downstream natural gas and electric power lines of business were added to the EIA-28 survey form beginning with the 2003 reporting year.
W = Data withheld to avoid disclosure.
Note: Return on investment measured as contribution to net income/net investment in place.
Source: Energy Information Administration, Form EIA-28 (Financial Reporting System).

Table C9. Size Distribution of Net Investment in Place for FRS Companies Ranked by Total Energy Assets, 2007
(Percent)

Line of Business	Top Four	Five through Twelve	All Other	All FRS
Petroleum	57.2	24.0	18.9	100.0
United States	38.9	33.5	27.6	100.0
Production	37.0	34.4	28.6	100.0
Refining/Marketing	40.7	33.0	26.2	100.0
Refining	38.6	34.3	27.2	100.0
Marketing	50.8	23.9	25.3	100.0
Rate Regulated Pipelines	73.1	12.9	14.0	100.0
Foreign	80.6	11.7	7.7	100.0
Production	78.5	12.5	9.0	100.0
Refining/Marketing	92.8	7.2	0.0	100.0
International Marine	100.0	0.0	0.0	100.0
Downstream Natural Gas	30.4	42.3	27.3	100.0
U.S. Downstream Natural Gas	11.6	50.9	37.6	100.0
Processing	26.0	33.7	40.4	100.0
Marketing/Trading	19.3	78.3	2.4	100.0
Transmission	2.1	59.5	38.4	100.0
Distribution	0.0	3.4	96.6	100.0
Foreign Downstream Natural Gas	66.9	25.6	7.5	100.0
Electric Power	84.5	8.7	6.7	100.0
U.S. Electric Power	71.4	0.3	28.3	100.0
Generation	71.4	0.3	28.3	100.0
Marketing/Trading	0.0	0.0	0.0	100.0
Transmission	0.0	0.0	0.0	100.0
Distribution	0.0	0.0	0.0	100.0
Foreign Electric Power	88.6	11.4	0.0	100.0
Other Energy	38.2	57.2	4.6	100.0
Nonenergy	54.8	15.2	30.0	100.0
Chemicals	54.0	12.8	33.3	100.0
Other Nonenergy	60.8	33.5	5.6	100.0
Consolidated	55.2	25.1	19.7	100.0

Note: Sum of components may not equal total due to independent rounding, eliminations, and nontraceables.
Source: Energy Information Administration, Form EIA-28 (Financial Reporting System).

Table C10. Components of U.S. and Foreign Exploration and Development Expenditures for FRS Companies, 2007
(Million Dollars)

	Worldwide	United States			Foreign
		Total	Onshore	Offshore	
Exploration and Development Expenditures					
Exploration Expenditures					
Unproved Acreage	8,527	7,580	6,973	607	947
Drilling and Equipping:					
Completed Well Costs	NA	4,061	2,259	1,802	NA
Work-in-progress Adjustment	NA	1,056	400	656	NA
Total Drilling and Equipping	8,965	5,117	2,659	2,458	3,848
Geological and Geophysical	2,633	1,355	691	664	1,278
Other, Including Direct Overhead	2,687	1,263	432	831	1,424
Total Exploration Expenditures	22,812	15,315	10,755	4,560	7,497
Development Expenditures					
Proved Acreage (Including Mergers and Acquisitions)	8,428	7,957	7,598	359	471
Drilling and Equipping:					
Completed Well Costs	NA	25,616	22,312	3,304	NA
Work-in-progress Adjustment	NA	4,288	2,639	1,649	NA
Total Drilling and Equipping	44,016	29,904	24,951	4,953	14,112
Lease Equipment	11,211	5,390	2,998	2,392	5,821
Other Development					
Support Equipment	1,471	832	614	218	639
Other, Including Direct Overhead	19,195	5,037	3,424	1,613	14,158
Total Development Expenditures	84,321	49,120	39,585	9,535	35,201
Total Exploration and Development Expenditures	107,133	64,435	50,340	14,095	42,698

NA = Not available.

Source: Energy Information Administration, Form EIA-28 (Financial Reporting System).

Table C11. U.S. Net Wells Completed, and Average Depth, Onshore and Offshore, for FRS Companies, 2006 and 2007

	Total United States			U.S. Onshore			U.S. Offshore		
	2006	2007	Percent Change	2006	2007	Percent Change	2006	2007	Percent Change
Exploration Wells									
Oil Wells									
Wells Completed	21.6	62.4	188.9	11.6	57.3	394.0	10.0	5.1	-49.0
Average Depth (thousand feet)	14.4	16.2	12.4	11.4	15.7	37.9	18.0	22.4	24.2
Natural Gas Wells									
Wells Completed	382.6	523.2	36.7	360.3	508.6	41.2	22.3	14.6	-34.5
Average Depth (thousand feet)	8.6	8.3	-3.3	8.3	8.2	-0.6	13.6	10.9	-19.8
Dry Holes									
Wells Completed	93.9	93.4	-0.5	63.5	68.8	8.3	30.4	24.6	-19.1
Average Depth (thousand feet)	12.4	11.0	-11.7	10.4	8.9	-14.0	16.7	16.7	-0.1
Development Wells									
Oil Wells									
Wells Completed	2,375.4	1,965.4	-17.3	2,273.6	1,875.2	-17.5	101.8	90.2	-11.4
Average Depth (thousand feet)	5.7	5.5	-3.1	5.6	5.3	-5.9	8.8	11.6	31.6
Natural Gas Wells									
Wells Completed	8,798.2	9,039.1	2.7	8,736.7	8,990.5	2.9	61.5	48.6	-21.0
Average Depth (thousand feet)	7.6	8.3	10.0	7.5	8.3	10.3	12.1	10.9	-9.9
Dry Holes									
Wells Completed	198.9	150.9	-24.1	183.9	138.8	-24.5	15.0	12.1	-19.3
Average Depth (thousand feet)	7.7	6.9	-10.8	7.6	6.7	-12.0	9.0	9.0	0.1

Source: Energy Information Administration, Form EIA-28 (Financial Reporting System).

Table C12. Oil and Natural Gas Reserves for FRS Companies and U.S. Industry, 2007

	Beginning Reserves	Plus Reserve Additions[1]	Plus Net Purchases	Less Production	Equals Ending Reserves	Replacement Rate (percent)
Crude Oil and Natural Gas Liquids			**(million barrels)**			
U.S. Onshore[2]						
Total Industry	24,406.0	3,064.0	81.0	1,925.0	25,626.0	159.2
FRS Companies	10,602.8	826.4	-162.6	709.2	10,557.4	116.5
All Other	13,803.2	2,237.6	243.6	1,215.8	15,068.6	184.0
U.S. Offshore[2]						
Total Industry	5,038.0	392.0	1.0	597.0	4,834.0	65.7
FRS Companies	3,313.5	262.4	-63.5	331.0	3,181.4	79.3
All Other	1,724.5	129.6	64.5	266.0	1,652.6	48.7
U.S. Total[2]						
Total Industry	29,444.0	3,456.0	82.0	2,522.0	30,460.0	137.0
FRS Companies	13,916.3	1,088.8	-226.1	1,040.2	13,738.8	104.7
All Other	15,527.7	2,367.2	308.1	1,481.8	16,721.2	159.8
FRS Companies' Foreign Oil Reserves						
Canada	1,770.8	180.5	-20.3	151.4	1,779.7	119.3
Europe	2,817.9	209.0	-7.9	406.3	2,612.7	51.4
Former Soviet Union	1,556.3	-65.7	0.0	121.8	1,368.7	-53.9
Africa	5,526.4	W	W	563.7	5,041.1	W
Middle East	1,389.8	W	W	147.6	1,595.4	W
Other Eastern Hemisphere	1,909.8	115.3	-64.1	242.7	1,718.3	47.5
Other Western Hemisphere	994.7	82.0	-442.6	66.0	568.2	124.3
Total Foreign	15,965.6	1,035.3	-617.4	1,699.4	14,684.1	60.9
Worldwide Total for FRS Companies	29,881.9	2,124.1	-843.5	2,739.6	28,422.9	77.5
Dry Natural Gas			**(billion cubic feet)**			
U.S. Onshore[2]						
Total Industry	194,906.0	44,136.0	134.0	16,610.0	222,566.0	265.7
FRS Companies	93,202.7	14,937.8	-256.3	7,092.4	100,791.8	210.6
All Other	101,703.3	29,198.2	390.3	9,517.6	121,774.2	306.8
U.S. Offshore[2]						
Total Industry	16,179.0	1,563.0	274.0	2,856.0	15,160.0	54.7
FRS Companies	9,766.4	486.1	-12.6	1,263.9	8,976.0	38.5
All Other	6,412.6	1,076.9	286.6	1,592.1	6,184.1	67.6
U.S. Total[2]						
Total Industry	211,085.0	45,699.0	408.0	19,466.0	237,726.0	234.8
FRS Companies	102,969.0	15,423.9	-268.8	8,356.3	109,767.8	184.6
All Other	108,116.0	30,275.1	676.8	11,109.7	127,958.2	272.5
FRS Companies' Foreign Natural Gas Reserves						
Canada	11,343.0	681.6	-180.4	1,250.8	10,593.4	54.5
Europe	12,698.7	820.5	-162.4	1,632.1	11,724.6	50.3
Former Soviet Union	2,303.3	-100.8	0.0	78.6	2,123.9	-128.3
Africa	11,033.7	113.3	-96.5	473.4	10,577.2	W
Middle East	5,841.3	470.5	109.1	308.6	6,112.3	W
Other Eastern Hemisphere	25,338.7	1,708.4	-75.2	1,924.6	25,047.4	88.8
Other Western Hemisphere	16,725.3	85.5	-188.9	1,273.7	15,348.2	W
Total Foreign	85,284.0	3,778.9	-594.3	6,941.7	81,526.9	54.4
Worldwide Total for FRS Companies	188,253.1	19,202.7	-863.1	15,298.0	191,294.7	125.5

[1] Includes revisions of previous estimates, improved recovery, and extensions and discoveries.

[2]The data reported for the FRS companies do not include royalty interest. Total U.S. industry data include the royalty interest portion of the FRS companies' reported amounts. Therefore, the data presented in this table for the FRS companies and for total industry are not directly comparable. However, an estimate can be made by multiplying the FRS companies' data by 7/6 to account for the royalty interest.

Sources: Industry data - Energy Information Administration Form EIA-23 (Annual Survey of Domestic Oil and Gas Reserves); see *U.S. Crude Oil, Natural Gas, and Natural Gas Liquids Reserves Annual Report*, 2006 and 2007 (December 2007 and December 2008), tables 2, 3, and 7. FRS companies' data - Energy Information Administration, Form EIA-28 (Financial Reporting System).

Table C13. Oil and Natural Gas Reserve Balances by Region for FRS Companies, 2007

Reserves Statistics	Worldwide Total	United States			Total Foreign
		Total	Onshore	Offshore	
Crude Oil and Natural Gas Liquids			(million barrels)		
Beginning of Period	29,882	13,916	10,603	3,314	15,966
Revisions of Previous Estimates	687	387	311	76	300
Improved Recovery	411	291	253	38	120
Purchases of Minerals-in-Place	160	147	103	45	13
Extensions & Discoveries	1,026	411	262	148	616
Production	-2,740	-1,040	-709	-331	-1,699
Sales of Minerals-in-Place	-1,004	-374	-265	-108	-630
End of period	28,423	13,739	10,557	3,181	14,684
Proportionate Interest in Investee Reserves	--	--	--	--	7,359
Natural Gas Reserves			(billion cubic feet)		
Beginning of Period	188,253	102,969	93,203	9,766	85,284
Revisions of Previous Estimates	6,183	5,160	5,109	51	1,023
Improved Recovery	931	756	714	41	175
Purchases of Minerals-in-Place	2,719	2,479	2,388	92	240
Extensions & Discoveries	12,089	9,508	9,115	393	2,581
Production	-15,298	-8,356	-7,092	-1,264	-6,942
Sales of Minerals-in-Place	-3,582	-2,748	-2,644	-104	-834
End of Period	191,295	109,768	100,792	8,976	81,527
Proportionate Interest in Investee Reserves	--	--	--	--	45,775

See footnotes at end of table.

Table C13. Oil and Natural Gas Reserve Balances by Region for FRS Companies, 2007 (Continued)

Reserves Statistics	Foreign						
	Total	Canada	Europe	Former Soviet Union	Africa and Middle East	Other Eastern Hemisphere	Other Western Hemisphere
Crude Oil and Natural Gas Liquids				(million barrels)			
Beginning of Period	15,966	1,771	2,818	1,556	6,916	1,910	995
Revisions of Previous Estimates	300	66	97	-67	202	W	W
Improved Recovery	120	6	W	W	77	W	W
Purchases of Minerals-in-Place	13	0	W	W	W	W	W
Extensions & Discoveries	616	108	102	W	235	111	W
Production	-1,699	-151	-406	-122	-711	-243	-66
Sales of Minerals-in-Place	-630	-21	W	W	W	W	W
End of period	14,684	1,780	2,613	1,369	6,636	1,718	568
Proportionate Interest in Investee Reserves	7,359	0	W	W	1,540	W	999
Natural Gas Reserves				(billion cubic feet)			
Beginning of Period	85,284	11,343	12699	2,303	16875	25339	16725
Revisions of Previous Estimates	1,023	W	449	-101	170	W	W
Improved Recovery	175	W	W	0	19	W	W
Purchases of Minerals-in-Place	240	10	W	0	W	W	W
Extensions & Discoveries	2,581	704	W	0	394	983	135
Production	-6,942	-1,251	-1,632	-79	-782	-1,925	-1,274
Sales of Minerals-in-Place	-834	-190	W	0	W	W	W
End of Period	81,527	10,593	11,725	2,124	16,689	25,047	15,348
Proportionate Interest in Investee Reserves	45,775	0	W	W	23,727	W	W

-- = Not applicable.
W = Data withheld to avoid disclosure.
Source: Energy Information Administration, Form EIA-28 (Financial Reporting System).

Table C14. Oil and Natural Gas Exploration and Development Expenditures, Reserves, and Production by Region for FRS Companies and Total Industry, 2007 and Percent Change from 2006

	United States			Foreign Total
	Total	Onshore	Offshore	
Exploration and Development Expenditures	(million 2007 dollars)			
FRS Companies	64,435.0	50,340.0	14,095.0	42,698.0
Percent Change	-35.1	-29.8	-48.9	-29.7
Wells Completed				
FRS Companies	11,834.4	11,639.2	195.2	4,239.8
Percent Change	-0.3	0.1	-19.0	-29.6
Industry	48,501.0	NA	NA	45,551.0
Percent Change	-2.0	NA	NA	-23.9
Success Rate[1]	(percent)			
FRS Companies	97.9	98.2	81.2	95.9
Industry	90.4	NA	NA	94.4
Crude Oil and NGL Production[2]	(million barrels)			
FRS Companies	1,040.2	709.2	331.0	1,699.4
Percent Change	-3.4	-1.0	-8.1	-6.8
Industry	2,522.0	1,925.0	597.0	27,249.0
Percent Change	2.4	2.4	2.4	-0.3
Crude Oil and NGL Reserve Interests[3]	(million barrels)			
FRS Companies	13,738.8	10,557.4	3,181.4	22,043.0
Percent Change	-2.3	-1.0	-6.4	-10.1
Natural Gas Production	(billion cubic feet)			
FRS Companies	8,356.3	7,092.4	1,263.9	6,941.7
Percent Change	5.4	10.7	-16.7	-1.1
Industry	19,466.0	16,610.0	2,856.0	84,571.0
Percent Change	5.0	6.1	-1.4	2.4
Natural Gas Reserve Interests	(billion cubic feet)			
FRS Companies	109,767.8	100,791.8	8,976.0	127,302.3
Percent Change	8.3	10.7	-12.8	-2.7

See footnotes at end of table.

Table is continued on the following page.

Table C14. Oil and Natural Gas Exploration and Development Expenditures, Reserves, and Production by Region for FRS Companies and Total Industry, 2007 and Percent Change from 2006 (Continued)

	Foreign						
	Total	Canada	Europe & Former Soviet Union [4]	Africa	Middle East	Other Eastern Hemisphere	Other Western Hemisphere
Exploration and Development Expenditures	(million 2007 dollars)						
FRS Companies	42,698.0	5,791.0	11,040.0	12,518.0	3,158.0	6,823.0	3,368.0
Percent Change	-29.7	-66.7	-5.8	-5.2	-2.2	0.1	-59.9
Wells Completed							
FRS Companies	4,239.8	2,440.6	99.9	348.1	155.3	686.4	509.5
Percent Change	-29.6	-44.3	-35.0	2.4	58.6	13.1	15.0
Industry	45,551.0	17,953.0	724.0	1,568.0	1,516.0	19,001.0	4,789.0
Percent Change	-23.9	-30.4	-89.4	5.7	-13.3	-1.4	-0.4
Success Rate[1]	(percent)						
FRS Companies	95.9	96.7	82.2	88.3	96.7	96.9	98.4
Industry	94.4	97.4	87.0	91.4	98.3	91.8	94.7
Crude Oil and NGL Production[2]	(million barrels)						
FRS Companies	1,699.4	151.4	528.1	563.7	147.6	242.7	66.0
Percent Change	-6.8	-7.8	0.3	-5.2	-24.1	-6.2	-21.6
Industry	27,249.0	1,208.0	6,509.0	3,766.0	9,189.0	2,886.0	3,690.0
Percent Change	-0.3	5.1	1.5	3.3	-1.6	-0.4	-4.3
Crude Oil and NGL Reserve Interests[3]	(million barrels)						
FRS Companies	22,043.0	1,779.7	8,801.0	5,041.1	3,135.1	W	W
Percent Change	-10.1	-0.4	-3.3	-8.8	-3.7	-10.0	-46.9
Natural Gas Production	(billion cubic feet)						
FRS Companies	6,941.7	1,250.8	1,710.7	473.4	308.6	1,924.6	1,273.7
Percent Change	-1.1	-14.0	-12.5	21.6	61.9	4.7	6.7
Industry	84,571.0	6,497.0	37,997.0	6,716.0	12,556.0	13,834.0	6,972.0
Percent Change	2.4	-1.6	0.3	5.5	5.9	3.9	5.1
Natural Gas Reserve Interests	(billion cubic feet)						
FRS Companies	127,302.3	10,593.4	33,342.2	10,657.4	29,759.4	W	W
Percent Change	-2.7	-8.0	-4.1	-3.4	4.1	-1.1	-8.7

[1]Success Rate defined as the total number of successful well completions during the period divided by the total number of wells drilled.

[2]Crude oil plus natural gas liquids. Foreign includes ownership interest production and foreign access production.

[3]Foreign includes net ownership interest reserves (66.6 percent of total foreign) and "Other Access" reserves (33.4 percent of total foreign). "Other Access" reserves include proportional interest in investee reserves and foreign access reserves.

[4]Europe combined with the former Soviet Union to avoid disclosure.

- = Not available.

Sources: Reserve additions and production, U.S. - Energy Information Administration Form EIA-23 (Annual Survey of Domestic Oil and Gas Reserves); see *U.S. Crude Oil, Natural Gas, and Natural Gas Liquids Reserves* , 2006, and 2007 Annual Reports. Reserve Additions, Foreign - *British Petroleum Statistical Review of World Energy 2008.* Wells Completed, U.S. - Energy Information Administration, *Monthly Energy Review* , October 2008, table 5.2; Foreign - *World Oil* , September 2007 and September 2008.
FRS companies' data - Energy Information Administration, Form EIA-28 (Financial Reporting System).

Table C15. U.S. and Foreign Refinery Output and Capacity for FRS Companies, Ranked by Total Energy Assets, and Industry, 2007
(Thousand Barrels per Day)

Refined Product Statistics [1]	FRS Companies				Total Industry	FRS Percent of Industry
	All FRS	Top Four	Five through Twelve[2]	All Other[2]		
United States						
Refinery Output Volume[3]	14,168	6,020	4,341	3,807	18,561	76.3
Percent Gasoline						
Reformulated/Oxygenated	8.2	7.7	6.7	10.7	15.9	39.6
Other	37.2	36.5	43.1	31.6	30.2	94.1
Percent Distillate	31.6	31.6	31.4	31.8	23.0	105.1
Percent Other	23.0	24.1	18.8	25.9	31.0	56.6
Refinery Capacity						
Years Change (Net)	-551	-439	-212	100	150	(5)
At Year End	14,101	6,176	4,254	3,671	18,171	77.6
Utilization Rate[4]	89.6	81.2	93.7	99.6	86.6	(5)
Foreign						
Refinery Output Volume[3]	5,008	4,597	(2)	411	NA	(5)
Percent Gasoline	28.9	29.0	(2)	28.0	NA	(5)
Percent Distillate	41.5	41.9	(2)	37.7	NA	(5)
Percent Other	29.6	29.1	(2)	34.3	NA	(5)
Refinery Capacity						
Years Change (Net)	-353	-353	(2)	0	1,090	(5)
At Year End	5,571	5,081	(2)	490	70,325	7.9
Utilization Rate[4]	85.3	85.5	(2)	82.9	86.6	(5)

[1]U.S. FRS and U.S. industry data include operations in Puerto Rico and the U.S. Virgin Islands. Foreign FRS and foreign industry data exclude operations in Puerto Rico and the U.S. Virgin Islands.

[2]For foreign FRS, the "Five through Twelve" and "All Other" groups are combined to avoid disclosure.

[3]For FRS companies, includes refinery output at own refineries for own account and at others' refineries for own account.

[4]Defined as average daily crude runs at own refineries, for own account, and for account of others, divided by average daily crude distillation capacity.

[5]Not meaningful.

NA = Not available.

Note: Sum of components may not equal total due to independent rounding.

Sources: Industry data, U.S. - Refinery output and refinery capacity: Energy Information Administration, Forms EIA-820 (Annual Refinery Report) and EIA-810 (Monthly Refinery Report); see *Petroleum Supply Annual,* 2007. Industry data, Foreign - Refinery Capacity: *British Petroleum Statistical Review of World Energy* , 2008.

FRS companies data - Energy Information Administration, Form EIA-28 (Financial Reporting System).

Table C16. Sales of U.S. Refined Products, by Volume and Price, for FRS Companies Ranked by Total Energy Assets, 2006-2007
(Million Barrels and 2007 Dollars per Barrel)

Product Distribution Channel	All FRS		Top Four		Five through Twelve		All Other	
	Volume	Price	Volume	Price	Volume	Price	Volume	Price
Gasoline								
Intra-Company Sales								
2007	49.8	91.19	W	W	W	W	0.0	0.00
2006	59.8	83.89	28.8	84.40	29.2	83.63	1.8	79.90
Percent Change	-16.8	8.7	W	W	W	W	W	W
Wholesale/Resellers								
2007	1,961.4	90.55	882.4	91.17	611.5	90.51	467.4	89.43
2006	2,119.5	84.18	982.2	84.16	661.0	83.03	476.3	85.83
Percent Change	-7.5	7.6	-10.2	8.3	-7.5	9.0	-1.9	4.2
Dealer-Operated Outlets								
2007	794.8	94.14	391.7	95.14	(2)	(2)	403.1	93.16
2006	828.4	87.70	364.0	88.99	(2)	(2)	464.4	86.69
Percent Change	-4.1	7.3	7.6	6.9	(2)	(2)	-13.2	7.5
Company-Operated Outlets								
2007	422.6	99.83	177.1	98.49	(2)	(2)	245.5	100.80
2006	487.2	92.72	242.4	92.90	(2)	(2)	244.9	92.53
Percent Change	-13.3	7.7	-26.9	6.0	(2)	(2)	0.3	8.9
Other [1]								
2007	539.9	92.40	351.4	95.22	(2)	(2)	188.5	87.16
2006	586.6	85.13	354.2	86.52	(2)	(2)	232.4	83.03
Percent Change	-8.0	8.5	-0.8	10.1	(2)	(2)	-18.9	5.0
Total Gasoline								
2007	3,768.5	92.62	1,819.5	93.50	1,029.7	91.82	919.2	91.79
2006	4,081.5	86.04	1,971.6	86.55	1,092.0	84.45	1,017.9	86.77
Percent Change	-7.7	7.6	-7.7	8.0	-5.7	11.6	-9.7	5.8
Distillate								
2007	2,244.4	91.31	1,005.1	91.01	599.8	91.64	639.6	91.47
2006	2,297.1	85.48	1,015.2	85.53	610.8	85.19	671.1	85.66
Percent Change	-2.3	6.8	-1.0	6.4	-1.8	10.5	-4.7	6.8
All Other Products								
2007	1,309.3	62.20	640.1	64.46	315.9	54.09	353.3	65.36
2006	1,387.8	58.61	655.9	61.57	345.9	49.19	386.1	61.99
Percent Change	-5.7	6.1	-2.4	4.7	-8.7	12.9	-8.5	5.4
Total Refined Products								
2007	7,322.2	86.78	3,464.7	87.41	1,945.4	85.63	1,912.1	86.80
2006	7,766.4	80.97	3,642.7	81.77	2,048.7	78.72	2,075.0	81.80
Percent Change	-5.7	7.2	-4.9	6.9	-5.0	11.7	-7.9	6.1

[1] Includes direct sales to industrial and commercial customers and sales to unconsolidated affiliates.

[2] Five through Twelve and All Other groups combined for dealer-operated outlets, company-operated outlets, and other, to avoid disclosure.

W = Data withheld to avoid disclosure.

Note: Sum of components may not equal total due to independent rounding.

Source: Energy Information Administration, Form EIA-28 (Financial Reporting System).