

1. Market Developments and FRS Companies in 2002

The 28 major U.S. energy companies¹ reporting to the Energy Information Administration's (EIA) Financial Reporting System (FRS) derive the bulk of their revenues and income from petroleum operations, including natural gas production. A majority of these companies are multinational, with 39 percent of the majors' net investment located abroad. Worldwide petroleum and natural gas market developments are of primary importance to the companies' financial performance. (These companies are listed below)

The FRS Companies in 2002

Amerada Hess Corporation	LYONDELL-CITGO Refining, L.P.
Anadarko Petroleum Corporation	Marathon Oil Corporation
Apache Corporation	Motiva Enterprises, L.L.C.
BP America, Inc. ²	Occidental Petroleum Corporation
Burlington Resources, Inc.	Phillips Petroleum Company
ChevronTexaco Corporation	Premcor, Inc.
CITGO Petroleum Corporation	Shell Oil Company
Conoco, Inc.	Sunoco, Inc.
Devon Energy Corporation	Tesoro Petroleum Corporation
Dominion Resources, Inc.	Total Fina Elf Holdings USA, Inc.
El Paso Energy Corporation	Unocal Corporation
EOG Resources, Inc.	Valero Energy Corporation
Exxon Mobil Corporation	The Williams Companies, Inc.
Kerr-McGee Corporation	XTO Energy, Inc.

Overall, petroleum and natural gas market developments led to deterioration in the majors' financial performance in 2002 compared to results for 2001. Developments in the capital markets in 2002 also had particularly adverse consequences for a number of the major energy companies.

Petroleum and Natural Gas Markets in 2002

Gauged by financial performance, the year 2002 was unusual for the major energy companies in that earnings from both upstream operations (oil and gas exploration, development, and production) and downstream petroleum operations (refining, marketing, and transport) were down considerably from prior-year levels. As in 1998, these conditions reflected market imbalances in which excess supplies put downward pressure on oil and natural gas prices and squeezed refiners' profit margins.

The world oil market began 2002 in a state of excess supply. This situation had been building for some time. World oil supplies had been generally outpacing demand since early 2000 and continued to do so until the second quarter of 2002. The imbalance was especially exacerbated in the second half of 2001 by economic downturns in much of the world, a relatively mild onset of winter weather in the United States, and the impacts of the terrorist attacks in the United States on September 11, 2001 (hereafter referred to as 9/11).

These higher-than-normal inventories indicated an excess of supplies in the marketplace. Beginning-of-year petroleum inventories in 2002 (excluding government stockpiles) among the industrialized nations of the Organization for Economic Cooperation and Development (OECD) were near a 5-year maximum. In the United States, stocks of motor gasoline, distillate fuel, and crude oil were at the top of their ranges. Natural gas in working storage in the United States opened the year at the highest level since 1990.

Oil and natural gas prices and refiners' margins (the difference between product prices received and crude oil prices paid by refiners) began the year 2002 at sharply reduced levels compared to 2001. In January 2002, the price of crude oil, as measured by the composite U.S. refiner acquisition cost of crude oil, was \$17 per barrel compared with \$25 per barrel in January 2001. The U.S. refiner margin plunged from an all-time peak of \$18 per barrel in May of 2001 to \$7 per barrel in January 2002. Natural gas prices at the U.S. wellhead averaged \$2.35 per thousand cubic feet (mcf) in January 2002, down from \$6.82 per Mcf in the prior January, a record high.

The elimination of excess supplies and recovery of prices and margins characterized much of petroleum and natural gas markets for 2002.

Turning first to petroleum markets, on the demand side, growth in worldwide petroleum demand, which was near zero for 2001, grew steadily in 2002 compared to the prior year. The growth in petroleum demand mainly reflected the improvements in world economic activity. As measured by real gross domestic product (GDP), world economic growth began to recover in 2002 from recession and the impacts of 9/11. Year-over-year global real GDP growth steadily improved, from near zero in the fourth quarter of 2001 to an annual rate of 2.5 percent in the fourth quarter of 2002. For all of 2002, world oil demand was up almost 1 percent over demand in 2001. Growth in petroleum demand came largely from Asia (apart from Japan) and Russia. Petroleum demand in the United States was up 1 percent.

Domestically, the modest growth in U.S. petroleum demand was led by a 2.8-percent increase in gasoline demand. The increase in gasoline demand in part reflected higher economic growth, but also continued reluctance by businesses and consumers to return to pre-9/11 levels of airline travel. This latter development was evident in the demand for jet fuel, which dropped 2 percent in 2002 following a 4-percent drop in 2001.

On the supply side, the nations of the Organization of Petroleum Exporting Countries (OPEC), including Iraq, managed to cut production by 1.9 million barrels per day (mmb/d) in 2002 compared to the prior year. Notable increases in oil production by Angola, Brazil, Canada, and Russia were only minor offsets to the OPEC cuts. For the year, world oil production was 1.2 mmb/d lower in 2002 than in 2001. Adjustments by OPEC and a recovery in petroleum demand eliminated most of the excess of petroleum supplies by the second half of 2002. In the United States, petroleum stocks (excluding the Strategic Petroleum Reserve) at the beginning of 2002 were 6 percent above normal levels. As world oil production was cut and petroleum demand recovered, U.S. refiners drew down inventories. By the end of 2002, petroleum stocks were below the average level of recent years.

As oil markets came into balance during 2002, oil prices rose. In December 2001, the refiner acquisition cost of imported crude oil was \$16 per barrel. By December 2002, it was \$27 per barrel. Most petroleum product prices in the United States, with the exception of jet fuel, rose slightly faster than crude oil input prices, providing a boost to refiners' margins. However, despite this latter improvement, refiners' margins throughout 2002 were well below the levels of 2001. On an annual basis, the refiners'

margin was down to an average \$8 per barrel in 2002 from just under \$12 per barrel in 2001. The sharp drop in the margin had a devastating effect on U.S. refiners' financial results for 2002.

In refining operations abroad, margins also tended to rise during 2002 in the key European and Asia Pacific regions. For the year as a whole, though, margins tended to be lower in 2002 than in 2001.

Natural gas market developments had the most severe impacts on upstream financial results in 2002. The year 2002 opened with the highest level of natural gas in working storage in the United States since 1990 (using previous year-end levels to approximate beginning year levels of the current year). The buildup of natural gas inventories was in part due to mild winter weather at the outset of 2002 (U.S. heating degree days in the fourth quarter of 2001 were 27 percent below the previous fourth quarter) and in part due to the falloff in economic activity in the second half of 2001. Mild winter weather continued into early 2002, putting further downward pressure on U.S. natural gas prices. The U.S. wellhead price in February 2002 was slightly over \$2 per mcf, down from over \$5 per mcf in the previous February.

Natural gas suppliers drew down inventories during 2002, aided by higher economic growth and a colder-than-normal start to winter weather in the fourth quarter of 2002. As excess gas inventories declined, estimated natural gas prices rose. However for the year, estimated U.S. wellhead natural gas prices averaged \$2.95 per Mcf in 2002, a 27-percent drop from \$4.02 per Mcf in 2001. Lower natural gas prices were the main cause of reduced U.S. upstream earnings for the majors in 2002 compared to 2001.

Outside the United States, the majors were also hit by lower natural gas prices. The FRS companies' reported foreign natural gas prices averaged \$2.54 per Mcf in 2002, down from an average of \$2.82 per Mcf in 2001.

Demise of Energy Trading Impacts Financial Results

Many of the overall financial results of the FRS companies were affected by the demise of the energy trading business in 2002.

Late in 2001, the Enron Corporation made revelations of improper financial disclosures going back four years. The abuses of financial reporting standards included deliberate inflation of revenues, misclassification of liabilities to hide debt financing, and manipulation of reported earnings to meet earlier forecasts. Many of the abuses were related to Enron's energy trading business, Enron being the largest energy trader at the time.

Enron's energy trading customers withdrew their business on a massive scale, having lost confidence in Enron's ability to guarantee future contracted trades at stated terms. Following the accounting revelations that began with its report of third quarter earnings on October 16, 2001, investors lost confidence in Enron and its ability to generate future earnings. Consequently, Enron's share prices plunged in value to less than \$1 a share on November 28, 2001, from a peak value of \$84.87 a share on December 28, 2000.³ The demise of Enron's trading business, its rapidly declining net worth, and its growing debt repayments led the company to file for Chapter 11 bankruptcy in November 2001.

The loss in investor confidence in energy trading activities rapidly spread beyond Enron to other energy companies engaged in these activities. Customers who had utilized energy traders to contract for future deliveries of energy commodities and manage the prices of future deliveries also lost confidence. The

financial impacts of the Enron aftermath were severe for companies that depended on energy trading as a core source of revenues and earnings.

As customers cut back on their use of energy trading services, an important source of revenue shrank, reducing the net income of energy trading companies. Prior to the Enron collapse, revenue from energy trading was the main source of reported revenue growth for companies with significant trading operations.

Energy traders gained profit by tailoring future deliveries and purchases of energy commodities at contracted prices to their customers' particular needs. A key component of these transactions was the trader's assurance to the customer that the stated future conditions would be fulfilled. The energy trading customer was essentially purchasing assurances of future deliveries and sales at specified prices or within price ranges.

In order to assure that future transactions could be completed, the energy trader had to take positions in contracts (i.e., the buying and selling of multiple contracts, such as in the futures, commodities, and other markets), both financial and physical. The energy trader's position often entailed borrowing funds in order to provide ready cash to expeditiously settle contracts. As long as the cash flow from the trading business was growing, or at least steady and predictable, payback of borrowed funds was done in the normal course of business. However, should the trading business go into a rapid decline and associated cash flow diminish, the energy trader could be in a situation in which the cash needed to pay back prior borrowings exceeds the cash currently coming in from the trading business. In this situation, the trader must borrow more or sell assets to pay back its borrowings.

Following the Enron debacle, energy-trading customers lost confidence in the process, concerned that future contracts might not be wholly fulfilled. The loss of business had a double-edged effect. The first effect is simply that loss of customers means loss of revenue and lower bottom-line results. The other, more adverse effect stemmed from paybacks of borrowed funds and associated interest expense that exceeded current cash flow from the trading business. To make paybacks in excess of cash flow, energy traders borrowed more, moving the trader into a riskier position. With higher risk comes a higher cost of capital for additional funds. Increased borrowing at higher interest rates further eroded the financial results of energy trading companies.

Selling assets is another way of raising cash. Energy-trading companies priced some of their assets for quick sale to raise cash, often at prices below the assets' balance sheet value. In corporate financial reporting, when a fixed asset (e.g., a pipeline) is sold for a price below its book value, the loss reduces net income, resulting in lower reported profits. Traders sold other assets because they were profitable with many ready buyers. In this situation, the energy trader was reducing its profits in order to raise cash. Again, the need to raise cash reduced reported profits as well as the company's stock of productive assets.

Thus, massive defection of trading customers, increased borrowing costs, and negative bottom-line impacts of hurried asset sales reduced the net income and cash flow of companies engaged in energy trading in 2002. Although only a small minority of FRS companies were significantly involved in energy trading, the demise of the energy trading business appeared to have effects on overall financial results for 2002. For example, as discussed in the next chapter, the drop in cash flow from company operations in 2002 of the handful of energy traders in the FRS group exceeded that of all other FRS companies combined.

Changes in the FRS Group in 2002

New Survey Entrant

XTO Energy, Inc. (formerly Cross Timbers Oil Company) was added to the FRS respondent group for 2002 due to its oil and gas reserves and production levels. XTO's growth over the last few years was largely due to asset acquisitions and resulted in its addition to the FRS respondent group.

Mergers and Acquisitions

Two FRS companies merged with other FRS companies during 2002. On March 3, 2002, Equilon was fully consolidated into Shell Oil Company following Shell's acquisition of Texaco's 44-percent ownership of Equilon on February 18, 2002, and consolidated retroactively as of January 1, 2002.⁴ On August 30, 2002, Conoco and Phillips completed their merger, a transaction valued at \$15.2 billion when originally reported in November 2001. ConocoPhillips Company is the name of the resulting company, but both Conoco and ConocoPhillips reported to the FRS survey as stand-alone companies for 2002.

Two other companies, Tosco and Ultramar Diamond Shamrock, were stand-alone respondents to the FRS for 2001 despite being acquired by other FRS companies (Phillips and Valero, respectively) before the end of 2001. These companies have now been fully consolidated into Phillips and Valero and, as of 2002, are no longer reported to the FRS survey on a stand-alone basis.

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

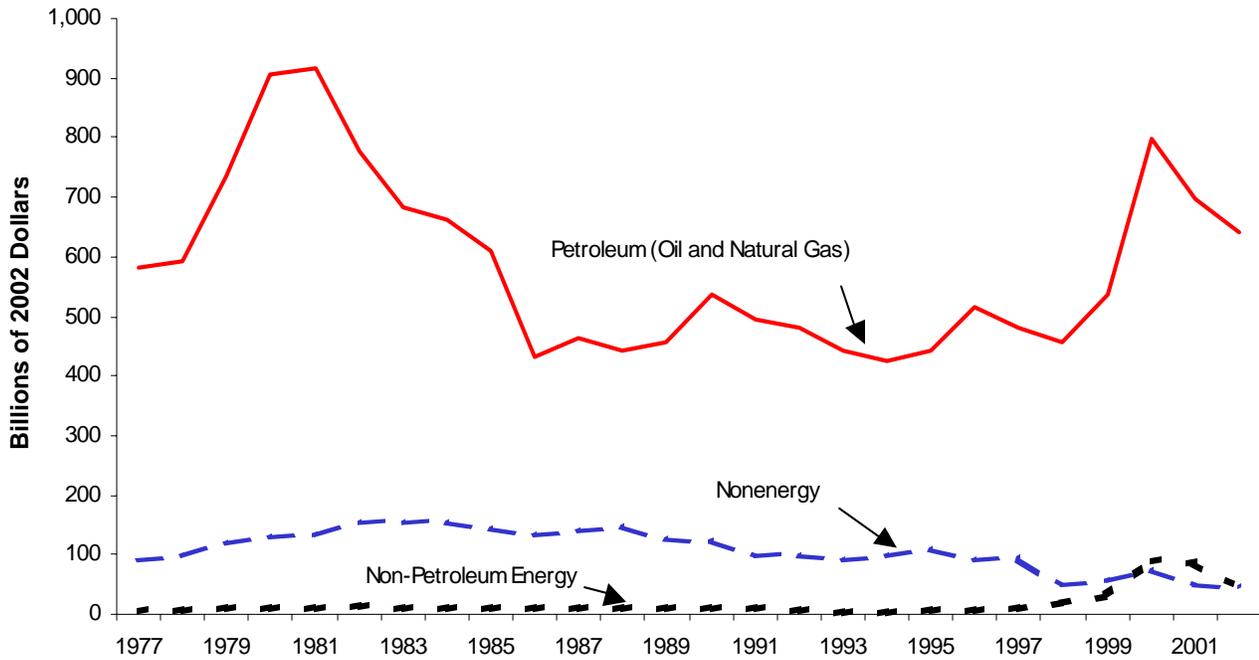
For the reporting year 2002, 28 major energy companies reported their financial and operating data to the EIA on Form EIA-28.⁵ These companies (referred to as the FRS companies in this report) occupy a significant position in the U.S.⁶ economy. In 2002, operating revenues of the FRS companies totaled \$699 billion, which is equal to 10 percent of the \$7.0 trillion in revenues of the Fortune 500 largest U.S. corporations.⁷

The reporting companies engage in a wide range of business activities, but their most important activities are in the energy sector. About 88 percent, or \$642 billion, of allocated operating revenues⁸ were derived from energy sales. Nearly all of these revenues were derived from the companies' core petroleum operations (which includes natural gas) (Figure 1). (For the purposes of this report, the petroleum line of business includes natural gas.⁹)

In 2002, the FRS companies accounted for 49 percent of total U.S. oil, which includes crude oil and natural gas liquids (NGL) production,¹⁰ 45 percent of natural gas production, and 84 percent of U.S. refining capacity (Figure 2). The bulk of the FRS companies' assets and new investments were devoted to sustaining various aspects of petroleum production, processing, transportation, and marketing.

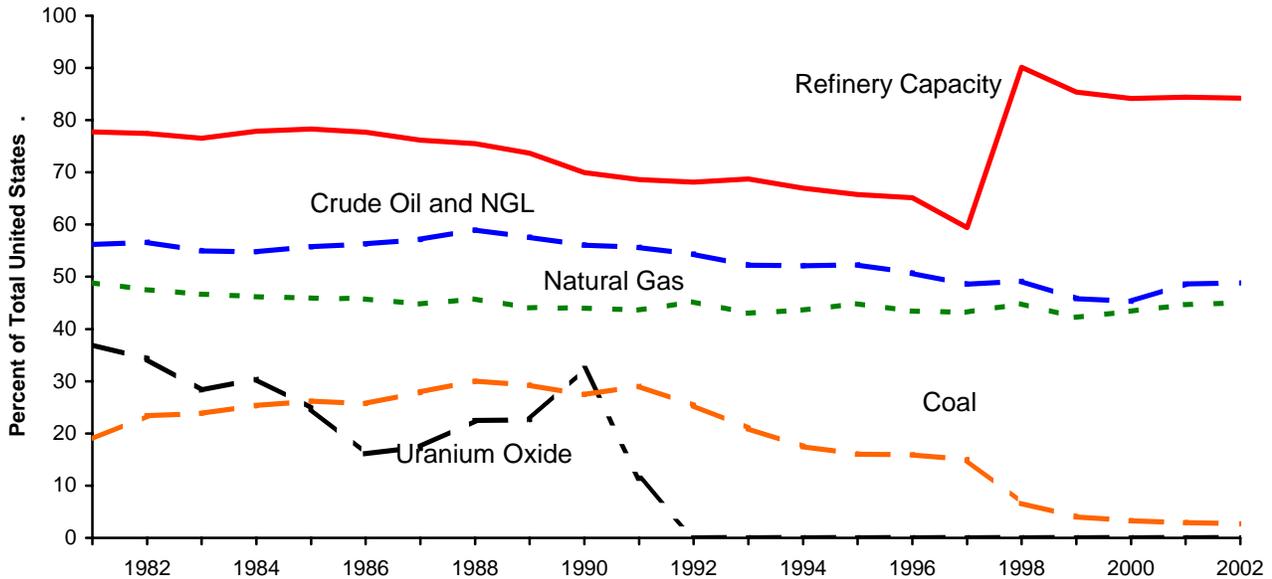
Energy production other than oil and natural gas has been a relatively small, but growing, part of the FRS companies' operations since 1994. During 2002, the combined operating revenues of the coal and

Figure 1. Operating Revenues by Line of Business for FRS Companies, 1977-2002



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

Figure 2. Shares of U.S. Energy Production and Refinery Capacity for FRS Companies, 1981-2002



Note: The FRS companies last produced uranium in 1991.
 Sources: Table B1; Total industry uranium oxide production is from Energy Information Administration, *Uranium Industry Annual 1992*, DOE/EIA-0478(92) (Washington, DC, October 1993).

other energy operations of the FRS companies totaled \$44 billion, or 6 percent of allocated revenues. Increased activity in electricity more than offset the continued decline in coal activity by the FRS companies beginning in 1994 and continuing through 2001, but declined in 2002. In particular, the FRS companies accounted for 29 percent of U.S. coal production in 1991, 15 percent in 1997, 7 percent in 1998, and 3 percent in 2002, with these declines largely being due to the relative lack of profitability attributable to this line of business. Meanwhile, FRS other energy (exclusive of coal), which is chiefly composed of electricity operations, increased from 0.3 percent of allocated revenues in 1994 to 10.2 percent in 2001, but fell to 6 percent in 2002.

During the 1980's, the FRS companies were major producers of domestic uranium. However, no FRS company has produced uranium oxide since 1991. Nonenergy businesses, mainly chemicals, accounted for slightly more than 6 percent, or \$46 billion, of the FRS companies' allocated revenues in 2002.

Endnotes

¹The U.S.-based energy companies that respond to the Financial Reporting System (FRS) Form EIA-28 are considered to be U.S. majors by the Energy Information Administration (see P.L. 95-91, Sec. 205 (h)). Per the requirements of that statute, the Administrator of the Energy Information Administration designates "major energy-producing companies" and selects them as respondents to the FRS. Currently, the Administrator uses the following selection criteria: at least 1 percent of U.S. crude oil or natural gas liquids reserves or production, or at least 1 percent of U.S. natural gas reserves or production, or at least 1 percent of U.S. crude oil distillation capacity. The companies that reported to the FRS for the years 1974 through 2002 are listed in Appendix A, Table A1. Three of the FRS companies are owned by foreign companies: BP America—owned by BP plc; TotalFinaElf Holdings USA—owned by TotalFinaElf; and Shell Oil—owned by Royal Dutch/Shell.

²BP America, the U.S. subsidiary of BP plc of the United Kingdom, is the FRS respondent.

³*Houston Chronicle*, "History of Enron Corp." (November 29, 2001).

⁴Details of the transaction were largely undisclosed, but the value of the overall transaction was \$3.8 billion. The transaction had several aspects. Shell acquired Texaco's 44-percent ownership of Equilon, Shell acquired about 48 percent of Texaco's 32.8-percent share of Motiva, and Saudi Refining acquired about 52 percent of Texaco's 32.8-percent share of Motiva. The results of the transaction are that Texaco (now ChevronTexaco) has no ownership in Equilon or Motiva, Shell fully owns Equilon (and subsequently consolidated it), Shell and Saudi Refining are now 50/50 joint venture partners in Motiva.

⁵Aggregate time series data from Form EIA-28 for 1977 through 2001 and previous editions of this report can be obtained from the EIA (see <http://www.eia.doe.gov/emeu/finance/page2.html>).

⁶For the purposes of this report, the term "United States" typically includes the 50 States, the District of Columbia, Puerto Rico, and the U.S. Virgin Islands.

⁷The Fortune 500 is a list of the 500 largest U.S. corporations, ranked by revenues, published annually by Fortune magazine (see <http://www.fortune.com/fortune/fortune500>).

⁸Note that "allocated operating revenues" exceeds corporate operating revenue because of double-counting that is eliminated when calculating corporate operating revenues.

⁹Generally accepted accounting principles (GAAP) for the United States do not require that energy companies separately account for costs of oil production and natural gas production in company financial records. Various exploration and development costs cannot easily or separately be assigned to either oil production or natural gas production.

¹⁰Note that U.S. totals include royalty production while the FRS production levels do not. Thus, the FRS share of crude oil and natural gas liquids production and natural gas production are somewhat understated by these calculations.

