

Foreign Direct Investment in U.S. Energy 2002

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The purpose of this foreign direct investment report is to provide an assessment of the extent of foreign ownership of energy assets in the United States. Section 657, Subpart 8 of the U.S. Department of Energy Organization Act (Public Law 95-91) requires an annual report to Congress which 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” EIA intends the information in this report for use by the U.S. Congress, Government agencies, industry analysts, and the general public.

Introduction

Foreign direct investment (FDI) is the ownership or control, directly or indirectly, of 10 percent or more of a U.S. business (or asset) by a foreign entity. Ownership or control of less than 10 percent of a business is not considered to be direct investment. In this report, an FDI-affiliate company or FDI affiliate is a U.S. business in which there is foreign direct investment.¹ This report describes the role of direct foreign ownership of U.S. energy enterprises with respect to their energy operations, capital investments, and net foreign investment flows (including net loans). In addition, since energy investments are made in a global context, the report examines patterns of direct investment in foreign energy enterprises by U.S.-based companies. For a discussion of acquisitions and divestitures of U.S. energy assets by foreign investors in 2002, see Energy Information, Acquisition of U.S. Energy Assets by Foreign Investors in 2002, December 2004.

FDI is one measure of the continuing influence or control of foreign investors, companies, or individuals over the management and disposition of U.S. assets of production in the economy.² However, determining influence or control over a company is a very complex and often subjective process in which many factors other than the percentage of ownership must be considered. While holding 10 percent or more of a company often may constitute control of that company, it does not necessarily do so.³

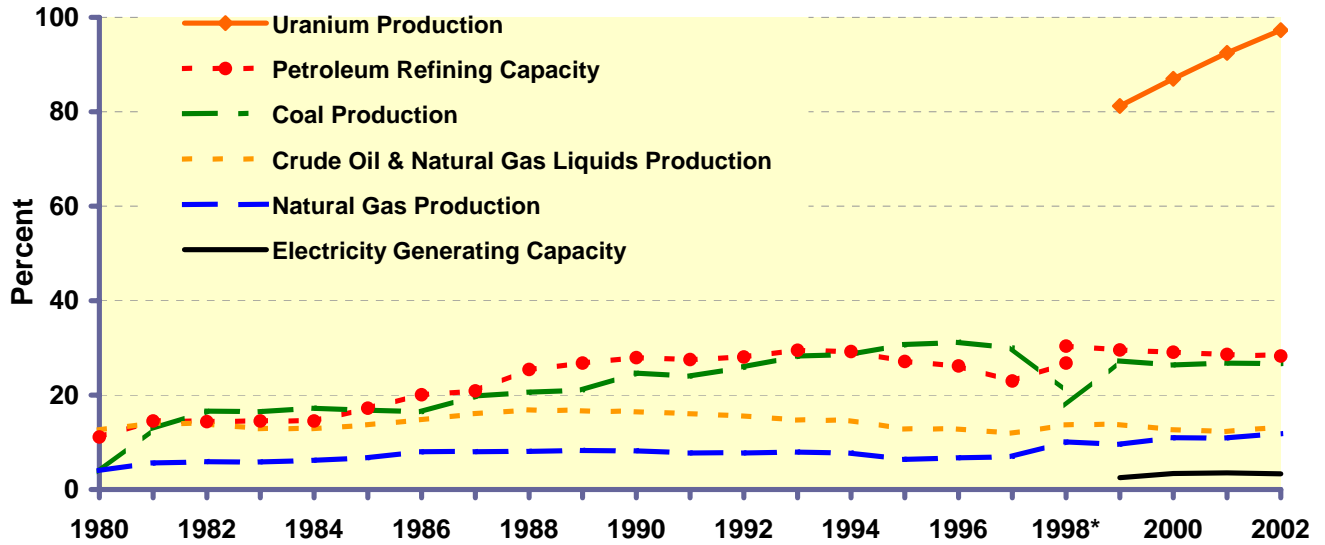
The measure of FDI used in this report is net capital flows into the United States, that is, the net inflows of capital to FDI affiliates in the United States from foreign investors.⁴ The inflows are recorded on a net basis, that is, the gross inflow of FDI to the United States from foreign investors minus the gross return of FDI to foreign investors. Net FDI capital inflows include net capital contributions to new and existing FDI affiliates, net earnings reinvested in FDI affiliates, and net loans to FDI affiliates.⁵ The counterpart to FDI net capital flows into the United States is U.S. direct investment abroad (DIA) capital flows, the outflows of capital from U.S. investors to their DIA affiliates overseas.

FDI Affiliates' operations in U.S. Energy

Overall, there were minor changes in the operations of the U.S. energy companies that were the affiliates of foreign direct investors, including modest increases in U.S. oil and gas production, smaller increases in U.S. motor gasoline sales and electricity generating capacity, and slight declines in U.S. coal production and petroleum refining capacity (Figure 1, Tables 1-3 and 5-6).

The absolute amount of uranium concentrate produced in the United States by these companies, which now are all subsidiaries of Cameco (Canada), fell, while their share of U.S. production increased, as the domestic uranium industry continued to decline (Table 4).

Figure 1. FDI-Affiliate Companies' Share of U.S. Production of Oil and Gas, Coal, and Uranium and of U.S. Capacity for Petroleum Refining and Electricity Generation, 1980-2002



Note: Sources for data series for refining capacity and coal production changed in 1998.

Sources: 2000-2002: Tables 1-6 of this report. 1980-1999: Energy Information Administration, *Foreign Direct Investment in U.S. Energy 2001*, Figure 1, <http://www.eia.doe.gov/emeu/finance/fdi/figure01.html>.

Capital expenditures in oil and gas production and, particularly, in petroleum refining by U.S. affiliates of foreign investors increased, the former largely fueled by oil and gas reserve acquisitions by U.S. affiliates of EnCana (Canada) and the latter almost entirely by downstream petroleum acquisitions by U.S. affiliates of Royal Dutch/Shell (Netherlands and United Kingdom) (Table 7).

Flow of FDI Funds into the United States

Net foreign direct investment capital flows into the U.S. energy industry rose, in contrast to net direct investment capital flows to the U.S. economy as a whole, and from the U.S. economy as a whole. Net FDI capital flows into U.S. energy were 6.0 percent of total net FDI flows in 2002, falling from 9.6 percent in 2001. (Figures 2 and 3).

The two largest contributors to increased foreign net direct investment capital inflows to the U.S. energy industry were likely⁶ transactions by National Grid Transco (Great Britain) and Royal Dutch/Shell (Netherlands and United Kingdom).

Flow of Direct Investment Abroad from the United States

Net direct investment abroad in foreign energy industries was negative, probably led by TXU's (formerly Texas Utilities) sale of its British retail energy assets to E.ON (Germany) (Figure 4).

In the energy industry, the petroleum and natural gas sector has received the largest share of direct net capital flows both into and out of the United States for the last three years (Figures 5 and 6).

Net foreign direct investment capital flows into the U.S. energy industry exceeded U.S. direct investment abroad capital flows to foreign energy industries by a large margin in 2000 and 2002 (Figure 7).

Table 1. Net Production of Oil and Gas in the United States by FDI-Affiliate Companies, 2000-2002

Company	Oil (Crude Oil and Natural Gas Liquids) (million barrels)				Gas (Dry Natural Gas) (billion cubic feet)			
	2000	2001	2002	2001-2002 Percent Change	2000	2001	2002	2001-2002 Percent Change
BP America ^a	251.0	243.0	254.0	4.5	1,174.0	1,358.0	1,334.0	-1.8
Shell Oil	102.0	108.0	120.0	11.1	586.0	581.0	611.0	5.2
BHP Petroleum (Americas) ^b	3.9	1.8	7.1	293.1	15.3	16.1	20.5	27.6
Nexen Petroleum USA	4.0	3.0	3.0	0.0	34.0	36.0	34.0	-5.6
EnCana Oil & Gas USA ^c	0.0	0.7	2.3	228.6	3.0	16.0	114.0	612.5
Total Exploration Production USA	3.0	2.0	2.0	0.0	88.0	81.0	78.0	-3.7
Meridian Resource	4.5	2.9	2.2	-24.2	27.7	22.1	15.6	-29.5
North Coast Energy	0.1	0.1	0.1	26.8	7.8	6.4	9.6	50.4
Consol Energy ^d	0.0	0.0	0.0	-	16.3	30.4	41.3	35.9
Fortuna Energy	-	0.0	0.0	-	-	0.8	18.8	2,254.3
Greka Energy	0.8	NF	NF	-	1.8	NF	NF	-
Louis Dreyfus Natural Gas ^e	2.8	NF	NF	-	119.9	NF	NF	-
Chieftain Development International ^f	1.2	NF	NF	-	20.9	NF	NF	-
Enterprise Oil Gulf of Mexico ^g	1.6	NA	-	-	17.5	NA	-	-
Repsol YPF	0.2	NA	NA	-	NA	NA	NA	-
Total FDI-Affiliate Companies^h	375	362	391	8.1	2,112	2,148	2,277	6.0
Total United States	2,960	2,940	2,936	-0.1	19,182	19,616	18,964	-3.3
Percent FDI-Affiliate Companies	12.7	12.3	13.3		11.0	10.9	12.0	

^aIncludes natural gas consumed in Alaska operations.

^bFor years ending June 30, 2000-2002. 2000 includes production in Bolivia.

^cThe foreign parent, EnCana, was formerly Alberta Energy & PanCanadian Energy.

^dFor years ending June 30, 2000-2001, and December 31, 2002.

^ePurchased by Dominion Resources in 2001.

^fAcquired by Hunt Oil in 2001.

^gBecame a subsidiary of Royal Dutch/Shell in 2002. Amounts for 2000 estimated.

^hDoes not include royalty production.

NA = Not available. NF = Not FDI-affiliate company.

Note: Calculations performed on unrounded numbers.

Sources: **Company Data:** Form 10-K and 20-F reports filed with the U.S. Securities and Exchange Commission, annual reports to shareholders, and John S. Herold Financial Database. **U.S. Totals:** Energy Information Administration, *Monthly Energy Review*, DO

Table 2. Refinery Operations in the United States of FDI-Affiliate Companies, 2000-2002

Company	Number of Refineries			Total Crude Oil Distillation Capacity (thousand barrels per day)			
	2000	2001	2002	2000	2001	2002	2001-2002 Percent Change
BP America	8	7	6	1,662	1,560	1,502	-3.8
Motiva Enterprises ^a	4	4	4	860	873	880	0.8
PDV America	5	5	5	703	703	698	-0.6
Shell Oil	2	2	6	135	135	604	347.2
Deer Park Refining ^b	1	1	1	275	334	334	0.0
Lyondell-CITGO Refining ^c	1	1	1	250	275	270	-1.6
Chalmette Refining ^d	1	1	1	183	183	183	0.0
Atofina Petrochemicals	1	1	1	179	179	175	-1.9
Alon USA	1	1	1	59	59	59	0.0
Transworld Oil USA	1	1	1	21	29	29	0.0
Greka Energy	1	1	1	10	10	10	0.0
Equilon Enterprises ^e	4	4	0	469	469	-	-
Neste Trifinery Petroleum ^f	1	0	0	27	-	-	-
Total FDI-Affiliate Companies	31	29	28	4,831	4,806	4,742	-1.3
Total United States	150	147	145	16,595	16,785	16,757	-0.2
Percent FDI-Affiliate Companies	20.7	19.7	19.3	29.1	28.6	28.3	

^aMotiva Enterprises was a joint venture of Shell Oil, Saudi Refining, and Texaco. On March 1, 2002, Motiva became a joint venture of Shell Oil and Saudi Refining.

^bJoint venture of Shell Oil and Petróleos Mexicanos.

^cJoint venture of Lyondell Chemical and PDV America.

^dJoint venture of Exxon Mobil and PDV America.

^eEquilon Enterprises was a joint venture of Shell Oil and Texaco. On March 1, 2002, Equilon became a wholly owned subsidiary of Shell Oil and was renamed Shell Oil Products US.

^fNow Trigeant. Not included because refinery changed from atmospheric to vacuum distillation process.

Notes: Calculations performed on unrounded numbers. Values are at year end.

Sources: Energy Information Administration, *Petroleum Supply Annual 2002*, vol. 1, DOE/EIA-0340(2002)/1 (Washington, DC, June 2003), Table 40, and previous issues.

Table 3. Branded Retail Outlets and Total Gasoline Sales in the United States by FDI-Affiliate Companies, 2000-2002

	2000	2001	2002	2001-2002 Percent Change
Number of Outlets ^a				
BP America	17,300	15,500	14,900	-3.9
Citgo Petroleum	13,666	13,397	13,540	1.1
Motiva Enterprises ^b	13,000	13,000	13,000	0.0
Shell Oil Products US ^c	9,000	8,800	8,900	1.1
Alon USA ^d	1,682	1,600	1,450	-9.4
Lukoil ^e	1,112	1,112	1,279	15.0
Delek US ^f	-	200	234	17.0
Total FDI-Affiliate Companies	55,760	53,609	53,303	-0.6
U.S. Total	172,169	170,018	167,571	-1.4
Percent FDI-Affiliate Companies	32.4	31.5	31.8	
Total Gasoline Sales (thousand barrels per day)				
Total FDI-Affiliate Companies	2,971	3,027	3,090	2.1
U.S. Total	8,426	8,612	8,817	2.4
Percent FDI-Affiliate Companies	35.3	35.1	35.0	

^aIncludes company-owned outlets and independent dealer outlets (jobbers).

^bMotiva Enterprises was a joint venture of Shell Oil, Saudi Refining, and Texaco. On March 1, 2002, Motiva became a joint venture of Shell Oil and Saudi Refining. Motiva sells motor gasoline under the "Shell" and "Texaco" brand names. 2002 estimate

^cFormerly Equilon Enterprises, which was a joint venture of Shell Oil and Texaco. On March 1, 2002, Equilon became a wholly owned subsidiary of Shell Oil and was renamed Shell Oil Products US. Shell Oil Products US sells motor gasoline under the "Shell" and "Texaco" brand names. 2002 estimated.

^dAlon USA sells motor gasoline under the "Fina" brand name. 2002 estimated.

^eLukoil sells motor gasoline in the United States under the "Getty" brand name.

^fDelek US sells motor gasoline in the United States under the "Mapco Express" and "East Coast" brand names.

Notes: The U.S. total number of outlets includes all establishments selling gasoline at retail. Total gasoline sales are by "Prime Suppliers." Calculations performed on unrounded numbers.

Sources: **Company station counts and U.S. Total Stations:** *National Petroleum News*, Market Facts 2003 (Mid-July 2003), and previous issues, and company reports and news releases. **FDI-Affiliate sales:** Energy Information Administration, Form EIA-782C,

**Table 4. Uranium Concentrate Production in the United States
by FDI-Affiliate Companies, 2000-2002**
(thousand pounds U₃O₈)

FDI Affiliate (Foreign Parent)	2000	2001	2002	2001- 2002 Percent Change
Power Resources (Cameco) ^a	881	695	887	27.6
Crow Butte Resources (Cameco) ^b	792	815	768	-5.8
Rio Algom Mining (Cameco) ^c	1,770	930	625	-32.8
Total FDI-Affiliate Companies	3,443	2,440	2,280	-6.6
Total United States	3,958	2,639	2,344	-11.2
Percent FDI-Affiliate Companies	87.0	92.5	97.3	

^aFormerly PRI Resources and Geomex Minerals.

^bFormerly Crow Butte Land, UUS, and Geomex Minerals.

^cAcquired by Power Resources, a subsidiary of Cameco, in July 2002, previously acquired by Billiton (now BHP Billiton) in October 2000.

Note: Calculations performed on unrounded numbers.

Sources: **Companies:** Company reports and press releases. **U.S. Totals:** Energy Information Administration, *Uranium Industry Annual 2002*, DOE/EIA-0478(2002) (Washington DC, May 2003), Table 5.

**Table 5. Coal Production in the United States by FDI-Affiliate
Companies, 2000-2002**
(Million Short Tons)

FDI-Affiliate (Foreign Parent)	2000	2001	2002	2001 - 2002 Percent Change
Kennecott Energy (Rio Tinto)	106.4	117.5	116.0	-1.3
Consol Energy (RWE)	68.0	73.7	71.0	-3.7
RAG American Coal (RAG)	63.4	65.5	66.2	1.1
BHP Minerals (BHP Billiton)	15.6	15.8	15.6	-1.3
Canyon Fuel (Itochu) ^a	13.3	12.7	12.6	-0.8
Interwest Mining (ScottishPower)	16.8	16.8	9.9	-41.1
Total FDI-Affiliate Companies	283.5	302.0	291.3	-3.5
Total United States	1,073.6	1,127.7	1,094.3	-3.0
Percent FDI-Affiliate Companies	26.4	26.8	26.6	

^aData are amounts sold, not amounts produced.

Note: Calculations performed on unrounded numbers.

Sources: **Companies:** National Mining Association, "2002 Coal Producer Survey," (May 2003, Washington, DC) Table 1, and previous issues. **Canyon Fuel:** Arch Coal, 2002 Report to Securities and Exchange Commission on Form 10-K, and previous years. **U.S.**

Table 6. Electricity Generating Capacity in the United States by FDI-Affiliate Companies, 2000-2002
(megawatts)

Company (Foreign Parent)	2000	2001	2002	2001-2002 Percent Change
LG&E Energy (E.ON) ^a	9,423	9,744	9,199	-5.6
PacifiCorp & PPM Energy (ScottishPower) ^b	7,832	8,822	9,055	2.6
U.S. Affiliates (International Power) ^c	1,625	3,020	4,415	46.2
AmerGen Energy (British Energy)	2,378	2,398	2,481	3.5
U.S. Affiliates (TransAlta)	1,340	1,581	2,077	31.4
Sithe Energies (Marubeni)	3,800	3,371	1,321	-60.8
U.S. Affiliates (TransCanada) ^d	624	684	984	43.9
U.S. Affiliates (Brascan) ^e	144	144	301	109.0
Frederickson Power (EPCOR Utilities)	-	-	249	-
National Grid USA (National Grid Transco)	423	238	238	0.0
Total FDI-Affiliate Companies	27,589	30,001	30,320	1.1
Total United States	811,719	848,254	905,301	6.7
Percent FDI-Affiliate Companies	3.4	3.5	3.3	

^aIncludes regulated and unregulated generation that is owned or controlled by LG&E Energy. LG&E was purchased by Powergen in 2000 and Powergen was purchased by E.On in 2002.

^bRegulated and unregulated subsidiaries of ScottishPower. Data include capacity owned or controlled as of March 31, 2001-2003. PPM Energy was formerly PacifiCorp Power Marketing.

^cAffiliates include Midlothian Energy, Milford Power, ANP Blackstone Energy, ANP Bellingham Energy, Hays Energy, Hartwell Energy, and Oyster Creek. Data for 2000 as of March 31, 2001.

^dFormerly TransCanada Pipelines; U.S. subsidiaries include Ocean State Power, Curtis Palmer Hydroelectric, Castleton Cogeneration Plant, and Manchief Power.

^eU.S. subsidiaries include Main Power, New Hampshire Power, White Mountain Power, and Louisiana HydroElectric Power.

Note: Calculations performed on unrounded data.

Sources: **Companies:** Company reports and press releases. **U.S. Totals:** Energy Information Administration, *Electric Power Annual 2002* DOE/EIA-0348(2002) (Washington DC, December 2003), Table 2.1.

Table 7. Capital Expenditures by FDI-Affiliate Petroleum and Natural Gas Companies, 2000-2002

(Million Dollars)

Company	Upstream ^a				Downstream ^b			
	2000	2001	2002	2000-2001 Percent Change	2000	2001	2002	2000-2001 Percent Change
BP America	12,664	4,038	4,088	1.2	1,092	1,311	1,291	-1.5
Shell Oil ^c	1,217	1,964	2,726	38.8	0	3	4,408	146,833.3
EnCana Oil & Gas USA	386	187	2,635	1,309.1	-	-	-	-
Total Exploration Production USA ^d	334	424	547	29.2	NA	NA	NA	-
Nexen	154	279	418	50.0	-	-	-	-
BHP Petroleum (Americas) ^e	162	313	400	27.8	-	-	-	-
Consol Energy ^f	30	412	145	-64.7	-	-	-	-
Meridian Resource	101	134	77	-42.8	-	-	-	-
PDV America	-	-	-	-	122	253	712	180.8
Equilon Enterprises ^g	-	-	-	-	579	NA	-	-
Motiva Enterprises	-	-	-	-	376	NA	NA	-
Louis Dreyfus Natural Gas	407	NF	NF	-	-	NF	NF	-
Chieftain Development International	103	NF	NF	-	-	NF	NF	-
Greka Energy ^h	9	NF	NF	-	NA	NF	NF	-
Enterprise Oil Gulf of Mexico	NA	NA	-	-	NA	NA	-	-
Repsol YPF	NA	NA	NA	-	NA	NA	NA	-
Total	15,567	7,750	11,036	42.4	2,169	1,567	6,411	309.0

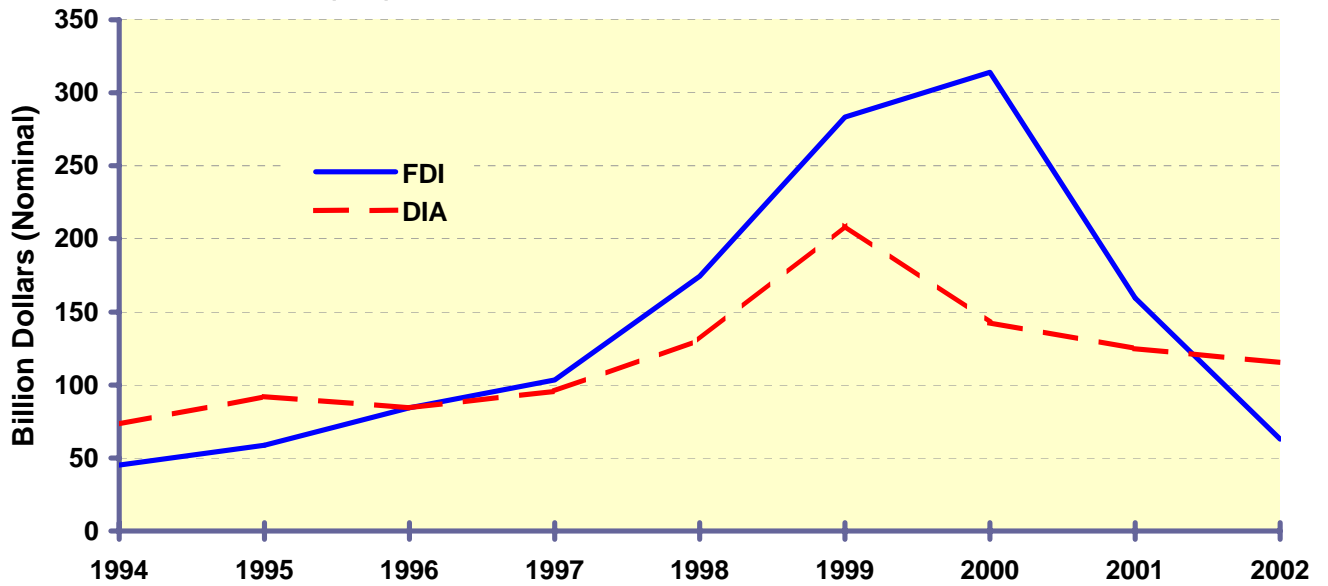
^aDefined as "costs incurred" in oil and gas property acquisition, exploration, and development.^bMay include capital expenditures for pipelines and marine transport.^cDoes not include Shell Oil's expenditures at facilities operated by its Chemical Products Division.^dIncludes some expenditures in Canada.^eFor years ending May 31, 2000 and 2001, and 13 months ending June 30, 2002. Includes expenditures in Bolivia and Trinidad and Tobago.^fFor year ending June 30, 2001, six months ending December 31, 2001, and year ending December 31, 2002. Amounts are changes in undepreciated capitalized costs of oil and gas production, which are net of property, plant, and equipment disposals, and in^gEquilon Enterprises became a wholly owned subsidiary of Shell Oil in 2002.^hAmount is change in undepreciated capitalized costs of oil and gas production, which are net of property, plant, and equipment

NA = Not available. NF = Not FDI affiliate.

Note: Calculations performed on unrounded data.

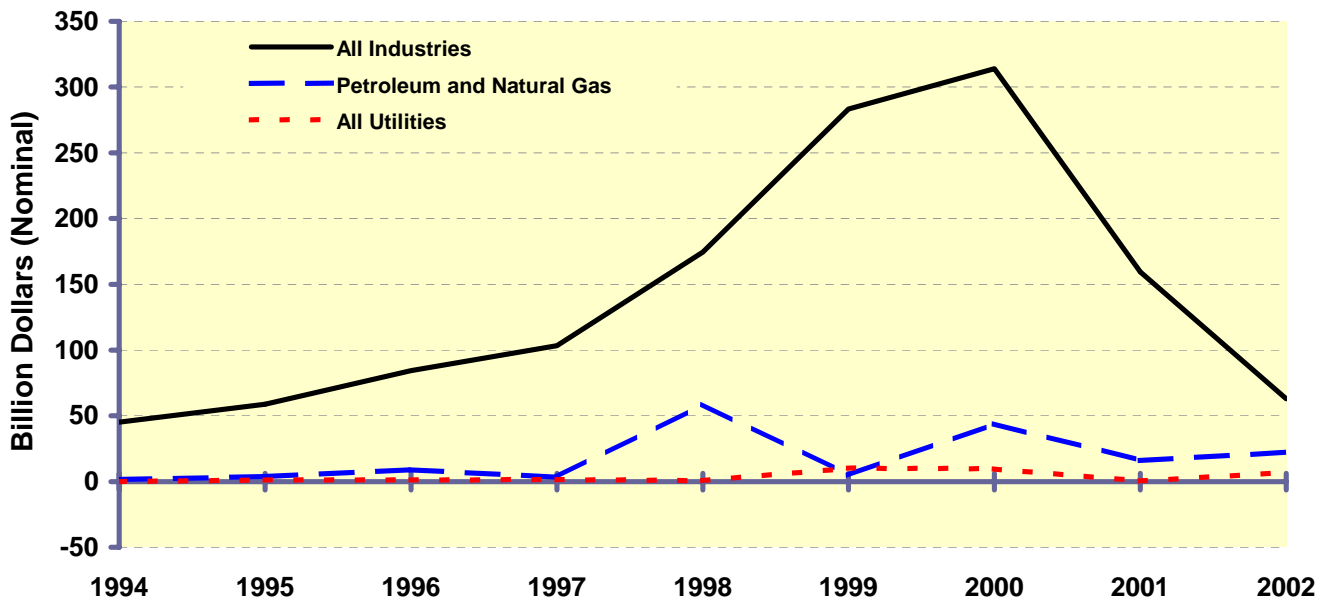
Sources: Company reports and press releases.

Figure 2. Total Net Capital Flows of U.S. Direct Investment Abroad (DIA) and Foreign Direct Investment (FDI) into the United States, 1994-2002



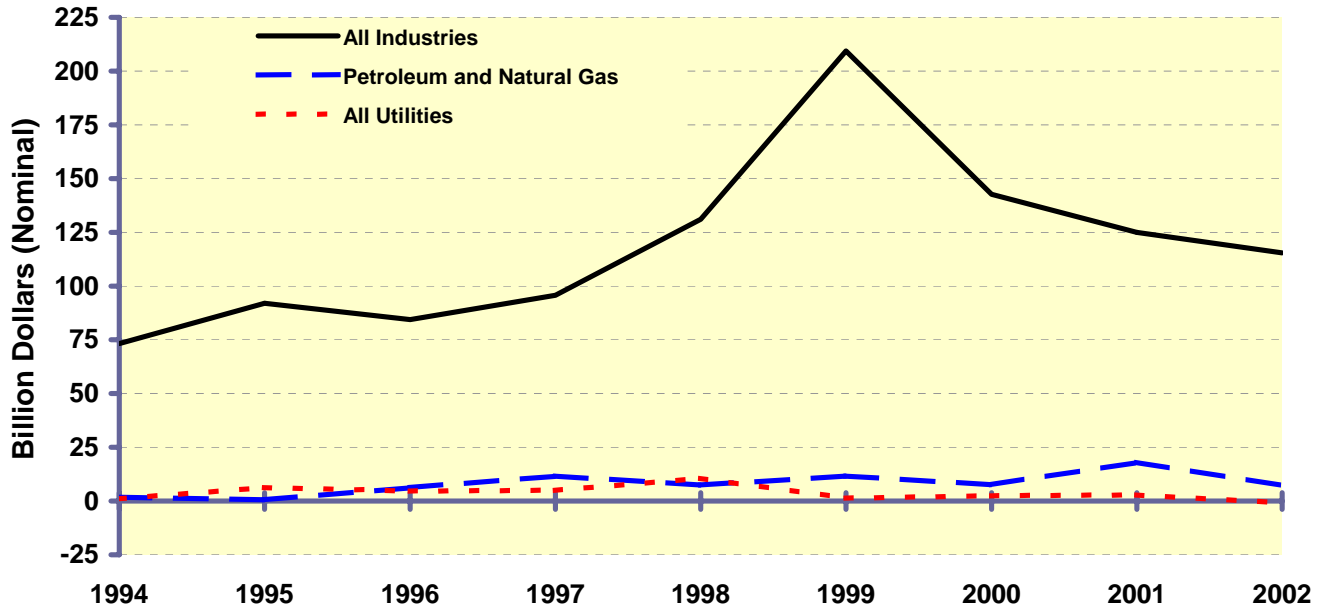
Sources: Bureau of Economic Analysis, "Foreign Direct Investment in the United States" and *U.S. Direct Investment Abroad, Survey of Current Business* (Washington, DC, September 2003), Table 17, and previous issues.

Figure 3. Net Capital Flows of Foreign Direct Investment into the United States, 1994-2002



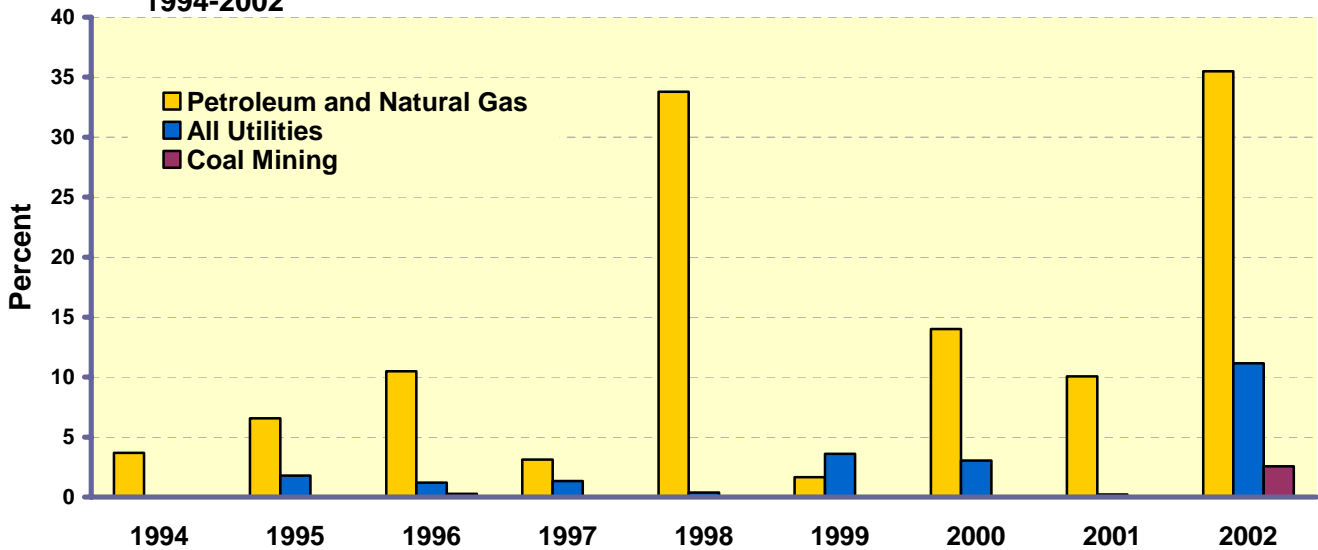
Sources: Bureau of Economic Analysis, *Foreign Direct Investment in the United States, Survey of Current Business* (Washington, DC, September 2003), Table 17, and preceding issues.

Figure 4. Net Capital Flows of U.S. Direct Investment Abroad, 1994-2002



Sources: Bureau of Economic Analysis, *U.S. Direct Investment Abroad, Survey of Current Business* (Washington, DC, September 2003), Table 17, and previous issues.

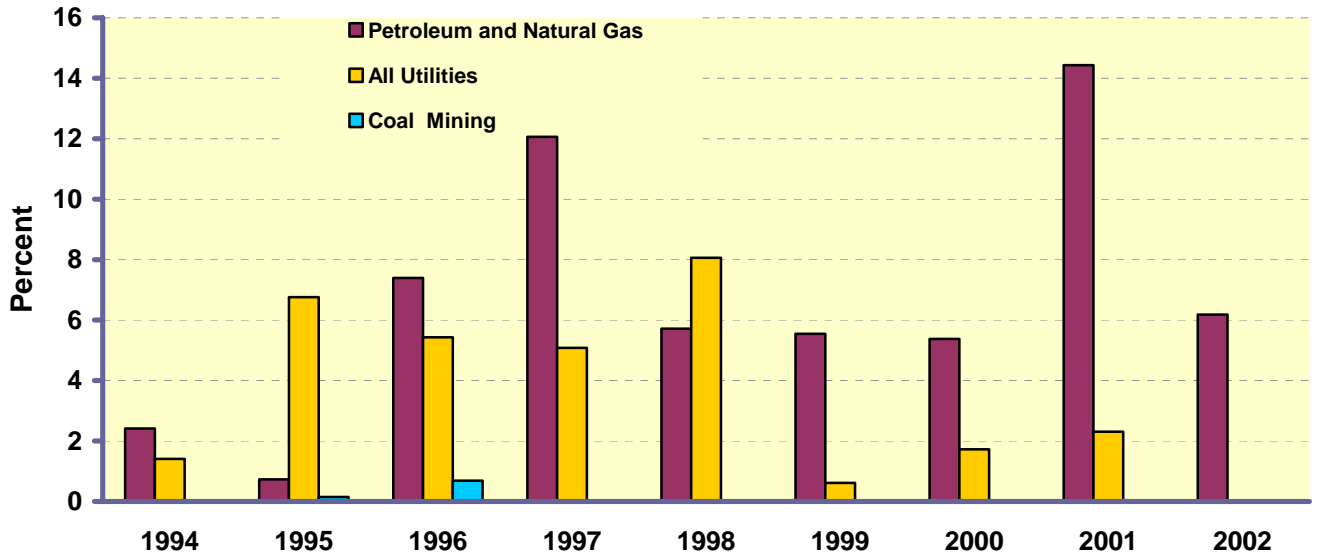
Figure 5. Shares of Net Capital Flows of Foreign Direct Investment into the United States, 1994-2002



Note: Shares that are not displayed are either negative, withheld by the Bureau of Economic Analysis, or not distinguishable at this scale.

Sources: Bureau of Economic Analysis, "Foreign Direct Investment in the United States," *Survey of Current Business* (Washington, DC, September 2003), Table 17, and preceding issues.

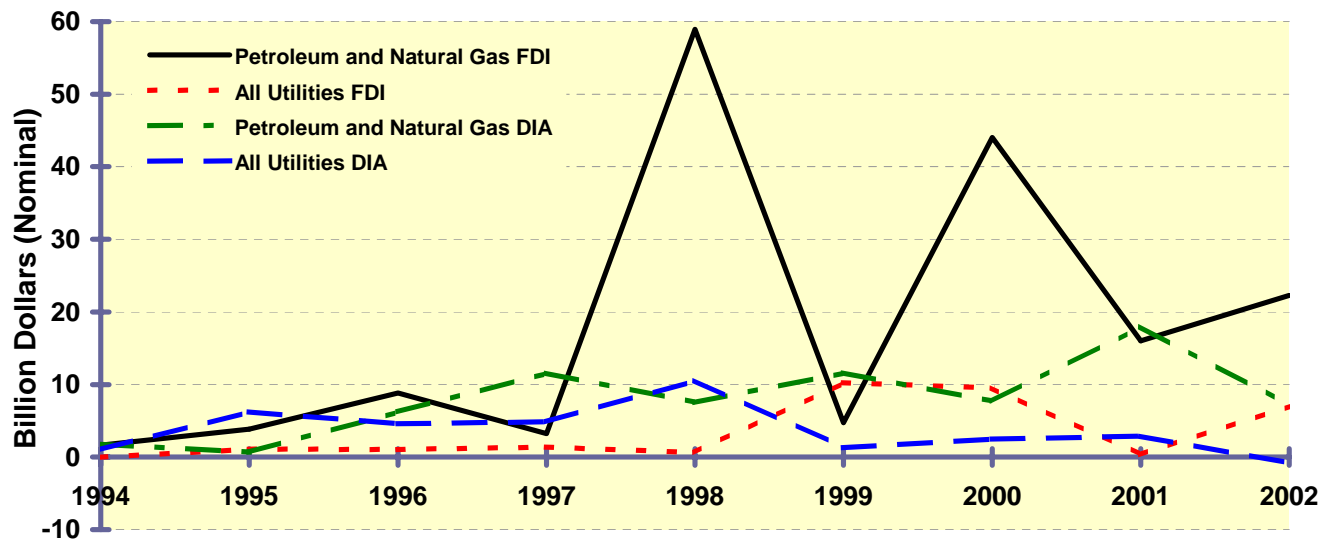
Figure 6. Shares of Net Capital Flows of U.S. Direct Investment Abroad, 1994-2002



Note: Shares that are not displayed are either negative, withheld by the Bureau of Economic Analysis, or not distinguishable at this scale.

Sources: Bureau of Economic Analysis, *U.S. Direct Investment Abroad*, Survey of Current Business (Washington, DC, September 2003), Table 17, and preceding issues.

Figure 7. Net Capital Flows of U.S. Direct Investment Abroad and Foreign Direct Investment into the United States, 1994-2002



Sources: Bureau of Economic Analysis, *Foreign Direct Investment in the United States* and *U.S. Direct Investment Abroad*, Survey of Current Business (Washington, DC, September 2003), Table 17, and previous issues.

¹The FDI-affiliate companies included in this report include all of the U.S. energy companies that could be determined to be FDI affiliates from publicly available information by the Energy Information Administration.

²The U.S. International Investment and Trade in Services Survey Act stipulates that “ownership or control of 10 percent or more of an enterprise’s voting securities is considered evidence of a lasting interest in or a degree of influence over [the enterprise’s] management sufficient to constitute direct investment. Thus, foreign direct investment in the United States is defined as the ownership or control, directly or indirectly, by one foreign [entity] of 10 percent or more of the voting securities of an incorporated U.S. business enterprise, or the equivalent interest in an unincorporated U.S. business enterprise.” Alicia M. Quijano, “A Guide to BEA Statistics on Foreign Direct Investment in the United States,” *Survey of Current Business* (Washington, DC, February 1990), p. 29.

³The percentage amount is, of necessity, arbitrary, because no exact percentage of ownership is necessary to achieve control of a company. Even ownership of greater than 50 percent of a company may not be sufficient for control, because agreements among the owners may require the approval of more than a majority for some actions to be taken. For further discussion and a comprehensive analysis of FDI in the United States, see Edward M. Graham and Paul R. Krugman, *Foreign Direct Investment in the United States*, 3rd ed. (Washington, DC: Institute for International Economics, 1995).

⁴An alternative measure is the FDI position, which is the “value of [foreign] direct investors’ equity [including retained earnings] in, and net outstanding loans to, their [FDI] affiliates.” See Maria Borga and Daniel R. Yorgason, “Direct Investment Positions for 2001, Country and Industry Detail,” *Survey of Current Business* (July 2002), p. 26. FDI capital inflows are discussed in this report because the FDI position data that are available by industry and country are only based on book values, not transactions values. Changes in book values may not accurately represent actual FDI capital inflows.

⁵ Net FDI capital flows are annual net international capital flows. They do not include the FDI affiliate’s operating expenditures, allowance for depreciation, or changes in the value of capital owned.

⁶ EIA cannot confirm this, because individual company data, which are collected by the Bureau of Economic Analysis, are not publicly available. However, given that they are the two largest publicly disclosed transactions, it is likely that they are the largest contributors.