

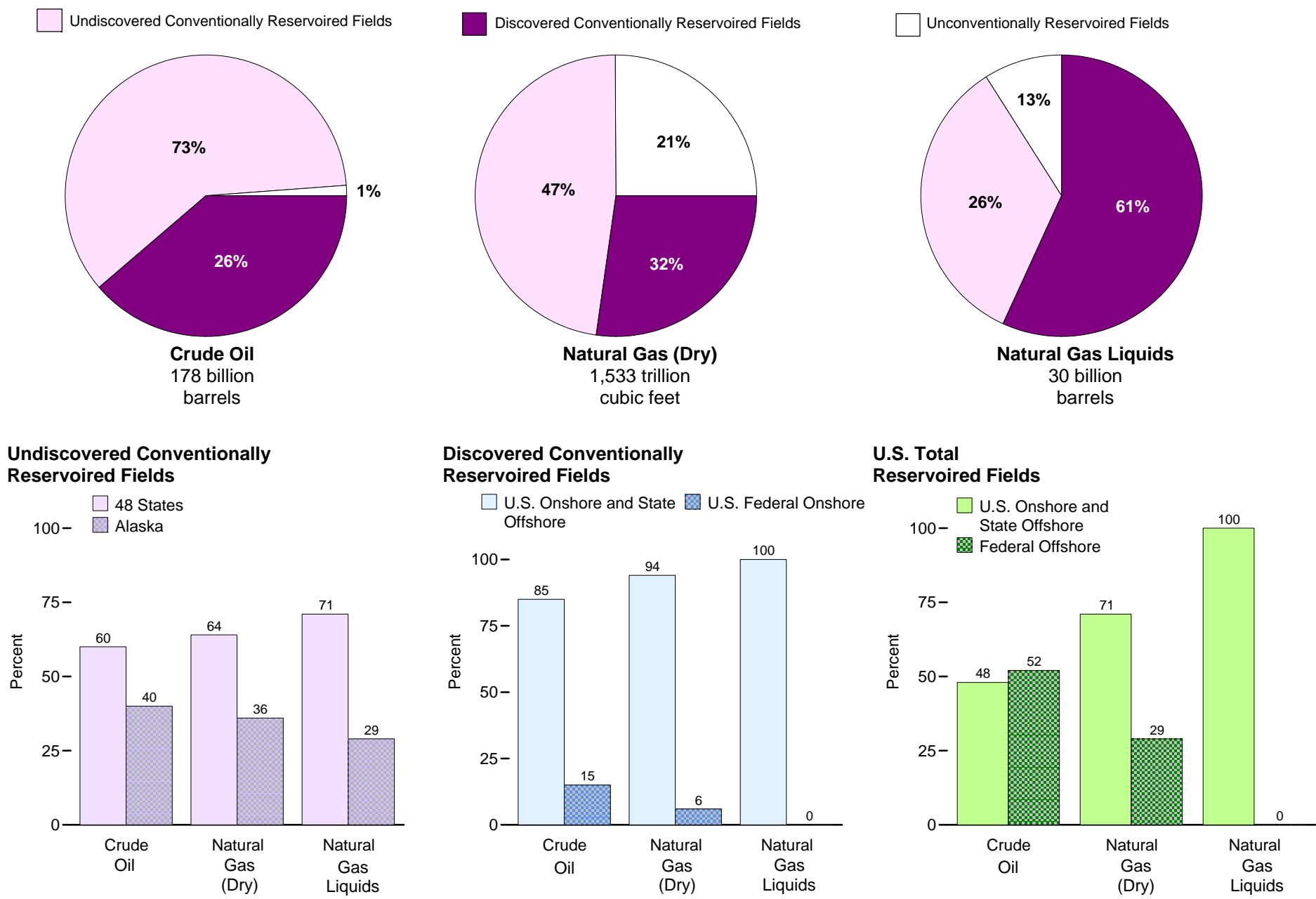
4

Energy Resources



Semisubmersible drilling rig in the Gulf of Mexico. Source: U.S. Department of Energy.

Figure 4.1 Technically Recoverable Crude Oil, Natural Gas, and Natural Gas Liquids Resource Estimates, 2006



Source: Table 4.1.

Table 4.1 Technically Recoverable Crude Oil, Natural Gas, and Natural Gas Liquids Resource Estimates, 2006

Region	Crude Oil ¹	Natural Gas (Dry)	Natural Gas Liquids ¹
	Billion Barrels	Trillion Cubic Feet	Billion Barrels
Undiscovered Conventionally Reservoired Fields ²	130.16	724.84	7.79
Alaska Onshore and State Offshore ³	26.04	126.75	2.23
Alaska Federal Offshore ⁴	26.61	132.06	.00
48 States Onshore and State Offshore ³	18.24	178.21	5.56
48 States Federal Offshore ⁴	59.27	287.82	.00
Discovered Conventionally Reservoired Fields ²			
Ultimate Recovery Appreciation ⁵	45.54	485.71	18.26
U.S. Onshore and State Offshore ³	38.66	454.80	18.26
U.S. Federal Offshore ⁴	6.88	30.91	.00
Unconventionally Reservoired Fields ⁶ (Continuous-Type Deposits (all onshore))	2.13	322.27	3.80
U.S. Total	177.83	1,532.82	29.85
U.S. Onshore and State Offshore ³	85.07	1,082.03	29.85
Federal Offshore ⁴	92.76	450.79	.00

¹ To the extent that lease condensate is measured or estimated it is included in "Natural Gas Liquids"; otherwise, lease condensate is included in "Crude Oil."

² Conventionally reservoired deposits are discrete subsurface accumulations of crude oil or natural gas usually defined, controlled, or limited by hydrocarbon/water contacts.

³ Onshore plus State offshore waters (near-shore, shallow-water areas under State jurisdiction).

⁴ Federal offshore jurisdictions (Outer Continental Shelf and deeper water areas seaward of State offshore).

⁵ Proved reserves (see Table 4.2) are not included in these estimates. Ultimate recovery appreciation (reserve growth) is the volume by which the estimate of total recovery from a known crude oil or natural gas reservoir or aggregation of such reservoirs is expected to increase during the time between discovery and permanent abandonment.

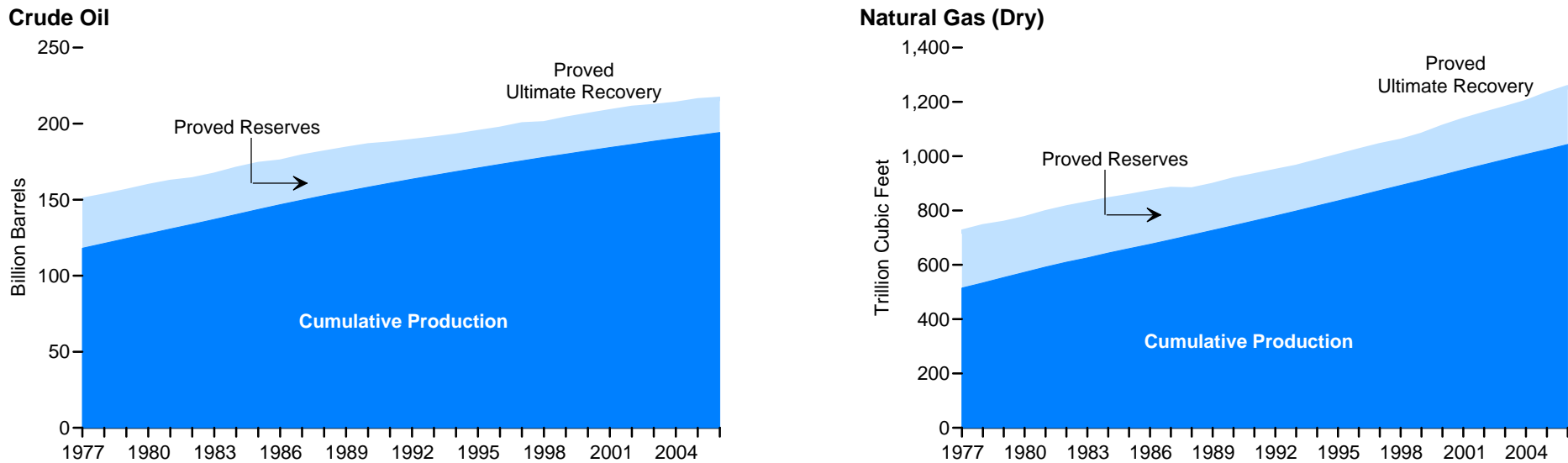
⁶ Unconventionally reservoired deposits (continuous-type accumulations) are geographically extensive subsurface accumulations of crude oil or natural gas that generally lack well-defined hydrocarbon/water contacts. Examples include coalbed methane, "tight gas," and self-sourced oil- and gas-shale reservoirs.

Notes: • "Technically recoverable" resources are those that are producible using current technology without reference to the economic viability thereof. • For purposes of comparison, the Potential Gas

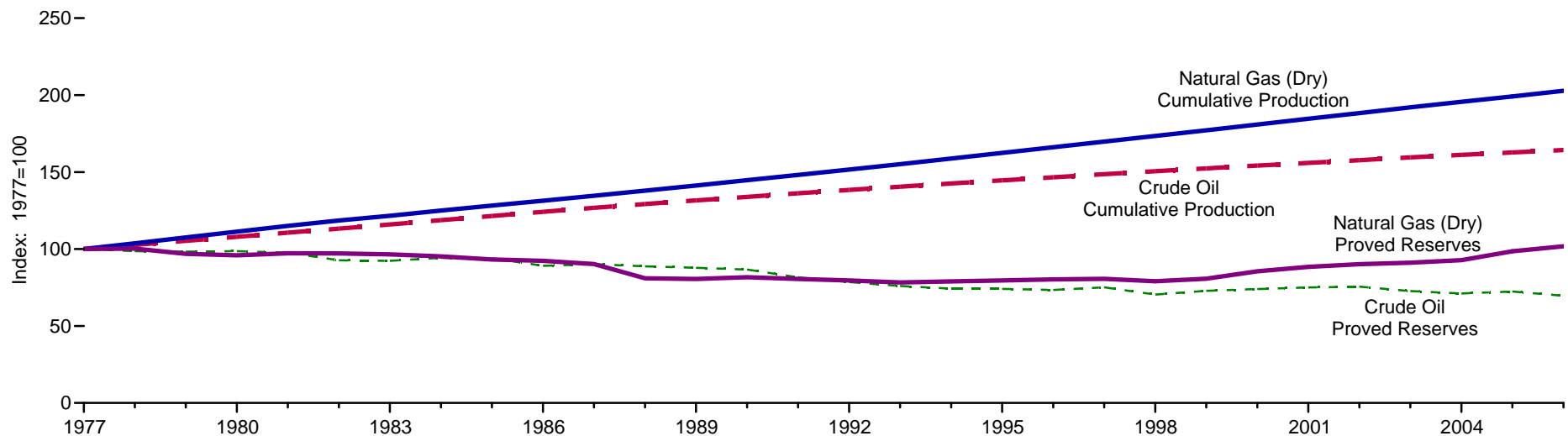
Committee, an industry-sponsored group of experts, biennially provides another geologically-based estimate of the Nation's natural gas resources. The latest mean estimate, published in "Potential Supply of Natural Gas in the United States," December 31, 2006, is 1,321 trillion cubic feet. This volume includes undiscovered conventionally reservoired deposits, expected ultimate recovery appreciation, coalbed methane, and tight gas where it is believed to be technically recoverable and marketable at reasonable costs. • A value of zero indicates either that none exists in this area or that no estimate of this resource has been made for this area. • "48 States" is the United States excluding Alaska and Hawaii.

Sources: • National Oil and Gas Resource Assessment Team, 2007 Assessment Updates United States Geological Survey, Washington, D.C., December 2007 at http://energy.cr.usgs.gov/oilgas/noga/ass_updates.html. • Resource Evaluation Division, Assessment of Undiscovered Technically Recoverable Oil and Gas Resources of the Nation's Outer Continental Shelf, 2006 MMS Fact Sheet RED-2006-01b, Minerals Management Service, Washington, D.C., February 2006, at <http://www.mms.gov/revaldiv/PDFs/2006NationalAssessmentBrochure.pdf>. • The ultimate recovery appreciation estimates for Alaska and the Lower 48 States Onshore Plus State Waters were developed by the Energy Information Administration, Reserves and Production Division, Office of Oil and Gas, based on data available as of year-end 2006.

Figure 4.2 Crude Oil and Natural Gas Cumulative Production, Proved Reserves, and Proved Ultimate Recovery, 1977-2006



Cumulative Production and Proved Reserves, Indexed



Notes: • Data are at end of year. • Crude oil includes lease condensate.

Source: Table 4.2.

Table 4.2 Crude Oil and Natural Gas Cumulative Production, Proved Reserves, and Proved Ultimate Recovery, 1977-2006

Year	Crude Oil and Lease Condensate ¹			Natural Gas (Dry)		
	Cumulative Production	Proved Reserves	Proved Ultimate Recovery	Cumulative Production	Proved Reserves	Proved Ultimate Recovery
	Billion Barrels			Trillion Cubic Feet		
1977	118.1	31.8	149.9	514.4	207.4	721.9
1978	121.3	31.4	152.6	533.6	208.0	741.6
1979	124.4	31.2	155.6	553.2	201.0	754.2
1980	127.5	31.3	158.9	572.6	199.0	771.6
1981	130.7	31.0	161.7	591.8	201.7	793.5
1982	133.8	29.5	163.3	609.6	201.5	811.1
1983	137.0	29.3	166.3	625.7	200.2	826.0
1984	140.2	30.0	170.2	643.2	197.5	840.7
1985	143.5	29.9	173.4	659.6	193.4	853.0
1986	146.7	28.3	175.0	675.7	191.6	867.3
1987	149.7	28.7	178.4	692.3	187.2	879.5
1988	152.7	28.2	180.9	709.4	168.0	877.4
1989	155.5	27.9	183.4	726.7	167.1	893.9
1990	158.2	27.6	185.7	744.5	169.3	913.9
1991	160.9	25.9	186.8	762.2	167.1	929.3
1992	163.5	25.0	188.5	780.1	165.0	945.1
1993	166.0	24.1	190.2	798.2	162.4	960.6
1994	168.4	23.6	192.0	817.0	163.8	980.8
1995	170.8	23.5	194.4	835.6	165.1	1,000.7
1996	173.2	23.3	196.5	854.5	166.5	1,020.9
1997	175.6	23.9	199.4	873.4	167.2	1,040.6
1998	177.8	22.4	200.2	892.4	164.0	1,056.4
1999	180.0	23.2	203.1	911.2	167.4	1,078.6
2000	182.1	23.5	205.6	930.4	177.4	1,107.8
2001	184.2	23.8	208.1	950.0	183.5	1,133.5
2002	186.3	24.0	210.4	968.9	186.9	1,155.9
2003	188.4	23.1	211.5	988.0	189.0	1,177.1
2004	190.4	22.6	213.0	1,006.6	192.5	1,199.1
2005	192.3	23.0	215.3	1,024.6	204.4	1,229.0
2006	194.1	22.1	216.3	1,043.1	211.1	1,254.2

¹ Lease condensate is the portion of natural gas liquids that is separated from the wellhead gas stream at a lease or field separation facility.

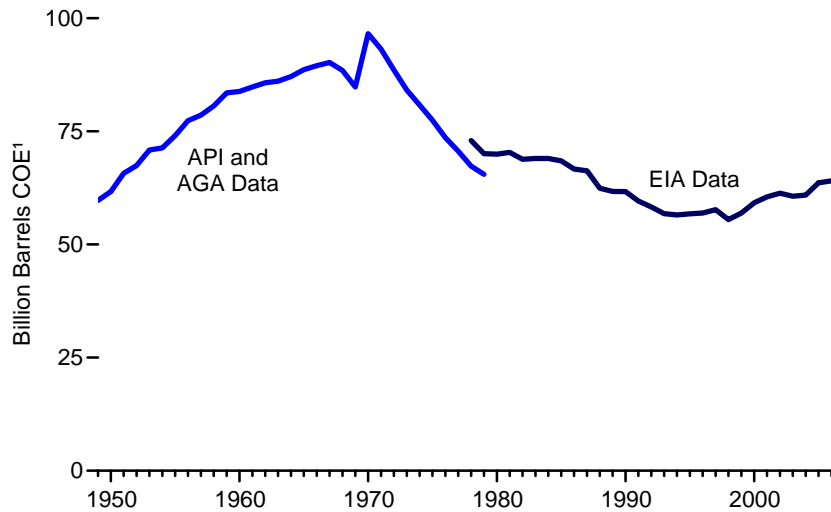
Notes: • Data are at end of year. • See "Proved Reserves, Crude Oil," "Proved Reserves, Lease Condensate," "Proved Reserves, Natural Gas," and "Proved Reserves, Natural Gas Liquids" in Glossary.

Web Pages: See http://www.eia.doe.gov/oil_gas/petroleum/info_glance/petroleum.html and http://www.eia.doe.gov/oil_gas/natural_gas/info_glance/natural_gas.html for related information.

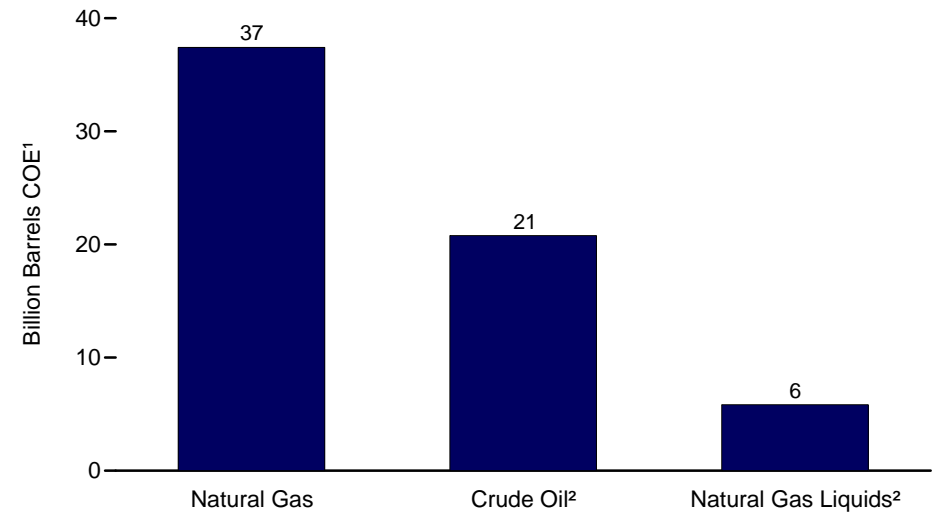
Sources: **Cumulative Production:** Calculated from Energy Information Administration (EIA), *Petroleum Supply Annual*, annual reports and *Natural Gas Annual*, annual reports. **Proved Reserves:** • 1977-2005—EIA, *U.S. Crude Oil, Natural Gas, and Natural Gas Liquids Reserves*, annual reports. • 2006—EIA, *U.S. Crude Oil, Natural Gas, and Natural Gas Liquids Reserves 2006 Annual Report* (December 2007), Tables 6, 8, and 15. **Proved Ultimate Recovery:** Calculated as the sum of cumulative production and proved reserves.

Figure 4.3 Crude Oil, Natural Gas, and Natural Gas Liquids Proved Reserves

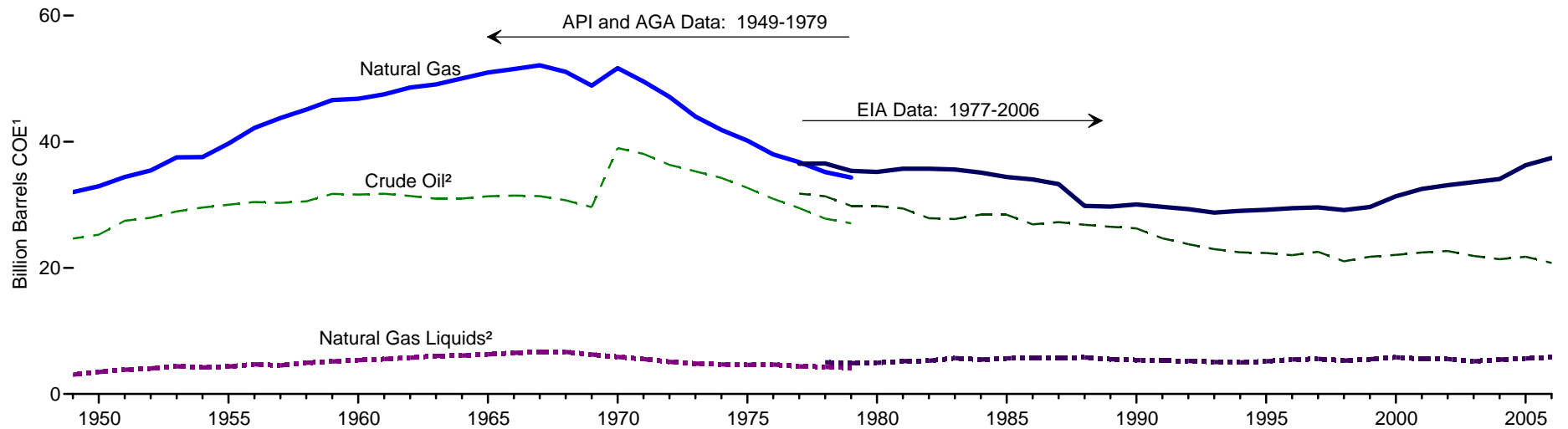
Total, 1949-2006



By Type, 2006



By Type, 1949-2006



¹ COE=crude oil equivalent.

² To the extent that lease condensate is measured or estimated it is included in "Natural Gas Liquids"; otherwise, lease condensate is included in "Crude Oil."

Notes: • Data are at end of year. • API=American Petroleum Institute. AGA=American Gas Association. EIA=Energy Information Administration. • Because vertical scales differ, graphs should not be compared.

Source: Table 4.3.

Table 4.3 Crude Oil, Natural Gas, and Natural Gas Liquids Proved Reserves, Selected Years, 1949-2006

Year	Crude Oil ¹	Natural Gas (Dry)		Natural Gas Liquids ¹		Total
	Billion Barrels	Trillion Cubic Feet ²	Billion Barrels COE ³	Billion Barrels	Billion Barrels COE ³	Billion Barrels COE ³
American Petroleum Institute and American Gas Association Data						
1949	24.6	179.4	32.0	3.7	3.1	59.7
1950	25.3	184.6	32.9	4.3	3.5	61.7
1955	30.0	222.5	39.7	5.4	4.4	74.1
1960	31.6	262.3	46.8	6.8	5.4	83.8
1965	31.4	286.5	51.0	8.0	6.3	88.6
1970	39.0	290.7	51.7	7.7	5.9	96.6
1971	38.1	278.8	49.6	7.3	5.5	93.2
1972	36.3	266.1	47.1	6.8	5.1	88.5
1973	35.3	250.0	44.0	6.5	4.8	84.1
1974	34.2	237.1	41.9	6.4	4.7	80.8
1975	32.7	228.2	40.2	6.3	4.6	77.5
1976	30.9	216.0	38.0	6.4	4.7	73.6
1977	29.5	208.9	36.8	6.0	4.4	70.6
1978	27.8	200.3	35.2	5.9	4.3	67.3
1979	27.1	194.9	34.3	5.7	4.1	65.5
Energy Information Administration Data						
1977	31.8	207.4	36.5	NA	NA	NA
1978	31.4	208.0	36.5	6.8	5.0	73.0
1979	29.8	201.0	35.4	6.6	4.9	70.1
1980	29.8	199.0	35.2	6.7	5.0	70.0
1981	29.4	201.7	35.7	7.1	5.2	70.4
1982	27.9	201.5	35.7	7.2	5.3	68.8
1983	27.7	200.2	35.6	7.9	5.7	69.0
1984	28.4	197.5	35.1	7.6	5.5	69.0
1985	28.4	193.4	34.4	7.9	5.6	68.5
1986	26.9	191.6	34.0	8.2	5.8	66.7
1987	27.3	187.2	33.3	8.1	5.8	66.3
1988	26.8	168.0	29.8	8.2	5.8	62.4
1989	26.5	167.1	29.7	7.8	5.5	61.7
1990	26.3	169.3	30.0	7.6	5.4	61.7
1991	24.7	167.1	29.7	7.5	5.3	59.6
1992	23.7	165.0	29.3	7.5	5.2	58.3
1993	23.0	162.4	28.8	7.2	5.1	56.8
1994	22.5	163.8	29.0	7.2	5.0	56.5
1995	22.4	165.1	29.2	7.4	5.2	56.8
1996	22.0	166.5	29.4	7.8	5.5	56.9
1997	22.5	167.2	29.6	8.0	5.6	57.7
1998	21.0	164.0	29.2	7.5	5.3	55.5
1999	21.8	167.4	29.6	7.9	5.5	56.9
2000	22.0	177.4	31.4	8.3	5.8	59.2
2001	22.4	183.5	32.5	8.0	5.6	60.5
2002	22.7	186.9	33.1	8.0	5.6	61.3
2003	21.9	189.0	33.6	7.5	5.2	60.7
2004	21.4	192.5	34.1	7.9	5.5	60.9
2005	21.8	204.4	36.3	8.2	5.6	63.6
2006	20.8	211.1	37.4	8.5	5.8	64.0

¹ To the extent that lease condensate is measured or estimated it is included in "Natural Gas Liquids"; otherwise, lease condensate is included in "Crude Oil."

² The American Gas Association estimates of natural gas proved reserves include volumes of natural gas held in underground storage. In 1979, this volume amounted to 4.9 trillion cubic feet. Energy Information Administration (EIA) data do not include natural gas in underground storage.

³ Natural gas is converted to crude oil equivalent (COE) by multiplying by the natural gas dry production approximate heat content (see Table A4) and then dividing by the crude oil production approximate heat content (see Table A2). The lease condensate portion of natural gas liquids is converted to COE by multiplying by the lease condensate production approximate heat content (5.5 million Btu per barrel) and then dividing by the crude oil production approximate heat content. Other natural gas liquids are converted to COE by multiplying by the natural gas plant liquids production approximate heat content (see Table A2) and then dividing by the crude oil production approximate heat content.

NA=Not available.

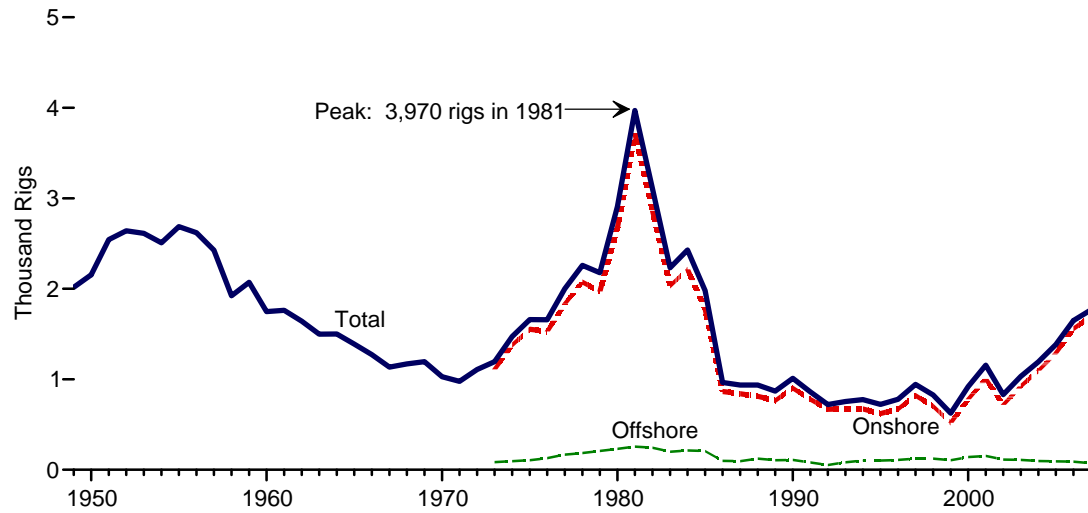
Notes: • Data are at end of year. • See "Proved Reserves, Crude Oil," "Proved Reserves, Natural Gas," and "Proved Reserves, Natural Gas Liquids" in Glossary.

Web Pages: • For all data beginning in 1949, see <http://www.eia.doe.gov/emeu/aer/resource.html>. • For related information, see http://www.eia.doe.gov/oil_gas/petroleum/info_glance/petroleum.html

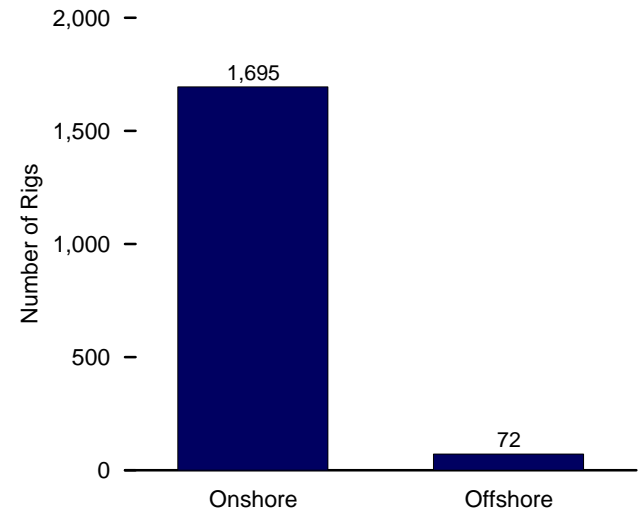
Sources: **American Petroleum Institute and American Gas Association Data:** American Petroleum Institute, American Gas Association, and Canadian Petroleum Association (published jointly), *Reserves of Crude Oil, Natural Gas Liquids and Natural Gas in the United States and Canada as of December 31, 1979*, Volume 34 (June 1980). **Energy Information Administration Data:** • 1977-1995—EIA, *U.S. Crude Oil, Natural Gas, and Natural Gas Liquids Reserves*, annual reports. • 1996 forward—EIA, *U.S. Crude Oil, Natural Gas, and Natural Gas Liquids Reserves 2006 Annual Report* (December 2007), Table 1.

Figure 4.4 Crude Oil and Natural Gas Rotary Rigs in Operation

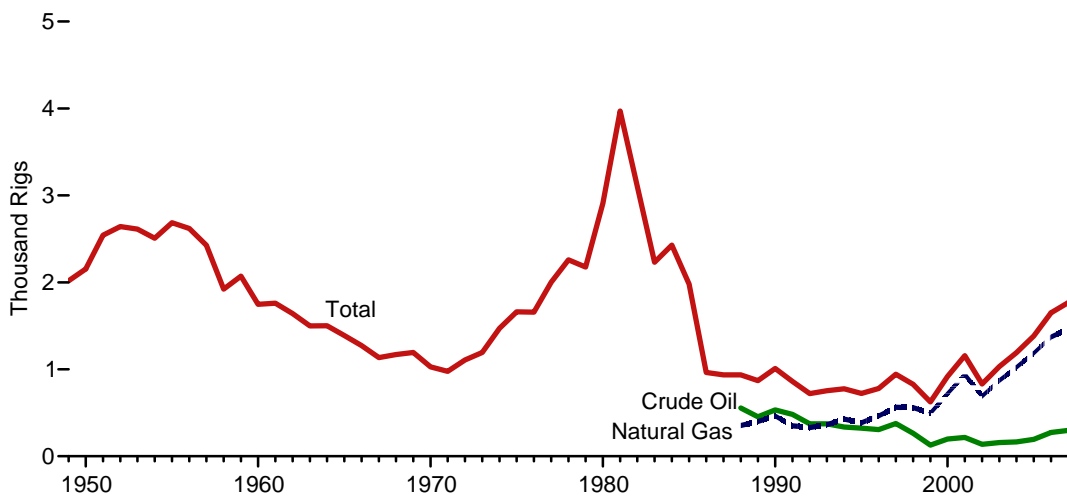
By Site, 1949-2007



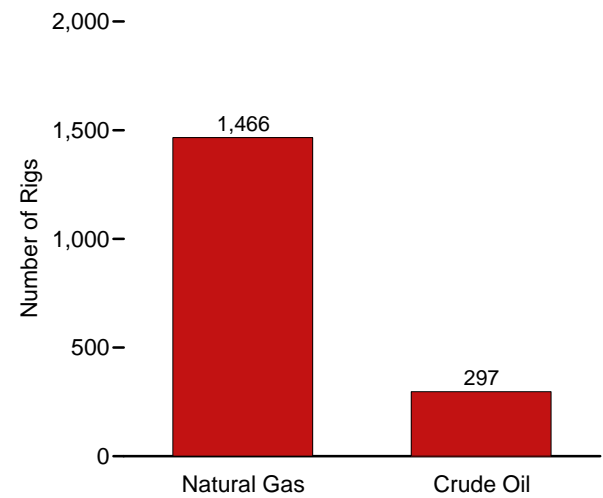
By Site, 2007



By Type, 1949-2007



By Type, 2007



Source: Table 4.4.

Table 4.4 Crude Oil and Natural Gas Rotary Rigs in Operation, Selected Years, 1949-2007

(Number of Rigs)

Year	By Site		By Type		Total ¹
	Onshore	Offshore	Crude Oil	Natural Gas	
1949	NA	NA	NA	NA	2,017
1950	NA	NA	NA	NA	2,154
1955	NA	NA	NA	NA	2,686
1960	NA	NA	NA	NA	1,748
1965	NA	NA	NA	NA	1,388
1970	NA	NA	NA	NA	1,028
1971	NA	NA	NA	NA	976
1972	NA	NA	NA	NA	1,107
1973	1,110	84	NA	NA	1,194
1974	1,378	94	NA	NA	1,472
1975	1,554	106	NA	NA	1,660
1976	1,529	129	NA	NA	1,658
1977	1,834	167	NA	NA	2,001
1978	2,074	185	NA	NA	2,259
1979	1,970	207	NA	NA	2,177
1980	2,678	231	NA	NA	2,909
1981	3,714	256	NA	NA	3,970
1982	2,862	243	NA	NA	3,105
1983	2,033	199	NA	NA	2,232
1984	2,215	213	NA	NA	2,428
1985	1,774	206	NA	NA	1,980
1986	865	99	NA	NA	964
1987	841	95	NA	NA	936
1988	813	123	554	354	936
1989	764	105	453	401	869
1990	902	108	532	464	1,010
1991	779	81	482	351	860
1992	669	52	373	331	721
1993	672	82	373	364	754
1994	673	102	335	427	775
1995	622	101	323	385	723
1996	671	108	306	464	779
1997	821	122	376	564	943
1998	703	123	264	560	827
1999	519	106	128	496	625
2000	778	140	197	720	918
2001	1,003	153	217	939	1,156
2002	717	113	137	691	830
2003	924	108	157	872	1,032
2004	1,095	97	165	1,025	1,192
2005	1,290	93	194	1,186	1,383
2006	1,559	90	274	1,372	1,649
2007	1,695	72	297	1,466	1,768

¹ Sum of rigs drilling for crude oil, rigs drilling for natural gas, and other rigs (not shown) drilling for miscellaneous purposes, such as service wells, injection wells, and stratigraphic tests.

NA=Not available.

Notes: • Data are not for the exact calendar year but are an average for the 52 or 53 consecutive whole

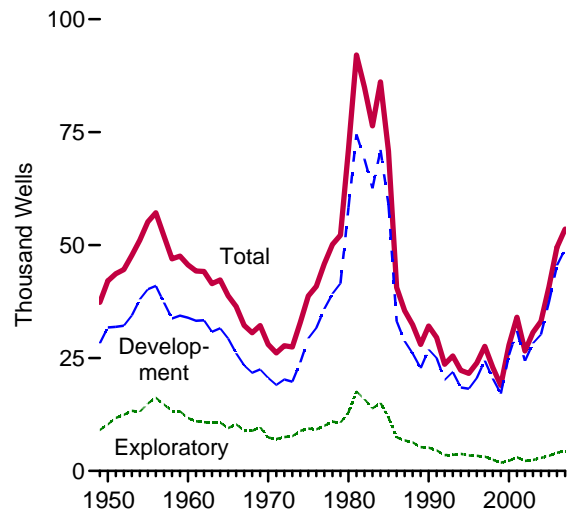
weeks that most nearly coincide with the calendar year. • Geographic coverage is the 50 States and the District of Columbia. • Totals may not equal sum of components due to independent rounding.

Web Page: For all data beginning in 1949, see <http://www.eia.doe.gov/emeu/aer/resource.html>.

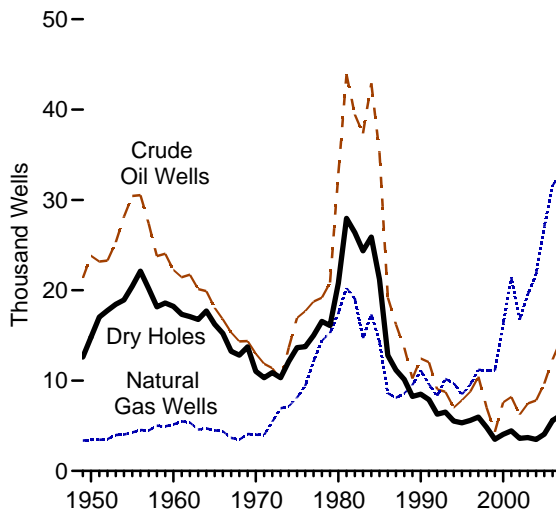
Source: Baker Hughes, Inc., Houston, Texas, *Rotary Rigs Running—By State*.

Figure 4.5 Crude Oil and Natural Gas Exploratory and Development Wells

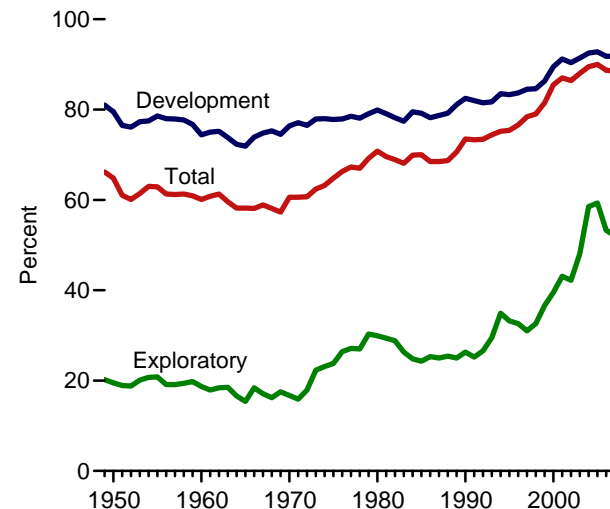
Total Wells Drilled, 1949-2007



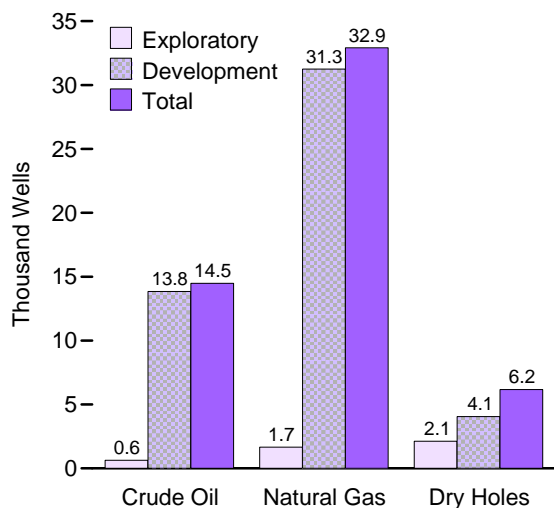
Total Wells Drilled by Type, 1949-2007



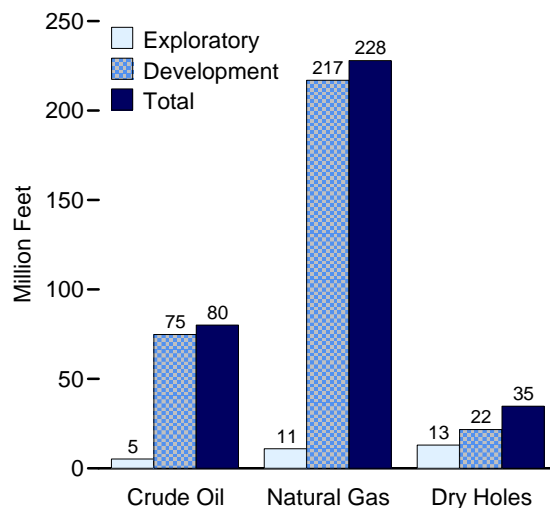
Successful Wells, 1949-2007



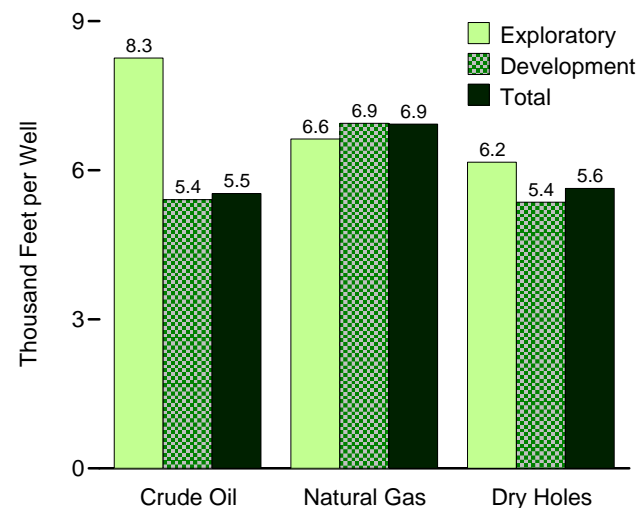
Wells Drilled, 2007



Footage Drilled, 2007



Average Depth, 2007



Sources: Tables 4.5-4.7.

Table 4.5 Crude Oil and Natural Gas Exploratory and Development Wells, Selected Years, 1949-2007

Year	Wells Drilled				Successful Wells	Footage Drilled ¹				Average Depth			
	Crude Oil ²	Natural Gas ³	Dry Holes ⁴	Total		Crude Oil ²	Natural Gas ³	Dry Holes ⁴	Total	Crude Oil ²	Natural Gas ³	Dry Holes ⁴	Total
	Number					Percent	Thousand Feet				Feet per Well		
1949	21,352	3,363	12,597	37,312	66.2	79,428	12,437	43,754	135,619	3,720	3,698	3,473	3,635
1950	23,812	3,439	14,799	42,050	64.8	92,695	13,685	50,977	157,358	3,893	3,979	3,445	3,742
1955	30,432	4,266	20,452	55,150	62.9	121,148	19,930	85,103	226,182	3,981	4,672	4,161	4,101
1960	22,258	5,149	18,212	45,619	60.1	86,568	28,246	77,361	192,176	3,889	5,486	4,248	4,213
1965	18,065	4,482	16,226	38,773	58.2	73,322	24,931	76,629	174,882	4,059	5,562	4,723	4,510
1970	12,968	4,011	11,031	28,010	60.6	56,859	23,623	58,074	138,556	4,385	5,860	5,265	4,943
1971	11,853	3,971	10,309	26,133	60.6	49,109	23,460	54,685	127,253	4,126	5,890	5,305	4,858
1972	11,378	5,440	10,891	27,709	60.7	49,269	30,006	58,556	137,831	4,330	5,516	5,377	4,974
1973	10,167	6,933	10,320	27,420	62.4	44,416	38,045	55,761	138,223	4,369	5,488	5,403	5,041
1974	13,647	7,138	12,116	32,901	63.2	52,025	38,449	62,899	153,374	3,812	5,387	5,191	4,662
1975	16,948	8,127	13,646	38,721	64.8	66,819	44,454	69,220	180,494	3,943	5,470	5,073	4,661
1976	17,688	9,409	13,758	40,855	66.3	68,892	49,113	68,977	186,982	3,895	5,220	5,014	4,577
1977	18,745	12,122	14,985	45,852	67.3	75,451	63,686	76,728	215,866	4,025	5,254	5,120	4,708
1978	19,181	14,413	16,551	50,145	67.0	77,041	75,841	85,788	238,669	4,017	5,262	5,183	4,760
1979	20,851	15,254	16,099	52,204	69.2	82,688	80,468	81,642	244,798	3,966	5,275	5,071	4,689
1980	32,959	17,461	20,785	71,205	70.8	125,262	92,106	99,575	316,943	3,801	5,275	4,791	4,451
1981	43,887	20,250	27,953	92,090	69.6	172,167	108,353	134,934	415,454	3,923	5,351	4,827	4,511
1982	39,459	19,076	26,379	84,914	68.9	149,674	107,149	123,746	380,569	3,793	5,617	4,691	4,482
1983	37,366	14,684	24,355	76,405	68.1	136,849	78,108	105,222	320,179	3,662	5,319	4,320	4,191
1984	42,906	17,338	25,884	86,128	69.9	162,653	91,480	119,860	373,993	3,791	5,276	4,631	4,342
1985	35,261	14,324	21,211	70,796	70.0	137,728	76,293	100,388	314,409	3,906	5,326	4,733	4,441
1986	19,213	8,599	12,799	40,611	68.5	76,825	45,039	60,961	182,825	3,999	5,238	4,763	4,502
1987	16,210	8,096	11,167	35,473	68.5	66,358	42,584	53,588	162,530	4,094	5,260	4,799	4,582
1988	13,646	8,578	10,119	32,343	68.7	58,639	45,363	52,517	156,519	4,297	5,288	5,190	4,839
1989	10,230	9,522	8,236	27,988	70.6	43,266	49,081	42,099	134,446	4,229	5,154	5,112	4,804
1990	12,445	11,126	8,496	32,067	73.5	55,269	56,775	44,160	156,204	4,441	5,103	5,198	4,871
1991	12,035	9,611	7,882	29,528	73.3	55,268	50,757	40,307	146,332	4,592	5,281	5,114	4,956
1992	9,019	8,305	6,284	23,608	73.4	44,851	46,615	31,814	123,280	4,973	5,613	5,063	5,222
1993	8,764	10,174	6,513	25,451	74.4	43,922	61,186	33,323	138,431	5,012	6,014	5,116	5,439
1994	7,001	9,739	5,515	22,255	75.2	37,270	61,576	30,293	129,139	5,324	6,323	5,493	5,803
1995	7,827	8,454	5,319	21,600	75.4	39,125	52,872	29,312	121,309	4,999	6,254	5,511	5,616
1996	8,760	9,539	5,587	23,886	76.6	42,196	59,800	31,366	133,362	4,817	6,269	5,614	5,583
1997	10,445	11,186	5,955	27,586	78.4	51,466	69,593	34,233	155,292	4,927	6,221	5,749	5,629
1998	6,979	11,127	4,805	22,911	79.0	34,340	67,789	29,008	131,137	4,920	6,092	6,037	5,724
1999	4,314	11,121	3,504	18,939	81.5	18,860	55,331	20,404	94,595	4,372	4,975	5,823	4,995
2000	7,585	16,242	4,046	27,873	85.5	33,777	79,605	23,193	136,575	4,453	4,901	5,732	4,900
2001	8,186	21,403	4,432	34,021	87.0	38,716	108,482	25,047	172,245	4,730	5,069	5,651	5,063
2002	6,226	16,728	3,610	26,564	86.4	27,869	91,788	20,316	139,973	4,476	5,487	5,628	5,269
2003	7,465	19,522	3,688	30,675	88.0	35,220	112,990	20,968	169,178	4,718	5,788	5,685	5,515
2004 ^E	^R 7,806	^R 21,816	^R 3,474	^R 33,096	^R 89.5	^R 36,691	^R 127,953	^R 20,056	^R 184,701	^R 4,700	^R 5,865	^R 5,773	^R 5,581
2005 ^E	^R 9,668	^R 27,014	^R 4,063	^R 40,745	^R 90.0	^R 46,011	^R 159,778	^R 21,795	^R 227,584	^R 4,759	^R 5,915	^R 5,364	^R 5,586
2006 ^E	12,339	31,587	5,581	49,507	88.7	60,494	194,504	29,533	284,531	4,903	6,158	5,292	5,747
2007 ^E	14,477	32,910	6,171	53,558	88.5	80,086	227,968	34,753	342,807	5,532	6,927	5,632	6,401

¹ See "Footage Drilled" in Glossary.

² See "Crude Oil Well" in Glossary.

³ See "Natural Gas Well" in Glossary.

⁴ See "Dry Hole" in Glossary.

R=Revised. E=Estimate.

Notes: • Data are for exploratory and development wells combined; see Table 4.6 for exploratory wells only, and Table 4.7 for development wells only. • Service wells, stratigraphic tests, and core tests are excluded. • For 1949-1959, data represent wells completed in a given year. For 1960-1969, data are for well completion reports received by the American Petroleum Institute during the reporting year. For 1970 forward, the data represent wells completed in a given year. The as-received well completion data for recent years are incomplete due to delays in the reporting of wells drilled. The Energy Information

Administration (EIA) therefore statistically imputes the missing data. • Totals may not equal sum of components due to independent rounding. Average depth may not equal average of components due to independent rounding.

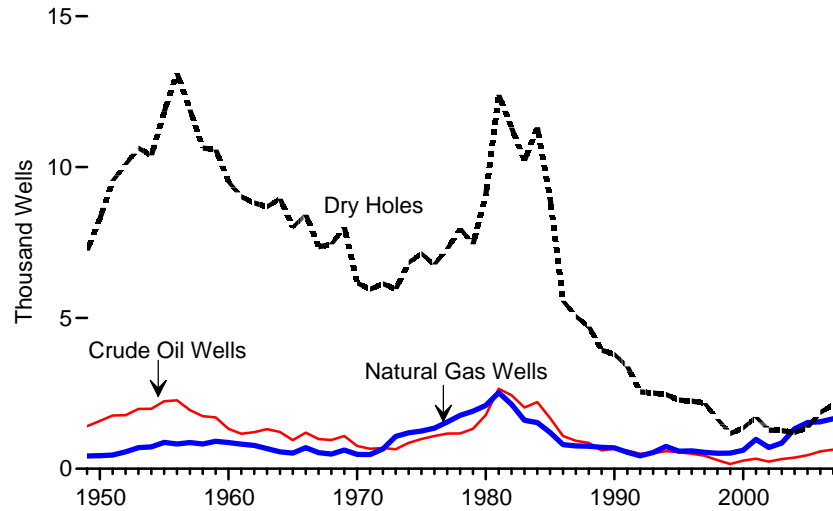
Web Pages: • For all data beginning in 1949, see <http://www.eia.doe.gov/emeu/aer/resource.html>.

• For related information, see http://www.eia.doe.gov/oil_gas/petroleum/info_glance/petroleum.html.

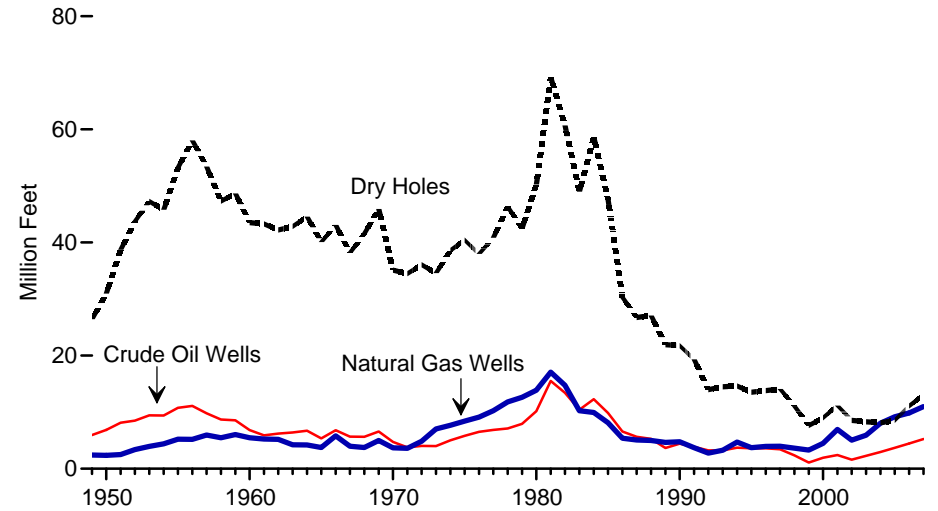
Sources: • 1949-1965—Gulf Publishing Company, *World Oil*, "Forecast-Review" issue. • 1966-1969—American Petroleum Institute (API), *Quarterly Review of Drilling Statistics for the United States*, annual summaries and monthly reports. • 1970-1994—EIA computations based on well reports submitted to the API. • 1995 forward—EIA computations based on well reports submitted to the Information Handling Services Energy Group, Inc. For current data see the EIA, *Monthly Energy Review*, Table 5.2.

Figure 4.6 Crude Oil and Natural Gas Exploratory Wells, 1949-2007

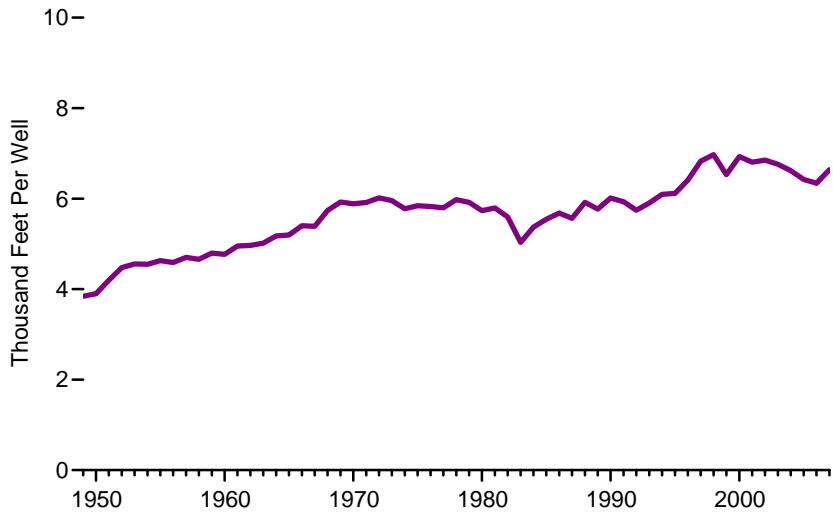
Exploratory Wells Drilled by Well Type



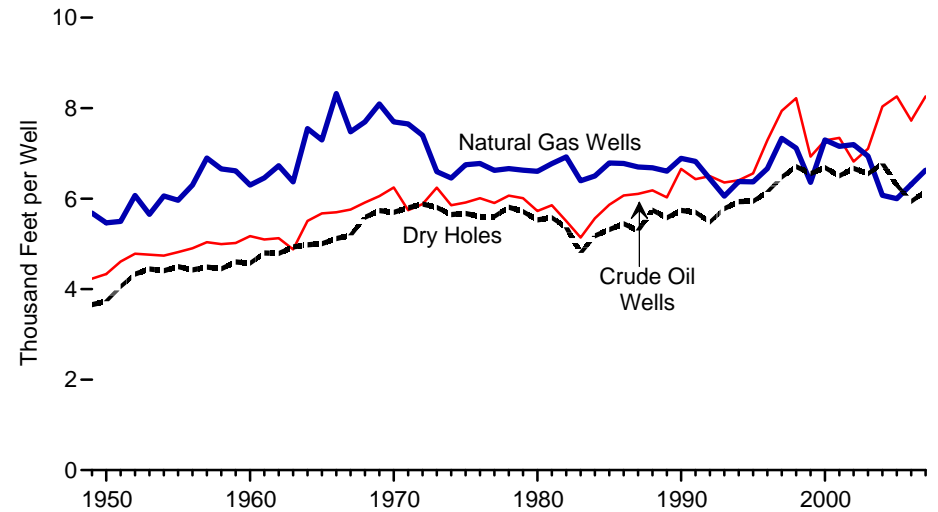
Exploratory Footage Drilled by Well Type



Exploratory Wells Average Depth, All Wells



Exploratory Wells Average Depth by Well Type



Note: These graphs depict exploratory wells only; see Figure 4.5 for all wells and Figure 4.7 for development wells only.

Source: Table 4.6.

Table 4.6 Crude Oil and Natural Gas Exploratory Wells, Selected Years, 1949-2007

Year	Wells Drilled				Successful Wells	Footage Drilled ¹				Average Depth			
	Crude Oil ²	Natural Gas ³	Dry Holes ⁴	Total		Crude Oil ²	Natural Gas ³	Dry Holes ⁴	Total	Crude Oil ²	Natural Gas ³	Dry Holes ⁴	Total
	Number					Percent	Thousand Feet				Feet per Well		
1949	1,406	424	7,228	9,058	20.2	5,950	2,409	26,439	34,798	4,232	5,682	3,658	3,842
1950	1,583	431	8,292	10,306	19.5	6,862	2,356	30,957	40,175	4,335	5,466	3,733	3,898
1955	2,236	874	11,832	14,942	20.8	10,774	5,212	53,220	69,206	4,819	5,964	4,498	4,632
1960	1,321	868	9,515	11,704	18.7	6,829	5,466	43,535	55,831	5,170	6,298	4,575	4,770
1965	946	515	8,005	9,466	15.4	5,366	3,757	40,081	49,204	5,672	7,295	5,007	5,198
1970	757	477	6,162	7,396	16.7	4,729	3,678	35,123	43,530	6,247	7,695	5,700	5,885
1971	659	470	5,952	7,081	15.9	3,786	3,610	34,499	41,895	5,745	7,649	5,796	5,915
1972	685	656	6,134	7,475	17.9	4,028	4,847	36,081	44,956	5,880	7,400	5,882	6,015
1973	642	1,067	5,952	7,661	22.3	4,008	5,952	34,571	45,618	6,243	6,596	5,808	5,955
1974	859	1,190	6,833	8,882	23.1	5,029	7,683	38,603	51,315	5,855	6,456	5,649	5,777
1975	982	1,248	7,129	9,359	23.8	5,806	8,422	40,448	54,677	5,913	6,748	5,674	5,842
1976	1,086	1,346	6,772	9,204	26.4	6,527	9,121	37,969	53,617	6,010	6,777	5,607	5,825
1977	1,164	1,548	7,283	9,995	27.1	6,870	10,255	40,823	57,949	5,902	6,625	5,605	5,798
1978	1,171	1,771	7,965	10,907	27.0	7,105	11,798	46,295	65,197	6,067	6,662	5,812	5,978
1979	1,321	1,907	7,437	10,665	30.3	7,941	12,643	42,512	63,096	6,011	6,630	5,716	5,916
1980	1,777	2,099	9,081	12,957	29.9	10,177	13,862	50,249	74,288	5,727	6,604	5,533	5,733
1981	2,651	2,522	12,400	17,573	29.4	15,515	17,079	69,214	101,808	5,853	6,772	5,582	5,793
1982	2,437	2,133	11,307	15,877	28.8	13,413	14,763	60,680	88,856	5,504	6,921	5,367	5,597
1983	2,030	1,605	10,206	13,841	26.3	10,437	10,264	48,989	69,690	5,141	6,395	4,800	5,035
1984	2,209	1,528	11,321	15,058	24.8	12,294	9,935	58,624	80,853	5,565	6,502	5,178	5,369
1985	1,680	1,200	8,954	11,834	24.3	9,854	8,144	47,604	65,602	5,865	6,787	5,317	5,544
1986	1,084	797	5,567	7,448	25.3	6,579	5,401	30,325	42,305	6,069	6,777	5,447	5,680
1987	926	756	5,052	6,734	25.0	5,652	5,064	26,746	37,462	6,104	6,698	5,294	5,563
1988	855	747	4,711	6,313	25.4	5,286	4,992	27,079	37,357	6,182	6,683	5,748	5,917
1989	607	706	3,934	5,247	25.0	3,659	4,664	21,947	30,270	6,028	6,606	5,579	5,769
1990	664	693	3,793	5,150	26.3	4,420	4,774	21,777	30,971	6,657	6,889	5,741	6,014
1991	601	544	3,390	4,535	25.2	3,865	3,712	19,330	26,907	6,431	6,824	5,702	5,933
1992	498	427	2,550	3,475	26.6	3,236	2,749	13,983	19,968	6,498	6,438	5,484	5,746
1993	509	541	2,509	3,559	29.5	3,235	3,277	14,504	21,016	6,356	6,057	5,781	5,905
1994	579	740	2,465	3,784	34.9	3,708	4,720	14,632	23,060	6,404	6,378	5,936	6,094
1995	549	583	2,279	3,411	33.2	3,601	3,713	13,545	20,859	6,559	6,369	5,943	6,115
1996	496	591	2,246	3,333	32.6	3,615	3,938	13,805	21,358	7,288	6,663	6,146	6,408
1997	434	543	2,178	3,155	31.0	3,446	3,981	14,105	21,532	7,940	7,331	6,476	6,825
1998	286	510	1,649	2,445	32.6	2,351	3,629	11,062	17,042	8,220	7,116	6,708	6,970
1999	156	519	1,167	1,842	36.6	1,081	3,300	7,648	12,029	6,929	6,358	6,554	6,530
2000	267	615	1,349	2,231	39.5	1,945	4,488	9,024	15,457	7,285	7,298	6,689	6,928
2001	330	972	1,716	3,018	43.1	2,423	6,954	11,165	20,542	7,342	7,154	6,506	6,806
2002	236	701	1,283	2,220	42.2	1,609	5,042	8,559	15,210	6,818	7,193	6,671	6,851
2003	321	853	1,266	2,440	48.1	2,280	5,920	8,291	16,491	7,103	6,940	6,549	6,759
2004 ^E	^R 368	^R 1,323	^R 1,200	^R 2,891	^R 58.5	^R 2,957	^R 8,036	^R 8,134	^R 19,127	^R 8,036	^R 6,074	^R 6,778	^R 6,616
2005 ^E	^R 448	^R 1,532	^R 1,358	^R 3,338	^R 59.3	^R 3,700	^R 9,191	^R 8,551	^R 21,442	^R 8,258	^R 5,999	^R 6,297	^R 6,424
2006 ^E	576	1,559	1,870	4,005	53.3	4,452	9,845	11,107	25,404	7,729	6,315	5,940	6,343
2007 ^E	634	1,658	2,119	4,411	52.0	5,236	10,990	13,054	29,280	8,259	6,628	6,161	6,638

¹ See "Footage Drilled" in Glossary.

² See "Crude Oil Well" in Glossary.

³ See "Natural Gas Well" in Glossary.

⁴ See "Dry Hole" in Glossary.

R=Revised. E=Estimate.

Notes: • Data are for exploratory wells only; see Table 4.5 for exploratory and development wells combined, and Table 4.7 for development wells only. • For 1949-1959, data represent wells completed in a given year. For 1960-1969, data are for well completion reports received by the American Petroleum Institute (API) during the reporting year. For 1970 forward, the data represent wells completed in a given year. The as-received well completion data for recent years are incomplete due to delays in the reporting of wells drilled. The Energy Information Administration (EIA) therefore statistically imputes the missing

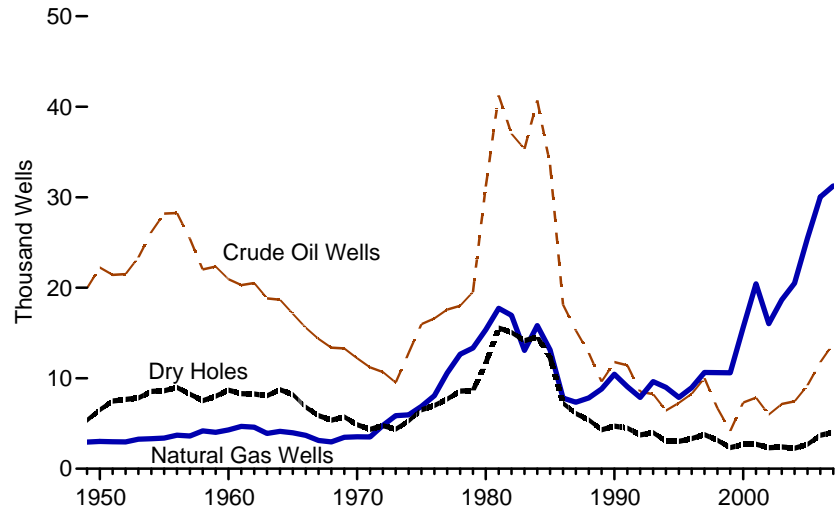
data. • Totals may not equal sum of components due to independent rounding. Average depth may not equal average of components due to independent rounding.

Web Pages: • For all data beginning in 1949, see <http://www.eia.doe.gov/emeu/aer/resource.html>. • For related information, see http://www.eia.doe.gov/oil_gas/petroleum/info_glance/petroleum.html.

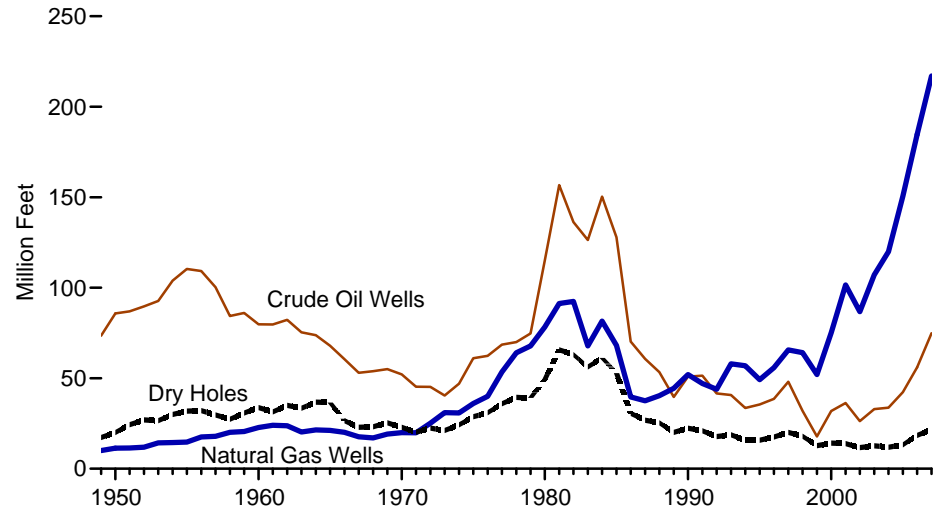
Sources: • 1949-1960—American Association of Petroleum Geologists, *Statistics on Exploratory Drilling in the United States, 1940 through 1960* (1962), pp. 4-19. • 1961-1965—*Bulletin of the American Association of Petroleum Geologists*, "North American Developments" issue. • 1966-1969—API, *Quarterly Review of Drilling Statistics for the United States*, annual summaries and monthly reports. • 1970-1994—EIA computations based on well reports submitted to the API. • 1995 forward—EIA computations based on well reports submitted to the Information Handling Services Energy Group, Inc. For current data see the EIA, *Monthly Energy Review*, Table 5.2.

Figure 4.7 Crude Oil and Natural Gas Development Wells, 1949-2007

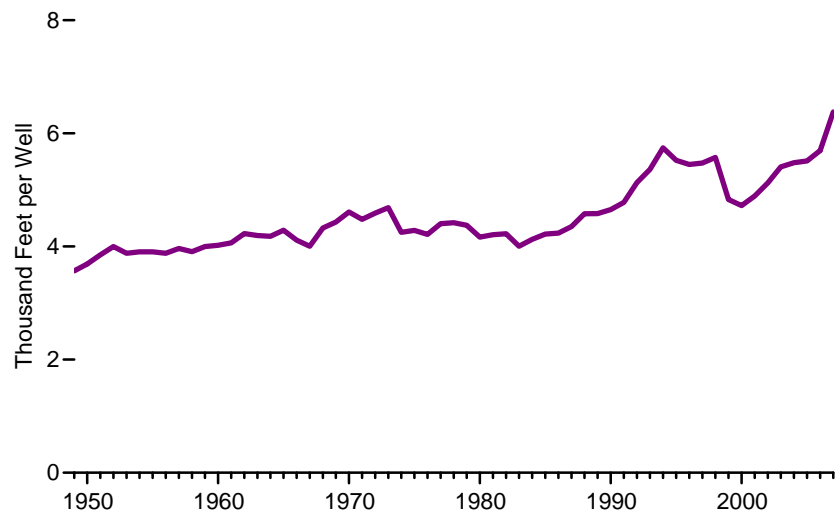
Development Wells Drilled by Well Type



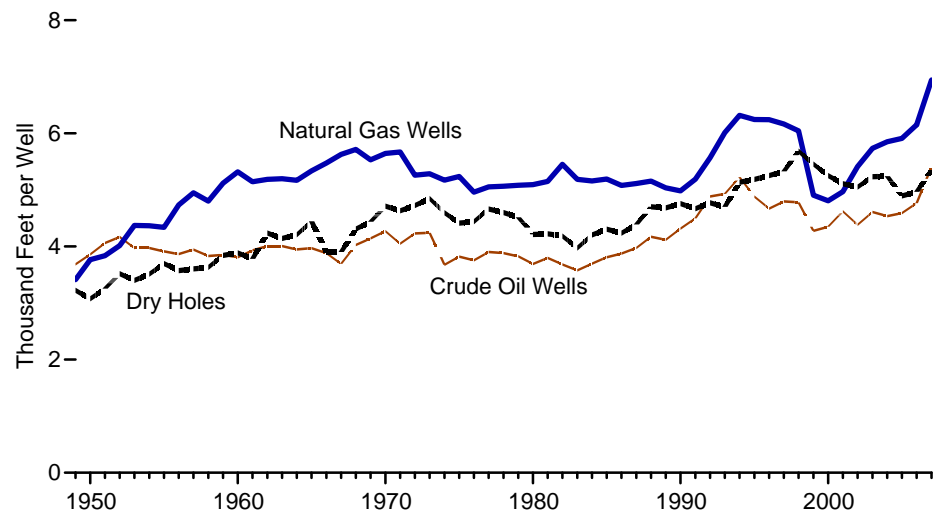
Development Footage Drilled by Well Type



Development Wells Average Depth, All Wells



Development Wells Average Depth by Well Type



Note: These graphs depict development wells only; see Figure 4.5 for all wells and Figure 4.6 for exploratory wells only.

Source: Table 4.7.

Table 4.7 Crude Oil and Natural Gas Development Wells, Selected Years, 1949-2007

Year	Wells Drilled				Successful Wells	Footage Drilled ¹				Average Depth			
	Crude Oil ²	Natural Gas ³	Dry Holes ⁴	Total		Crude Oil ²	Natural Gas ³	Dry Holes ⁴	Total	Crude Oil ²	Natural Gas ³	Dry Holes ⁴	Total
	Number					Percent	Thousand Feet				Feet per Well		
1949	19,946	2,939	5,369	28,254	81.0	73,478	10,028	17,315	100,821	3,684	3,412	3,225	3,568
1950	22,229	3,008	6,507	31,744	79.5	85,833	11,329	20,020	117,183	3,861	3,766	3,077	3,691
1955	28,196	3,392	8,620	40,208	78.6	110,374	14,718	31,883	156,976	3,915	4,339	3,699	3,904
1960	20,937	4,281	8,697	33,915	74.4	79,739	22,780	33,826	136,345	3,809	5,321	3,889	4,020
1965	17,119	3,967	8,221	29,307	71.9	67,956	21,174	36,548	125,678	3,970	5,337	4,446	4,288
1970	12,211	3,534	4,869	20,614	76.4	52,130	19,945	22,951	95,026	4,269	5,644	4,714	4,610
1971	11,194	3,501	4,357	19,052	77.1	45,323	19,850	20,186	85,358	4,049	5,670	4,633	4,480
1972	10,693	4,784	4,757	20,234	76.5	45,241	25,159	22,475	92,875	4,231	5,259	4,725	4,590
1973	9,525	5,866	4,368	19,759	77.9	40,408	31,007	21,190	92,605	4,242	5,286	4,851	4,687
1974	12,788	5,948	5,283	24,019	78.0	46,996	30,766	24,296	102,059	3,675	5,173	4,599	4,249
1975	15,966	6,879	6,517	29,362	77.8	61,013	36,032	28,772	125,817	3,821	5,238	4,415	4,285
1976	16,602	8,063	6,986	31,651	77.9	62,365	39,992	31,008	133,365	3,756	4,960	4,439	4,214
1977	17,581	10,574	7,702	35,857	78.5	68,581	53,431	35,905	157,917	3,901	5,053	4,662	4,404
1978	18,010	12,642	8,586	39,238	78.1	69,936	64,043	39,493	173,472	3,883	5,066	4,600	4,421
1979	19,530	13,347	8,662	41,539	79.1	74,747	67,825	39,130	181,702	3,827	5,082	4,517	4,374
1980	31,182	15,362	11,704	58,248	79.9	115,085	78,244	49,326	242,655	3,691	5,093	4,214	4,166
1981	41,236	17,728	15,553	74,517	79.1	156,652	91,274	65,720	313,646	3,799	5,149	4,226	4,209
1982	37,022	16,943	15,072	69,037	78.2	136,261	92,386	63,066	291,713	3,681	5,453	4,184	4,225
1983	35,336	13,079	14,149	62,564	77.4	126,412	67,844	56,233	250,489	3,577	5,187	3,974	4,004
1984	40,697	15,810	14,563	71,070	79.5	150,359	81,545	61,236	293,140	3,695	5,158	4,205	4,125
1985	33,581	13,124	12,257	58,962	79.2	127,874	68,149	52,784	248,807	3,808	5,193	4,306	4,220
1986	18,129	7,802	7,232	33,163	78.2	70,246	39,638	30,636	140,520	3,875	5,080	4,236	4,237
1987	15,284	7,340	6,115	28,739	78.7	60,706	37,520	26,842	125,068	3,972	5,112	4,390	4,352
1988	12,791	7,831	5,408	26,030	79.2	53,353	40,371	25,438	119,162	4,171	5,155	4,704	4,578
1989	9,623	8,816	4,302	22,741	81.1	39,607	44,417	20,152	104,176	4,116	5,038	4,684	4,581
1990	11,781	10,433	4,703	26,917	82.5	50,849	52,001	22,383	125,233	4,316	4,984	4,759	4,653
1991	11,434	9,067	4,492	24,993	82.0	51,403	47,045	20,977	119,425	4,496	5,189	4,670	4,778
1992	8,521	7,878	3,734	20,133	81.5	41,615	43,866	17,831	103,312	4,884	5,568	4,775	5,131
1993	8,255	9,633	4,004	21,892	81.7	40,687	57,909	18,819	117,415	4,929	6,012	4,700	5,363
1994	6,422	8,999	3,050	18,471	83.5	33,562	56,856	15,661	106,079	5,226	6,318	5,135	5,743
1995	7,278	7,871	3,040	18,189	83.3	35,524	49,159	15,767	100,450	4,881	6,246	5,187	5,523
1996	8,264	8,948	3,341	20,553	83.7	38,581	55,862	17,561	112,004	4,669	6,243	5,256	5,450
1997	10,011	10,643	3,777	24,431	84.5	48,020	65,612	20,128	133,760	4,797	6,165	5,329	5,475
1998	6,693	10,617	3,156	20,466	84.6	31,989	64,160	17,946	114,095	4,779	6,043	5,686	5,575
1999	4,158	10,602	2,337	17,097	86.3	17,779	52,031	12,756	82,566	4,276	4,908	5,458	4,829
2000	7,318	15,627	2,697	25,642	89.5	31,832	75,117	14,169	121,118	4,350	4,807	5,254	4,723
2001	7,856	20,431	2,716	31,003	91.2	36,293	101,528	13,882	151,703	4,620	4,969	5,111	4,893
2002	5,990	16,027	2,327	24,344	90.4	26,260	86,746	11,757	124,763	4,384	5,412	5,052	5,125
2003	7,144	18,669	2,422	28,235	91.4	32,940	107,070	12,677	152,687	4,611	5,735	5,234	5,408
2004 ^E	^R 7,438	^R 20,493	^R 2,274	^R 30,205	^R 92.5	^R 33,734	^R 119,917	^R 11,922	^R 165,573	^R 4,535	^R 5,852	^R 5,243	^R 5,482
2005 ^E	^R 9,220	^R 25,482	^R 2,705	^R 37,407	^R 92.8	^R 42,312	^R 150,587	^R 13,243	^R 206,142	^R 4,589	^R 5,910	^R 4,896	^R 5,511
2006 ^E	11,763	30,028	3,711	45,502	91.8	56,042	184,659	18,425	259,127	4,764	6,150	4,965	5,695
2007 ^E	13,843	31,252	4,052	49,147	91.8	74,850	216,978	21,699	313,527	5,407	6,943	5,355	6,379

¹ See "Footage Drilled" in Glossary.

² See "Crude Oil Well" in Glossary.

³ See "Natural Gas Well" in Glossary.

⁴ See "Dry Hole" in Glossary.

R=Revised. E=Estimate.

Notes: • Data are for development wells only; see Table 4.5 for exploratory and development wells combined, and Table 4.6 for exploratory wells only. • Service wells, stratigraphic tests, and core tests are excluded. • For 1949-1959, data represent wells completed in a given year. For 1960-1969, data are for well completion reports received by the American Petroleum Institute during the reporting year. For 1970 forward, the data represent wells completed in a given year. The as-received well completion data for recent years are incomplete due to delays in the reporting of wells drilled. The Energy Information

Administration (EIA) therefore statistically imputes the missing data. • Totals may not equal sum of components due to independent rounding. Average depth may not equal average of components due to independent rounding.

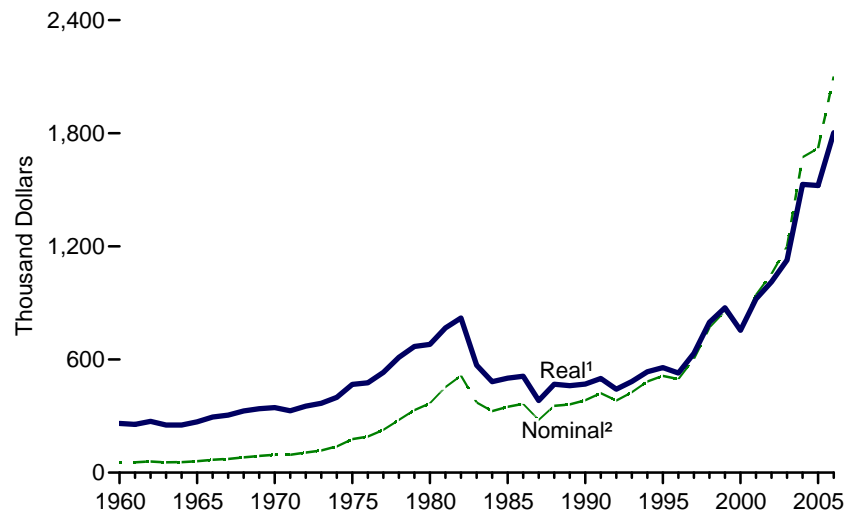
Web Pages: • For all data beginning in 1949, see <http://www.eia.doe.gov/emeu/aer/resource.html>.

• For related information, see http://www.eia.doe.gov/oil_gas/petroleum/info_glance/petroleum.html.

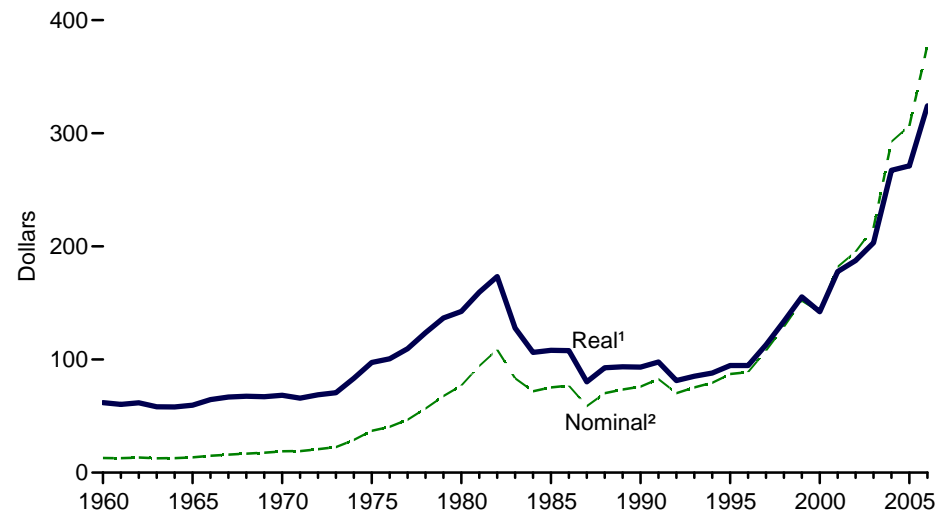
Sources: • 1949-1965—Gulf Publishing Company, *World Oil*, "Forecast-Review" issue. • 1966-1969—American Petroleum Institute, *Quarterly Review of Drilling Statistics for the United States*, annual summaries and monthly reports. • 1970-1994—EIA computations based on well reports submitted to the American Petroleum Institute. • 1995 forward—EIA computations based on well reports submitted to the Information Handling Services Energy Group, Inc. For current data see the EIA, *Monthly Energy Review*, Table 5.2.

Figure 4.8 Costs of Crude Oil and Natural Gas Wells Drilled

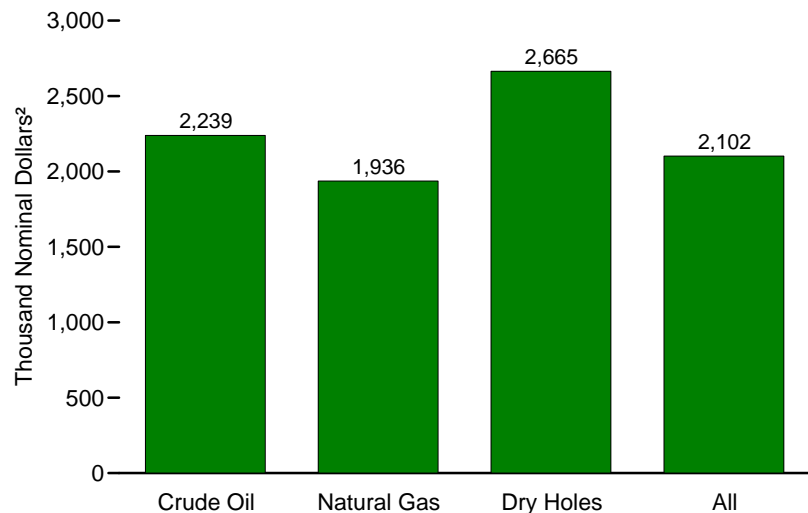
Costs per Well, All Wells, 1960-2006



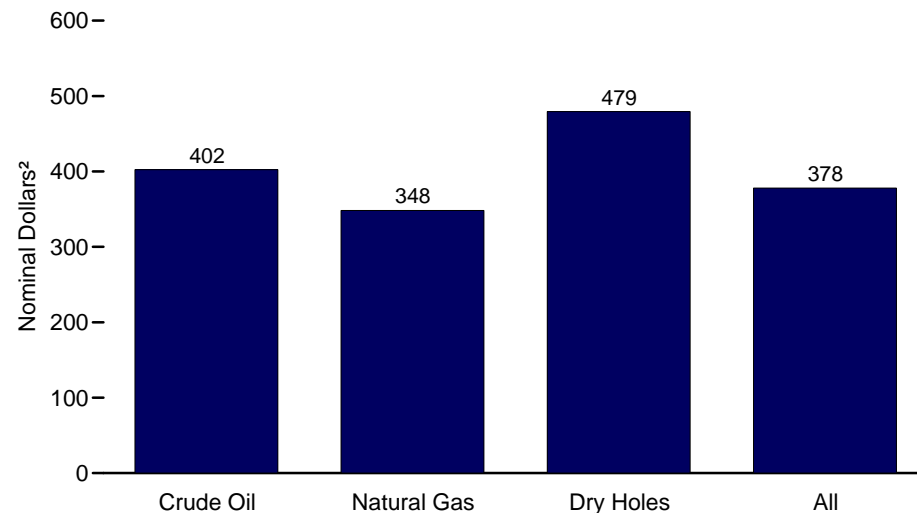
Costs per Foot, All Wells, 1960-2006



Costs per Well by Well Type, 2006



Costs per Foot by Well Type, 2006



¹ In chained (2000) dollars, calculated by using gross domestic product implicit price deflators. See Table D1.

² See "Nominal Dollars" in Glossary.

Note: Because vertical scales differ, graphs should not be compared.

Source: Table 4.8.

Table 4.8 Costs of Crude Oil and Natural Gas Wells Drilled, 1960-2006

Year	Thousand Dollars per Well					Dollars per Foot				
	Crude Oil ¹	Natural Gas ²	Dry Holes ³	All		Crude Oil ¹	Natural Gas ²	Dry Holes ³	All	
	Nominal ⁴	Nominal ⁴	Nominal ⁴	Nominal ⁴	Real ⁵	Nominal ⁴	Nominal ⁴	Nominal ⁴	Nominal ⁴	Real ⁵
1960	52.2	102.7	44.0	54.9	261.1	13.22	18.57	10.56	13.01	61.83
1961	51.3	94.7	45.2	54.5	256.2	13.11	17.65	10.56	12.85	60.39
1962	54.2	97.1	50.8	58.6	271.8	13.41	18.10	11.20	13.31	61.71
1963	51.8	92.4	48.2	55.0	252.4	13.20	17.19	10.58	12.69	58.22
1964	50.6	104.8	48.5	55.8	252.2	13.12	18.57	10.64	12.86	58.11
1965	56.6	101.9	53.1	60.6	269.1	13.94	18.35	11.21	13.44	59.64
1966	62.2	133.8	56.9	68.4	295.1	15.04	21.75	12.34	14.95	64.51
1967	66.6	141.0	61.5	72.9	305.1	16.61	23.05	12.87	15.97	66.84
1968	79.1	148.5	66.2	81.5	327.0	18.63	24.05	12.88	16.83	67.56
1969	86.5	154.3	70.2	88.6	338.7	19.28	25.58	13.23	17.56	67.15
1970	86.7	160.7	80.9	94.9	344.6	19.29	26.75	15.21	18.84	68.42
1971	78.4	166.6	86.8	94.7	327.6	18.41	27.70	16.02	19.03	65.82
1972	93.5	157.8	94.9	106.4	352.8	20.77	27.78	17.28	20.76	68.82
1973	103.8	155.3	105.8	117.2	367.8	22.54	27.46	19.22	22.50	70.65
1974	110.2	189.2	141.7	138.7	399.5	27.82	34.11	26.76	28.93	83.31
1975	138.6	262.0	177.2	177.8	467.9	34.17	46.23	33.86	36.99	97.34
1976	151.1	270.4	190.3	191.6	476.7	37.35	49.78	36.94	40.46	100.66
1977	170.0	313.5	230.2	227.2	531.4	41.16	57.57	43.49	46.81	109.49
1978	208.0	374.2	281.7	280.0	611.8	49.72	68.37	52.55	56.63	123.76
1979	243.1	443.1	339.6	331.4	668.8	58.29	80.66	64.60	67.70	136.64
1980	272.1	536.4	376.5	367.7	680.4	66.36	95.16	73.70	77.02	142.52
1981	336.3	698.6	464.0	453.7	767.4	80.40	122.17	90.03	94.30	159.51
1982	347.4	864.3	515.4	514.4	820.0	86.34	146.20	104.09	108.73	173.34
1983	283.8	608.1	366.5	371.7	570.1	72.65	108.37	79.10	83.34	127.81
1984	262.1	489.8	329.2	326.5	482.5	66.32	88.80	67.18	71.90	106.27
1985	270.4	508.7	372.3	349.4	501.2	66.78	93.09	73.69	75.35	108.09
1986	284.9	522.9	389.2	364.6	511.7	68.35	93.02	76.53	76.88	107.90
1987	246.0	380.4	259.1	279.6	382.0	58.35	69.55	51.05	58.71	80.21
1988	279.4	460.3	366.4	354.7	468.6	62.28	84.65	66.96	70.23	92.78
1989	282.3	457.8	355.4	362.2	461.1	64.92	86.86	67.61	73.55	93.63
1990	321.8	471.3	367.5	383.6	470.2	69.17	90.73	67.49	76.07	93.23
1991	346.9	506.6	441.2	421.5	499.1	73.75	93.10	83.05	82.64	97.86
1992	362.3	426.1	357.6	382.6	442.9	69.50	72.83	67.82	70.27	81.35
1993	356.6	521.2	387.7	426.8	482.9	67.52	83.15	72.56	75.30	85.20
1994	409.5	535.1	491.5	483.2	535.4	70.57	81.90	86.60	79.49	88.07
1995	415.8	629.7	481.2	513.4	557.4	78.09	95.97	84.60	87.22	94.70
1996	341.0	616.0	541.0	496.1	528.6	70.60	98.67	95.74	88.92	94.74
1997	445.6	728.6	655.6	603.9	632.9	90.48	117.55	115.09	107.83	113.01
1998	566.0	815.6	973.2	769.1	797.2	108.88	127.94	157.79	128.97	133.69
1999	783.0	798.4	1,115.5	856.1	874.8	156.45	138.42	182.99	152.02	155.33
2000	593.4	756.9	1,075.4	754.6	754.6	125.96	138.39	181.83	142.16	142.16
2001	729.1	896.5	1,620.4	943.2	921.1	153.72	172.05	271.63	181.94	177.68
2002	882.8	991.9	1,673.4	1,054.2	1,011.9	194.55	175.78	284.17	195.31	187.46
2003	1,037.3	1,106.0	2,065.1	1,199.5	1,127.4	221.13	189.95	345.94	216.27	203.25
2004	1,441.8	1,716.4	1,977.3	1,673.1	^R 1,528.5	298.45	284.78	327.91	292.57	^R 267.28
2005	1,920.4	1,497.6	2,392.9	1,720.7	^R 1,522.7	314.36	280.03	429.92	306.50	^R 271.24
2006	2,238.6	1,936.2	2,664.6	2,101.7	1,803.0	402.45	348.36	479.33	378.03	324.30

¹ See "Crude Oil Well" in Glossary.

² See "Natural Gas Well" in Glossary.

³ See "Dry Hole" in Glossary.

⁴ See "Nominal Dollars" in Glossary.

⁵ In chained (2000) dollars, calculated by using gross domestic product implicit price deflators in Table

D1. See "Chained Dollars" in Glossary.

R=Revised.

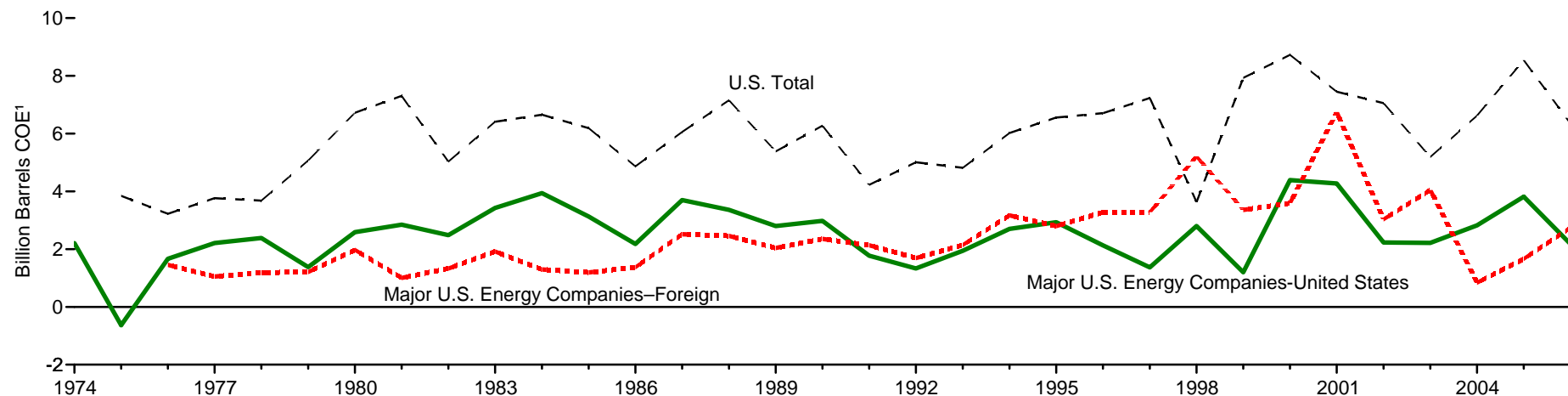
Notes: • The information reported for 1965 and prior years is not strictly comparable to that in more recent surveys. • Average cost is the arithmetic mean and includes all costs for drilling and equipping wells and for surface-producing facilities. Wells drilled include exploratory and development wells; excludes service wells, stratigraphic tests, and core tests. See "Development Well" and "Exploratory Well" in Glossary.

Web Page: For related information, see <http://www.api.org/statistics/accessapi/api-reports.cfm>.

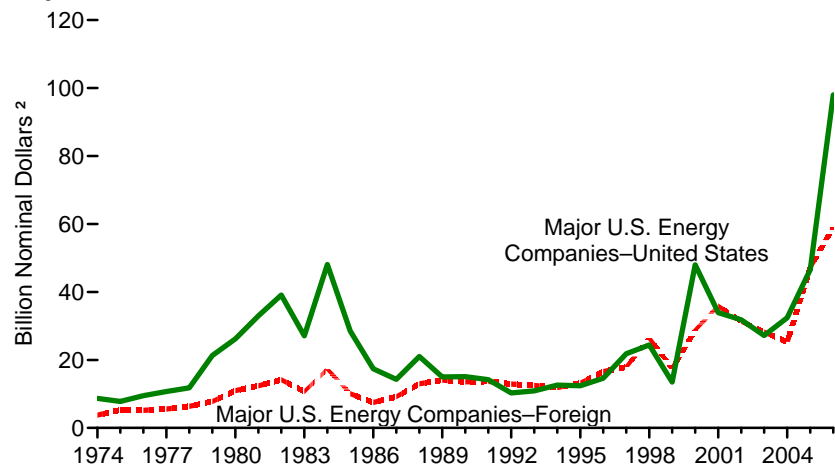
Source: American Petroleum Institute, 2006 Joint Association Survey on Drilling Costs (May 2008).

Figure 4.9 Crude Oil, Natural Gas, and Natural Gas Liquids Gross Additions to Proved Reserves, and Exploration and Development Expenditures

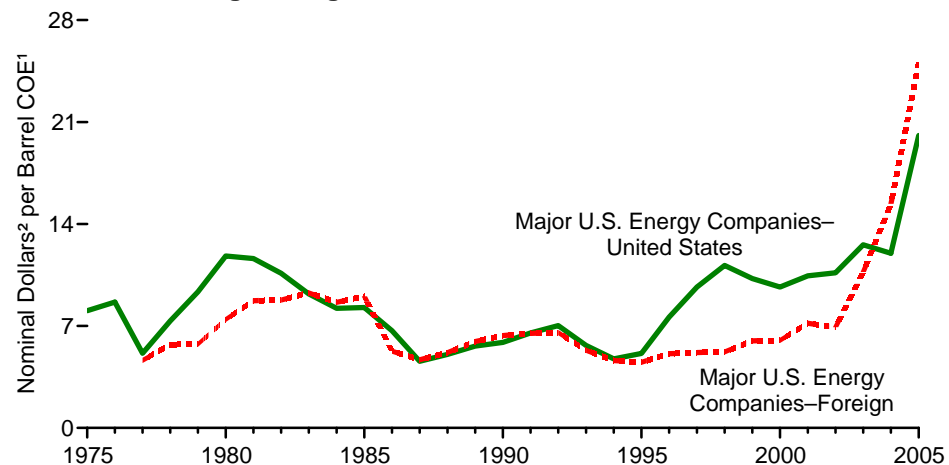
Gross Additions to Proved Reserves of Crude Oil, Natural Gas, and Natural Gas Liquids, 1974-2006



Crude Oil and Natural Gas Exploration and Development Expenditures, 1974-2006



Expenditures per Barrel of Reserve Additions, 1975-2005 Three-Year Moving Average



¹ Crude oil equivalent.

² See "Nominal Price" in Glossary.

Note: "Major U.S. Energy Companies" are the top publicly-owned crude oil and natural gas producers and petroleum refiners that form the Financial Reporting System (FRS). See Table 3.14.

Source: Table 4.9.

Table 4.9 Crude Oil, Natural Gas, and Natural Gas Liquids Gross Additions to Proved Reserves, and Exploration and Development Expenditures, 1974-2006

Year	Gross Additions to Proved Reserves ¹ of Crude Oil, Natural Gas, and Natural Gas Liquids			Crude Oil and Natural Gas Exploration and Development Expenditures		Expenditures per Barrel of Reserve Additions, Three-Year Moving Average	
	U.S. Total	Major U.S. Energy Companies ²		Major U.S. Energy Companies ²		Major U.S. Energy Companies ²	
		United States	Foreign	United States	Foreign	United States	Foreign
	Million Barrels COE ³			Billion Nominal Dollars ⁴		Nominal Dollars ⁴ per Barrel COE ³	
1974	NA	2,205	NA	8.7	3.8	NA	NA
1975	3,846	-634	NA	7.8	5.3	8.05	NA
1976	3,224	1,663	1,459	9.5	5.2	8.64	NA
1977	3,765	2,210	1,055	10.7	5.6	5.12	4.64
1978	3,679	2,383	1,191	11.8	6.4	7.34	5.73
1979	5,071	1,378	⁵ 1,208	21.3	7.8	9.34	⁵ 5.75
1980	6,723	2,590	1,977	26.2	11.0	11.80	7.45
1981	7,304	2,848	1,006	33.0	12.4	11.63	8.74
1982	5,030	2,482	1,332	39.1	14.2	⁶ 10.62	⁶ 8.78
1983	6,412	3,427	1,918	27.1	10.7	9.20	9.28
1984	6,653	3,941	1,298	48.1	17.3	⁶ 8.21	⁶ 8.63
1985	6,190	⁷ 3,129	1,192	28.5	10.1	⁷ 8.27	9.03
1986	4,866	2,178	⁵ 1,375	17.4	7.5	6.67	⁵ 5.28
1987	6,059	⁷ 3,698	2,516	14.3	9.2	⁷ 4.58	4.69
1988	7,156	3,359	2,460	21.0	13.0	5.05	5.18
1989	5,385	2,798	2,043	15.0	14.1	5.62	5.94
1990	6,275	2,979	2,355	15.1	13.6	5.87	6.34
1991	4,227	1,772	2,135	14.2	13.7	6.52	6.50
1992	5,006	1,332	1,694	10.3	12.9	7.02	6.55
1993	4,814	1,945	2,147	10.9	12.5	5.66	5.33
1994	6,021	2,703	3,173	12.6	11.9	4.74	4.63
1995	6,558	2,929	2,799	12.4	13.2	5.11	4.51
1996	6,707	2,131	3,280	14.6	16.6	7.61	5.10
1997	7,233	1,367	3,279	21.8	17.9	9.67	5.18
1998	3,628	2,798	5,206	24.4	26.4	11.15	5.22
1999	7,929	1,197	3,360	13.5	17.5	10.25	5.98
2000	8,725	4,392	3,593	48.0	28.8	9.67	6.01
2001	7,449	4,271	6,744	33.9	35.9	10.44	7.19
2002	7,056	2,232	3,036	31.8	31.4	10.65	6.91
2003	5,189	2,216	4,047	27.2	28.2	12.57	10.71
2004	6,624	2,825	841	32.4	25.3	^R 11.99	15.38
2005	8,543	3,818	1,664	^R 46.6	47.3	^R 20.08	^R 25.07
2006	6,346	2,174	2,747	98.0	59.1	NA	NA

¹ Gross additions to proved reserves equal annual change in proved reserves plus annual production. See "Proved Reserves, Crude Oil," "Proved Reserves, Natural Gas," and "Proved Reserves, Natural Gas Liquids" in Glossary.

² "Major U.S. Energy Companies" are the top publicly-owned, U.S.-based crude oil and natural gas producers and petroleum refiners that form the Financial Reporting System (FRS) (see Table 3.14).

³ Crude oil equivalent: converted to Btu on the basis of annual average conversion factors. See Appendix A.

⁴ See "Nominal Dollars" in Glossary.

⁵ Data for 1979 exclude downward revisions of 1,225 million barrels COE due to Iranian policies. Data for 1986 exclude downward revisions due to Libyan sanctions.

⁶ Data for 1982 and 1984 are adjusted to exclude purchases of proved reserves associated with mergers among the FRS companies.

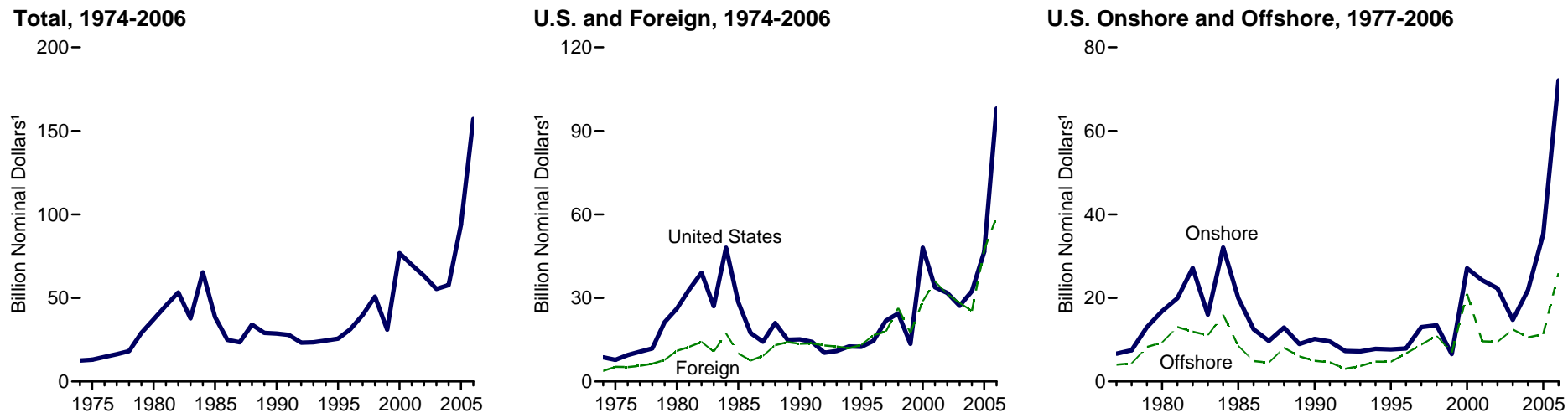
⁷ Data for 1985 and 1987 exclude downward revisions of 1,477 million barrels COE and 2,396 million barrels COE, respectively, of Alaska North Slope natural gas reserves.

R=Revised. NA=Not available.

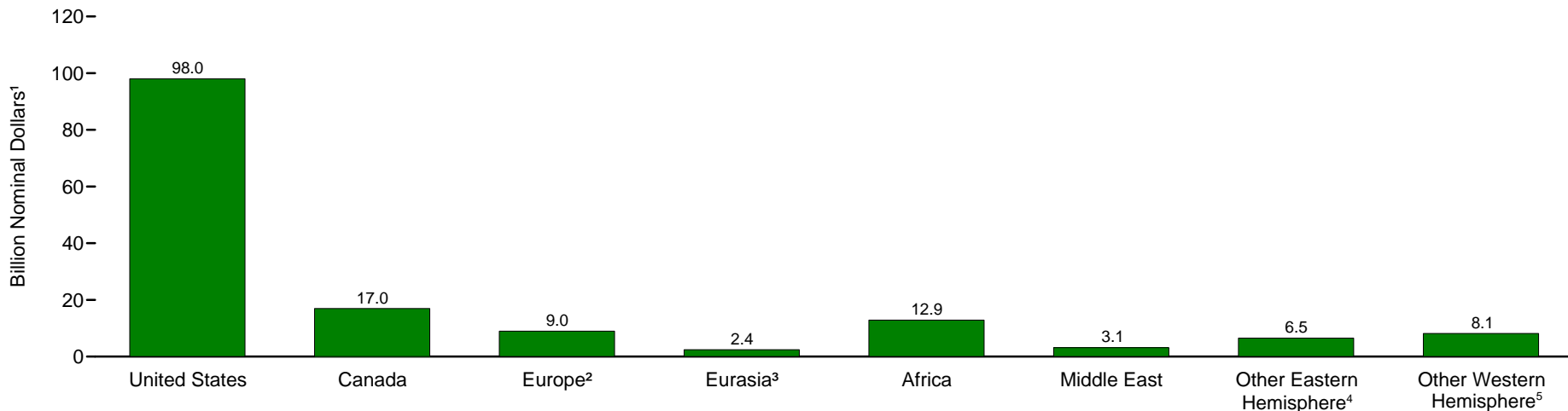
Web Page: For related information, see <http://www.eia.doe.gov/emeu/finance>.

Sources: **Major U.S. Energy Companies:** • 1974-1976—Energy Information Administration (EIA), Form EIA-28, "Financial Reporting System" database, November 1997. • 1977 forward—EIA, *Performance Profiles of Major Energy Producers*, annual reports. **U.S. Total, Gross Additions to Proved Reserves:** • 1975-1979—American Gas Association, American Petroleum Institute, and Canadian Petroleum Association (published jointly), *Reserves of Crude Oil, Natural Gas Liquids, and Natural Gas in the United States and Canada as of December 31, 1979*, Volume 34 (June 1980). • 1980 forward—EIA, *U.S. Crude Oil, Natural Gas, and Natural Gas Liquids Reserves*, annual reports.

Figure 4.10 Major U.S. Energy Companies' Expenditures for Crude Oil and Natural Gas Exploration and Development by Region



By Region, 2006



¹ See "Nominal Dollars" in Glossary.

² Includes all Europe except countries that were part of the former U.S.S.R. See "U.S.S.R." in Glossary.

³ Includes only countries that were part of the former U.S.S.R. See "U.S.S.R." in Glossary.

⁴ This region includes areas that are eastward of the Greenwich prime meridian to 180° longitude and that are not included in other domestic or foreign classifications.

⁵ This region includes areas that are westward of the Greenwich prime meridian to 180° longitude and that are not included in other domestic or foreign classifications.

Notes: • "Major U.S. Energy Companies" are the top publicly-owned, U.S.-based crude oil and natural gas producers and petroleum refiners that form the Financial Reporting System (FRS). See Table 3.14. • Because vertical scales differ, graphs should not be compared.

Source: Table 4.10.

Table 4.10 Major U.S. Energy Companies' Expenditures for Crude Oil and Natural Gas Exploration and Development by Region, 1974-2006 (Billion Nominal Dollars ¹)

Year	United States			Foreign								Total
	Onshore	Offshore	Total	Canada	Europe ²	Eurasia ³	Africa	Middle East	Other Eastern Hemisphere ⁴	Other Western Hemisphere ⁵	Total	
1974	NA	NA	8.7	NA	NA	--	NA	NA	NA	NA	3.8	12.5
1975	NA	NA	7.8	NA	NA	--	NA	NA	NA	NA	5.3	13.1
1976	NA	NA	9.5	NA	NA	--	NA	NA	NA	NA	5.2	14.7
1977	6.7	4.0	10.7	1.5	2.5	--	.7	.2	.3	.4	5.6	16.3
1978	7.5	4.3	11.8	1.6	2.6	--	.8	.3	.4	.6	6.4	18.2
1979	13.0	8.3	21.3	2.3	3.0	--	.8	.2	.5	.8	7.8	29.1
1980	16.8	9.4	26.2	3.1	4.3	--	1.4	.2	.8	1.0	11.0	37.2
1981	19.9	13.0	33.0	1.8	5.0	--	2.1	.3	1.9	1.3	12.4	45.4
1982	27.2	11.9	39.1	1.9	6.3	--	2.1	.4	2.4	1.1	14.2	53.3
1983	16.0	11.1	27.1	1.6	4.3	--	1.7	.5	2.0	.6	10.7	37.7
1984	32.1	16.0	48.1	5.4	5.5	--	3.4	.5	2.0	.5	17.3	65.3
1985	20.0	8.5	28.5	1.9	3.7	--	1.6	.9	1.3	.7	10.1	38.6
1986	12.5	4.9	17.4	1.1	3.2	--	1.1	.3	1.2	.6	7.5	24.9
1987	9.7	4.5	14.3	1.9	3.0	--	.8	.4	2.8	.5	9.2	23.5
1988	12.9	8.1	21.0	5.4	4.3	--	.8	.4	1.4	.7	13.0	34.1
1989	9.0	6.0	15.0	6.3	3.5	--	1.0	.4	2.3	.6	14.1	29.1
1990	10.2	4.9	15.1	1.8	6.6	--	1.4	.6	2.4	.7	13.6	28.7
1991	9.6	4.6	14.2	1.7	6.8	--	1.5	.5	2.4	.7	13.7	27.9
1992	7.3	3.0	10.3	1.1	6.8	--	1.4	.6	2.4	.6	12.9	23.2
1993	7.2	3.7	10.9	1.6	5.5	.3	1.5	.7	2.5	.6	12.5	23.5
1994	7.8	4.8	12.6	1.8	4.4	.3	1.4	.4	2.8	.7	11.9	24.5
1995	7.7	4.7	12.4	1.9	5.2	.4	2.0	.4	2.4	.9	13.2	25.6
1996	7.9	6.7	14.6	1.6	5.6	.5	2.8	.5	4.1	1.6	16.6	31.3
1997	13.0	8.8	21.8	2.0	7.1	.6	3.0	.6	3.0	1.6	17.9	39.8
1998	13.5	11.0	24.4	4.8	8.6	1.3	3.1	.9	3.9	3.7	26.4	50.8
1999	6.6	6.9	13.5	2.1	4.1	.6	3.1	.4	3.4	3.8	17.5	31.0
2000	27.1	21.0	48.0	4.9	7.5	.9	2.7	.6	6.8	5.4	28.8	76.8
2001	24.2	9.6	33.9	15.3	5.4	.9	5.5	.7	5.0	3.1	35.9	69.8
2002	22.3	9.5	31.8	6.7	9.8	1.3	5.1	.8	6.2	1.6	31.4	63.2
2003	14.7	12.5	27.2	4.9	5.7	2.1	9.2	1.0	4.2	1.1	28.2	55.4
2004	21.9	10.5	32.4	5.3	4.4	2.0	6.9	1.3	3.8	1.6	25.3	57.7
2005	35.2	^R 11.3	^R 46.6	9.1	6.1	6.3	10.7	1.5	12.0	1.7	47.3	^R 93.8
2006	72.1	25.9	98.0	17.0	² 9.0	³ 2.4	12.9	3.1	6.5	8.1	59.1	157.1

¹ See "Nominal Dollars" in Glossary.

² Through 2005, includes Austria, Belgium, Denmark, Finland, France, Germany (the Federal Republic of), Greece, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland, Turkey, and the United Kingdom. Beginning in 2006, includes all Europe except countries that were part of the former U.S.S.R. See "U.S.S.R." in Glossary.

³ Through 2005, includes countries that were part of the former U.S.S.R. as well as Albania, Bosnia and Herzegovina, Bulgaria, Croatia, Czech Republic, Macedonia, Serbia and Montenegro, Slovakia, and Slovenia. Beginning in 2006, includes only countries that were part of the former U.S.S.R. See "U.S.S.R." in Glossary.

⁴ This region includes areas that are eastward of the Greenwich prime meridian to 180° longitude and that are not included in other domestic or foreign classifications.

⁵ This region includes areas that are westward of the Greenwich prime meridian to 180° longitude and that are not included in other domestic or foreign classifications.

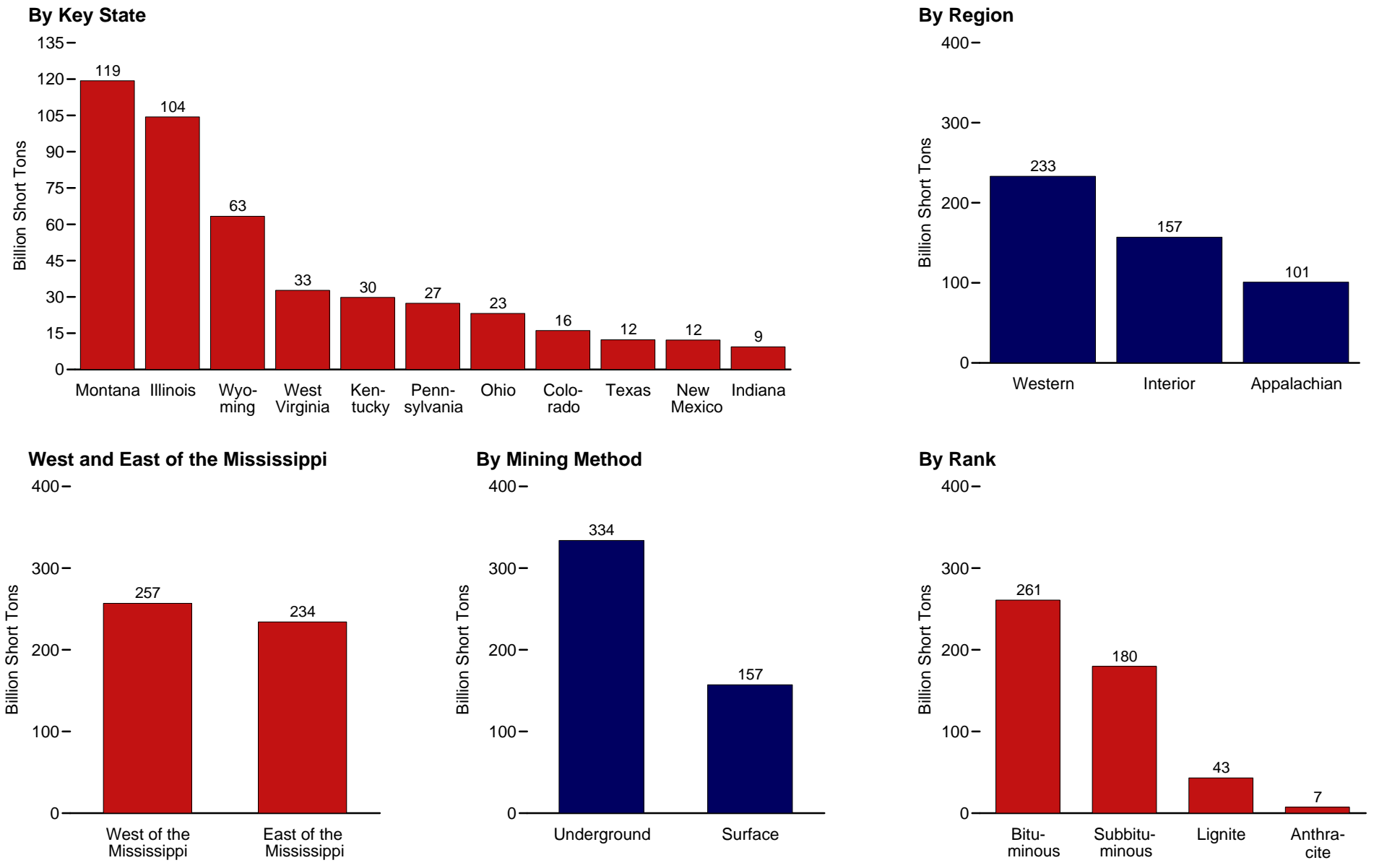
R=Revised. NA=Not available. -- = Not applicable.

Notes: • "Major U.S. Energy Companies" are the top publicly-owned, U.S.-based crude oil and natural gas producers and petroleum refiners that form the Financial Reporting System (FRS). See Table 3.14. • Totals may not equal sum of components due to independent rounding.

Web Page: For related information, see <http://www.eia.doe.gov/emeu/finance>.

Sources: • 1974-1976—Energy Information Administration (EIA), Office of Energy Markets and End Use, FRS Database, November 1997. • 1977 forward—EIA, *Performance Profiles of Major Energy Producers*, annual reports.

Figure 4.11 Coal Demonstrated Reserve Base, January 1, 2007



Note: Because vertical scales differ, graphs should not be compared.

Source: Table 4.11.

Table 4.11 Coal Demonstrated Reserve Base, January 1, 2007
(Billion Short Tons)

Region and State	Anthracite	Bituminous Coal		Subbituminous Coal		Lignite	Total		
		Underground	Surface	Underground	Surface	Surface ¹	Underground	Surface	Total
Appalachian	7.3	70.0	22.5	0.0	0.0	1.1	73.9	27.0	100.9
Alabama .....	.0	1.0	2.1	.0	.0	1.1	1.0	3.2	4.2
Kentucky, Eastern .....	.0	1.1	9.3	.0	.0	.0	1.1	9.3	10.4
Ohio .....	.0	17.5	5.7	.0	.0	.0	17.5	5.7	23.2
Pennsylvania	7.2	19.3	.9	.0	.0	.0	23.1	4.3	27.4
Virginia .....	.1	1.0	.5	.0	.0	.0	1.1	.5	1.6
West Virginia .....	.0	29.0	3.7	.0	.0	.0	29.0	3.7	32.7
Other ² .....	.0	1.1	.3	.0	.0	.0	1.1	.3	1.4
Interior .....	.1	117.1	27.2	.0	.0	12.7	117.2	39.9	157.1
Illinois .....	.0	87.9	16.5	.0	.0	.0	87.9	16.5	104.4
Indiana .....	.0	8.7	.7	.0	.0	.0	8.7	.7	9.4
Iowa .....	.0	1.7	.5	.0	.0	.0	1.7	.5	2.2
Kentucky, Western .....	.0	15.8	3.6	.0	.0	.0	15.8	3.6	19.4
Missouri .....	.0	1.5	4.5	.0	.0	.0	1.5	4.5	6.0
Oklahoma .....	.0	1.2	.3	.0	.0	.0	1.2	.3	1.5
Texas .....	.0	.0	.0	.0	.0	12.3	.0	12.3	12.3
Other ³ .....	.1	.3	1.1	.0	.0	0.4	.4	1.5	1.9
Western	(s)	21.5	2.4	121.3	58.5	29.4	142.8	90.3	233.1
Alaska .....	.0	.6	.1	4.8	.6	(s)	5.4	.7	6.1
Colorado	(s)	7.6	.6	3.7	.0	4.2	11.3	4.8	16.1
Montana .....	.0	1.4	.0	69.6	32.5	15.8	71.0	48.3	119.3
New Mexico	(s)	2.7	.9	3.5	5.1	.0	6.2	6.0	12.2
North Dakota .....	.0	.0	.0	.0	.0	9.0	.0	9.0	9.0
Utah .....	.0	5.1	.3	(s)	.0	.0	5.1	.3	5.4
Washington .....	.0	.3	.0	1.0	.0	(s)	1.3	.0	1.3
Wyoming .....	.0	3.8	.5	38.7	20.3	.0	42.5	20.8	63.3
Other ⁴ .....	.0	.0	.0	(s)	(s)	.4	.0	.4	.4
U.S. Total	7.4	208.6	52.1	121.3	58.5	43.2	333.9	157.2	491.1
States East of the Mississippi River	7.3	182.4	43.3	.0	.0	1.1	186.3	47.8	234.1
States West of the Mississippi River .....	.1	26.2	8.8	121.3	58.5	42.1	147.6	109.4	257.0

¹ Lignite resources are not mined underground in the United States.

² Georgia, Maryland, North Carolina, and Tennessee.

³ Arkansas, Kansas, Louisiana, and Michigan.

⁴ Arizona, Idaho, Oregon, and South Dakota.

(s)=Less than 0.05 billion short tons.

Notes: • See *U.S. Coal Reserves: 1997 Update* on the Web Page for a description of the methodology used to produce these data. • Data represent remaining measured and indicated coal resources, analyzed

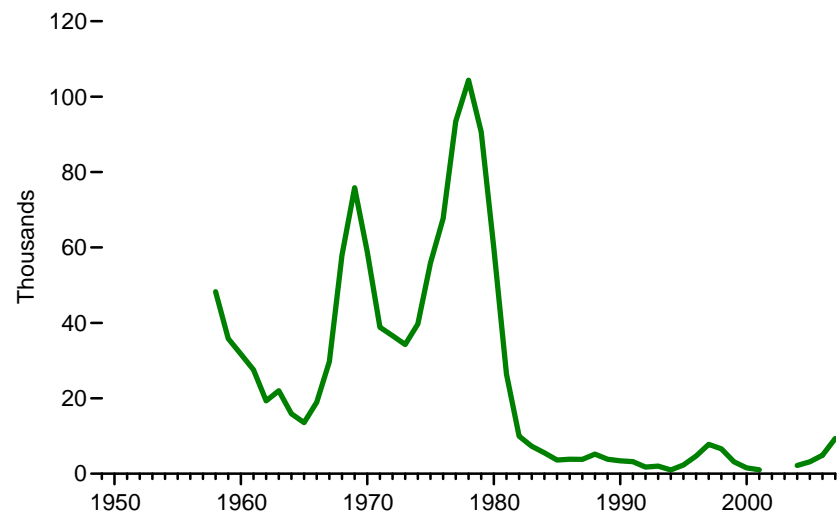
and on file, meeting minimum seam and depth criteria, and in the ground as of January 1, 2007. These coal resources are not totally recoverable. Net recoverability with current mining technologies ranges from 0 percent (in far northern Alaska) to more than 90 percent. Fifty-four percent of the demonstrated reserve base of coal in the United States is estimated to be recoverable. • Totals may not equal sum of components due to independent rounding.

Web Page: For related information, see <http://www.eia.doe.gov/fuelcoal.html>.

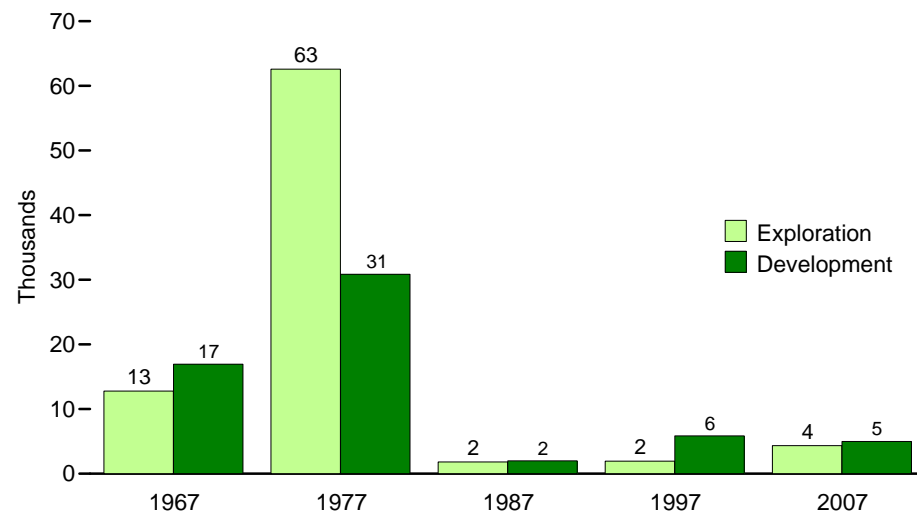
Source: Energy Information Administration, Coal Reserves Database.

Figure 4.12 Uranium Exploration and Development Drilling

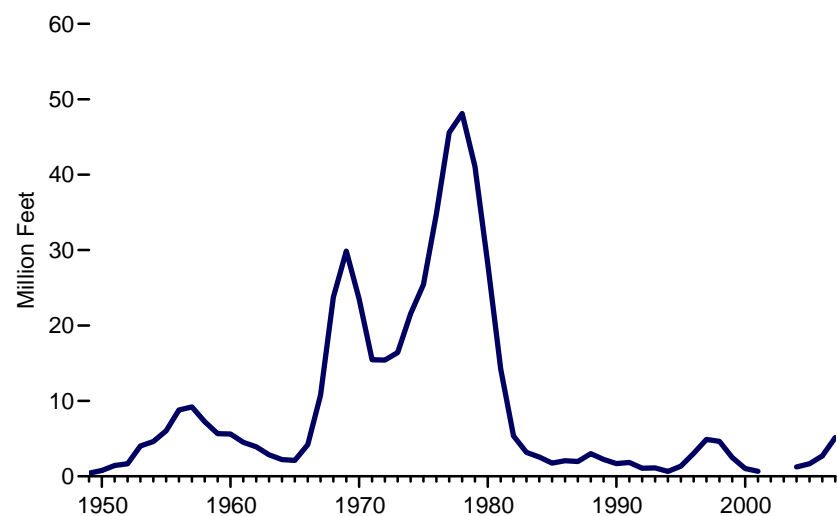
Total Holes Drilled, 1958-2001 and 2004-2007



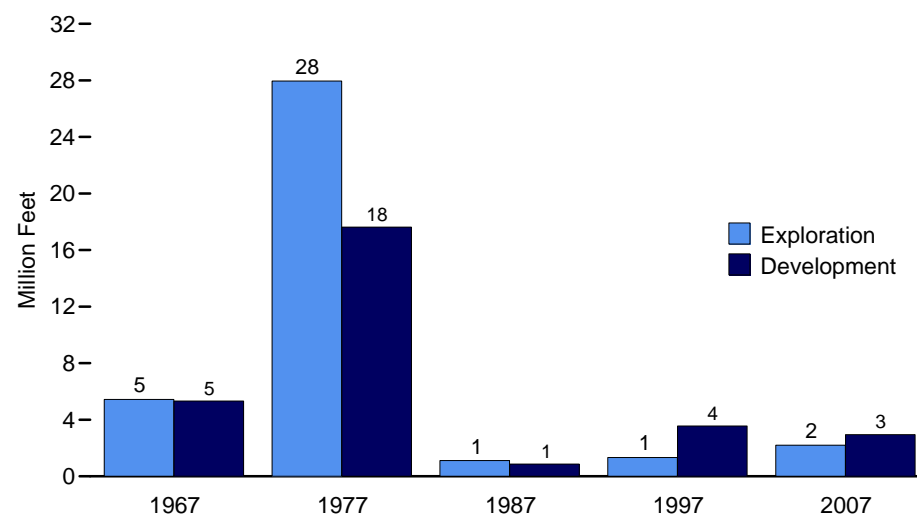
Holes Drilled, Selected Years



Total Footage Drilled, 1949-2001 and 2004-2007



Footage Drilled, Selected Years



Source: Table 4.12.

Table 4.12 Uranium Exploration and Development Drilling, Selected Years, 1949-2007

Year	Exploration ¹		Development ²		Total	
	Holes Drilled	Footage Drilled	Holes Drilled	Footage Drilled	Holes Drilled	Footage Drilled
	Thousands	Million Feet	Thousands	Million Feet	Thousands	Million Feet
1949	NA	0.36	NA	0.05	NA	0.41
1950	NA	.57	NA	.21	NA	.78
1955	NA	5.27	NA	.76	NA	6.03
1960	7.34	1.40	24.40	4.21	31.73	5.61
1965	6.23	1.16	7.33	.95	13.56	2.11
1970	43.98	17.98	14.87	5.55	58.85	23.53
1971	28.42	11.40	10.44	4.05	38.86	15.45
1972	26.91	11.82	9.71	3.61	36.62	15.42
1973	22.56	10.83	11.70	5.59	34.26	16.42
1974	27.40	14.72	12.30	6.84	39.70	21.56
1975	34.29	15.69	21.60	9.73	55.89	25.42
1976	40.41	20.36	27.23	14.44	67.64	34.80
1977	62.60	27.96	30.86	17.62	93.45	45.58
1978	75.07	28.95	29.29	19.15	104.35	48.10
1979	60.46	28.07	30.19	13.01	90.65	41.08
1980	39.61	19.60	20.19	8.59	59.80	28.19
1981	17.75	10.87	8.67	3.35	26.42	14.22
1982	6.97	4.23	3.00	1.13	9.97	5.36
1983	4.29	2.09	3.01	1.08	7.30	3.17
1984	4.80	2.26	.72	.29	5.52	2.55
1985	2.88	1.42	.77	.34	3.65	1.76
1986	1.99	1.10	1.85	.97	3.83	2.07
1987	1.82	1.11	1.99	.86	3.81	1.97
1988	2.03	1.28	3.18	1.73	5.21	3.01
1989	2.09	1.43	1.75	.80	3.84	2.23
1990	1.51	.87	1.91	.81	3.42	1.68
1991	1.62	.97	1.57	.87	3.20	1.84
1992	.94	.56	.83	.50	1.77	1.06
1993	.36	.22	1.67	.89	2.02	1.11
1994	.52	.34	.48	.32	1.00	.66
1995	.58	.40	1.73	.95	2.31	1.35
1996	1.12	.88	3.58	2.16	4.70	3.05
1997	1.94	1.33	5.86	3.56	7.79	4.88
1998	1.37	.89	5.23	3.75	6.60	4.64
1999	.27	.18	2.91	2.33	3.18	2.50
2000	W	W	W	W	1.55	1.02
2001	.00	.00	1.02	.66	1.02	.66
2002	W	W	W	W	W	W
2003	NA	NA	NA	NA	W	W
2004	W	W	W	W	2.19	1.25
2005	W	W	W	W	3.14	1.67
2006	1.47	.82	3.43	1.89	4.90	2.71
2007	4.35	2.20	5.00	2.95	9.35	5.15

¹ Includes surface drilling in search of new ore deposits or extensions of known deposits and drilling at the location of a discovery up to the time the company decides sufficient ore reserves are present to justify commercial exploitation.

² Includes all surface drilling on an ore deposit to determine more precisely size, grade, and configuration subsequent to the time that commercial exploitation is deemed feasible.

NA=Not available. W=Value withheld to avoid disclosure of individual company data.

Note: Totals may not equal sum of components due to independent rounding.

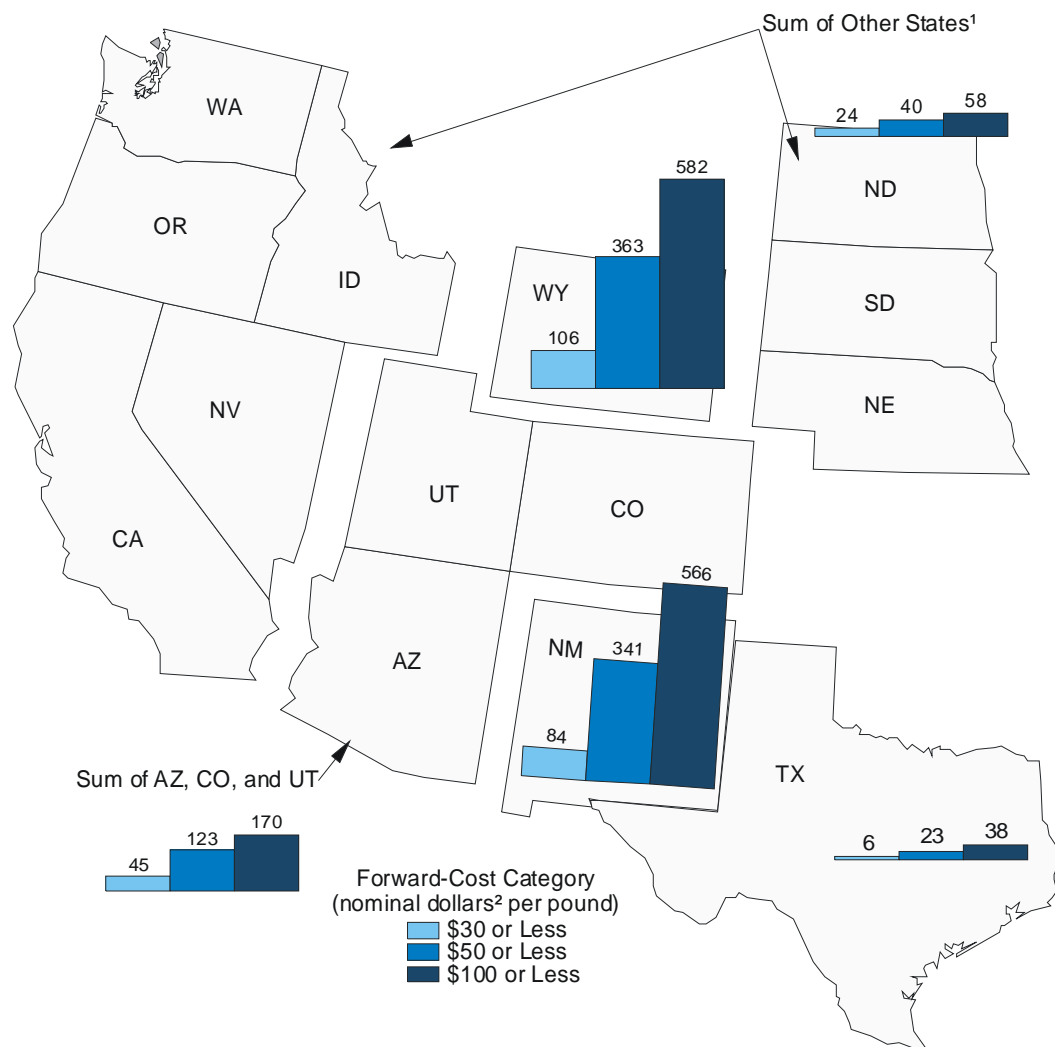
Web Pages: • For all data beginning in 1949, see <http://www.eia.doe.gov/emeu/aer/resource.html>.
• For related information, see <http://www.eia.doe.gov/fuelnuclear.html>.

Sources: • 1949-1981—U.S. Department of Energy, Grand Junction Office, *Statistical Data of the Uranium Industry, January 1, 1983*, Report No. GJO-100 (1983), Table VIII-5. • 1982-2002—Energy Information Administration (EIA), *Uranium Industry Annual*, annual reports. • 2003 forward—EIA, "Domestic Uranium Production Report" (May 2008).

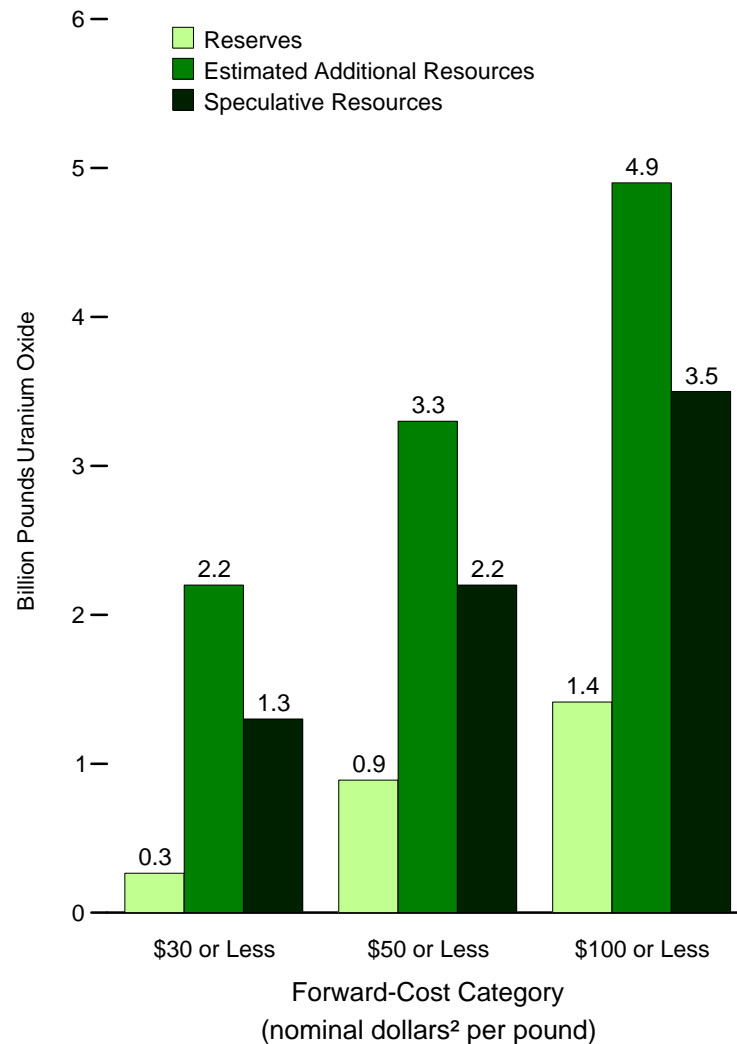
Figure 4.13 Uranium Reserves and Resources, 2003

Reserves

(Million Pounds Uranium Oxide)



Reserves and Resources



¹California, Idaho, Nebraska, Nevada, North Dakota, Oregon, South Dakota, and Washington.
²See "Nominal Dollars" in Glossary.

Notes: • See "Uranium Oxide" in Glossary. • Data are at end of year.
 Source: Table 4.13.

Table 4.13 Uranium Reserves and Resources, 2003
(Million Pounds Uranium Oxide)

Resource Category and State	Forward-Cost ¹ Category (nominal dollars ² per pound)		
	\$30 or Less	\$50 or Less	\$100 or Less
Reserves ³	265	890	1,414
New Mexico	84	341	566
Wyoming	106	363	582
Texas	6	23	38
Arizona, Colorado, Utah	45	123	170
Others ⁴	24	40	58
Potential Resources ⁵			
Estimated Additional Resources	2,180	3,310	4,850
Speculative Resources	1,310	2,230	3,480

¹ Forward costs are all operating and capital costs yet to be incurred in the production of uranium from estimated resources. Excluded are previous expenditures (such as exploration and land acquisitions), taxes, profit, and the cost of money. Generally, forward costs are lower than market prices. Resource values in forward-cost categories are cumulative; that is, the quantity at each level of forward cost includes all reserves/resources at the lower cost in that category.

² See "Nominal Dollars" in Glossary.

³ The Energy Information Administration (EIA) category of uranium reserves is equivalent to the internationally reported category of "Reasonably Assured Resources" (RAR).

⁴ California, Idaho, Nebraska, Nevada, North Dakota, Oregon, South Dakota, and Washington.

⁵ Shown are the mean values for the distribution of estimates for each forward-cost category, rounded to the nearest million pounds uranium oxide.

Notes: • Data are at end of year. • Until further notice, these estimates will not be updated annually.

• See "Uranium Oxide" in Glossary.

Web Page: For related information, see <http://www.eia.doe.gov/fuelnuclear.html>.

Sources: • **Forward Costs \$30 or Less and \$50 or Less:** EIA, "U.S. Uranium Reserves Estimates" (June 2004). • **Forward Costs \$100 or Less:** EIA, Office of Coal, Nuclear, Electric and Alternate Fuels database as of June 2004.

