

4

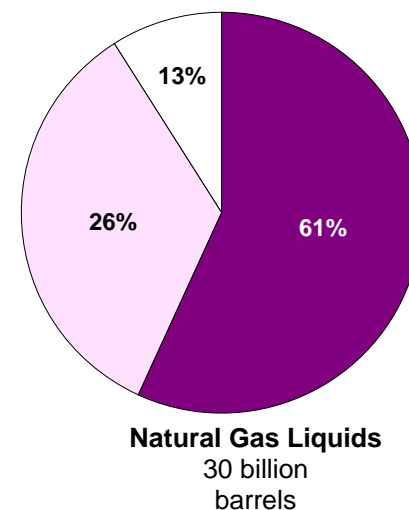
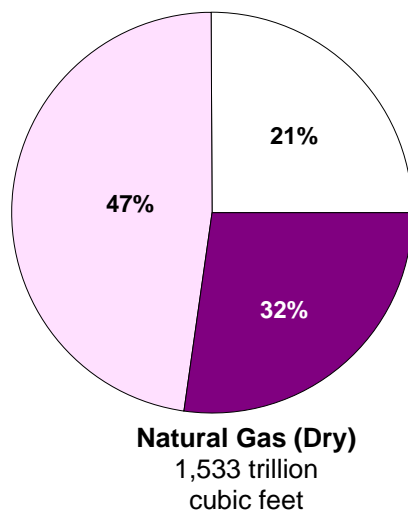
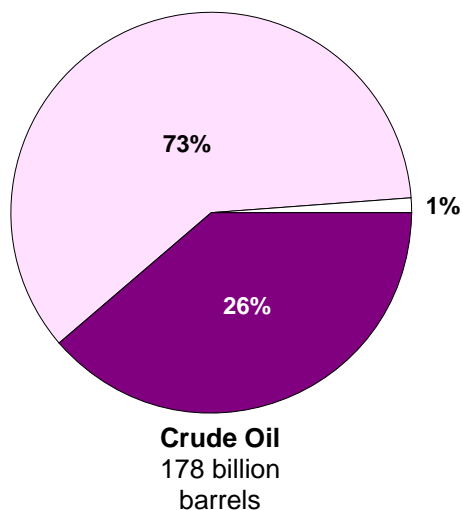
Energy Resources



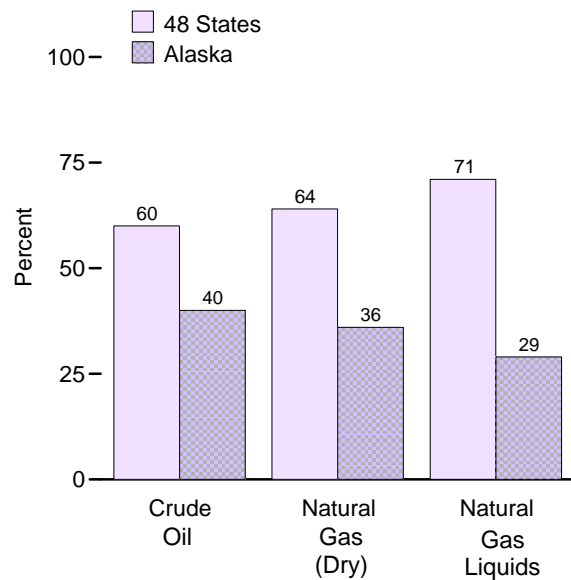
Semisubmersible drilling rig in the Gulf of Mexico. Source: U.S. Department of Energy.

Figure 4.1 Technically Recoverable Crude Oil, Natural Gas, and Natural Gas Liquids Resource Estimates, 2007

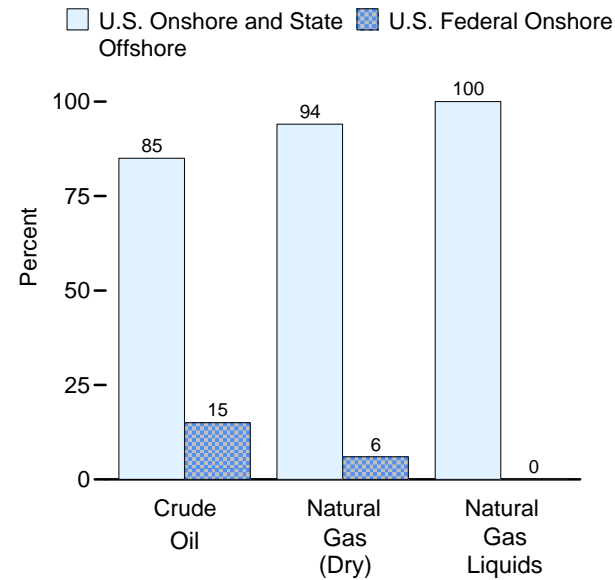
Undiscovered Conventionally Reservoired Fields
 Discovered Conventionally Reservoired Fields¹
 Unconventionally Reservoired Fields



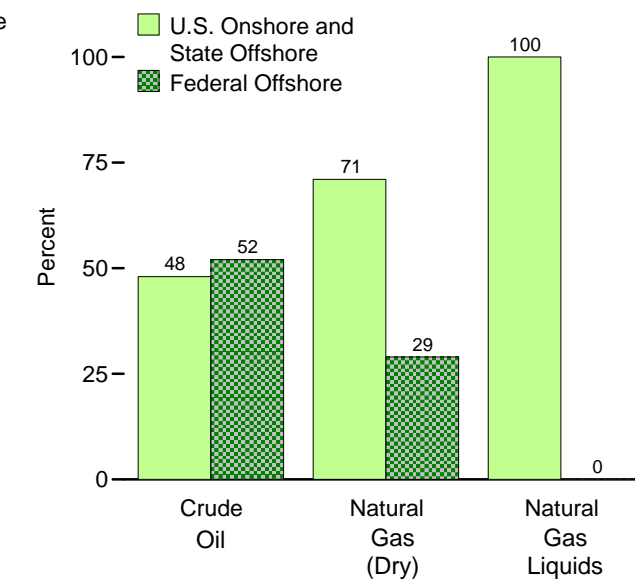
Undiscovered Conventionally Reservoired Fields



Discovered Conventionally Reservoired Fields¹



U.S. Total Reservoired Fields



¹ Ultimate recovery appreciation.

Source: Table 4.1.

Table 4.1 Technically Recoverable Crude Oil, Natural Gas, and Natural Gas Liquids Resource Estimates, 2007

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.

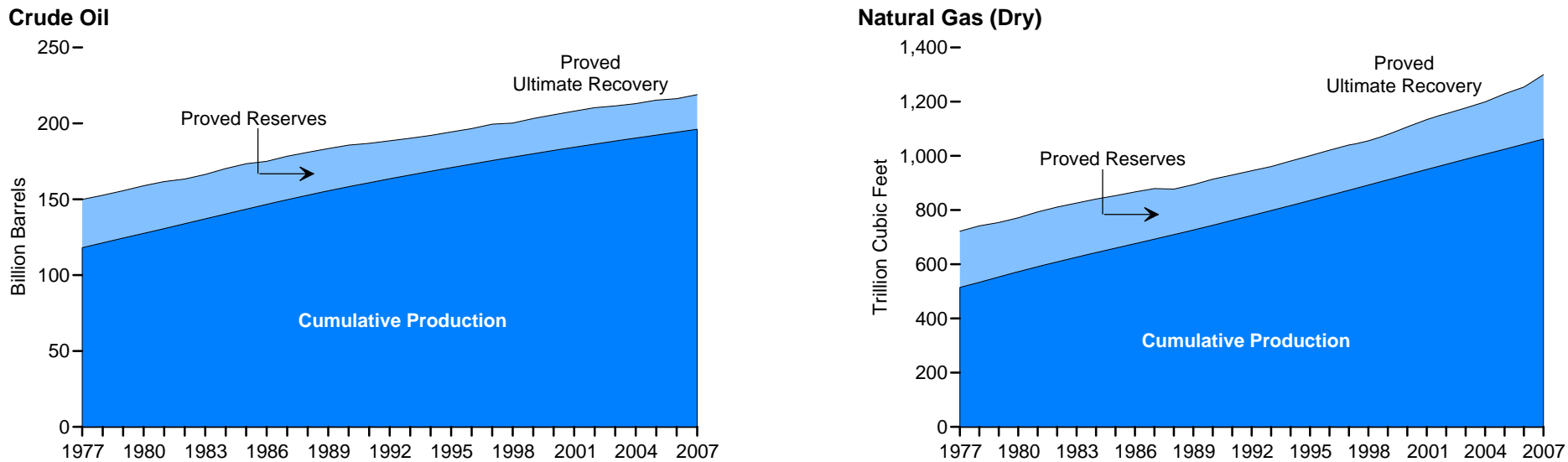
⁶ Unconventionally reservoired deposits (continuous-type accumulations) are geographically extensive subsurface accumulations of crude oil or natural gas that generally lack well-defined hydrocarbon/water contacts. Examples include coalbed methane, "tight gas," and self-sourced oil- and gas-shale reservoirs.

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

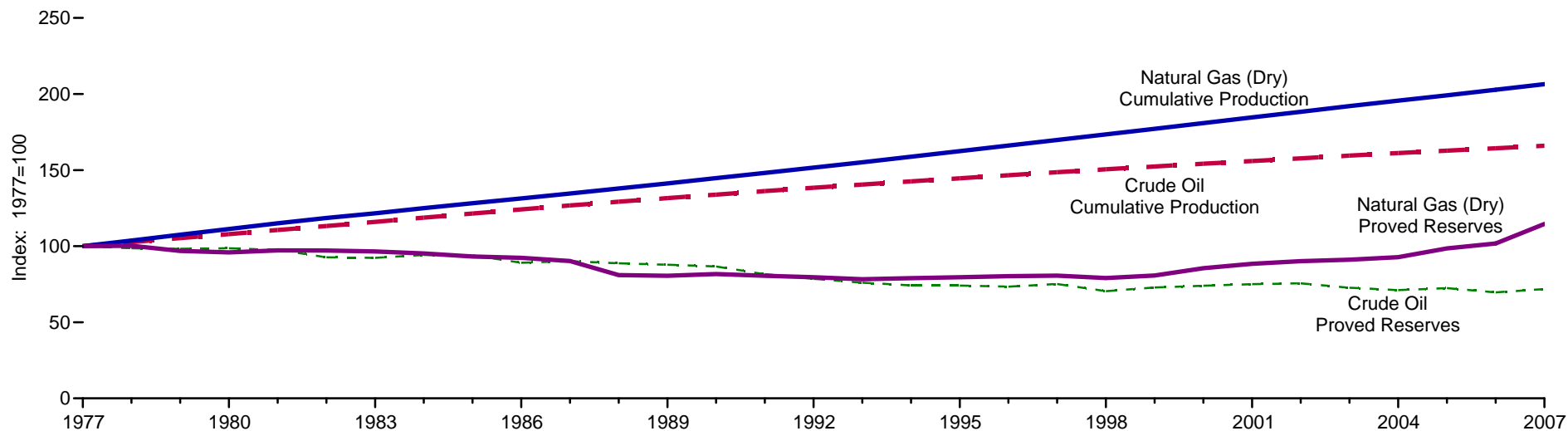
Committee, an industry-sponsored group of experts, biennially provides another geologically-based estimate of the Nation's natural gas resources. The latest mean estimate, published in "Potential Supply of Natural Gas in the United States," December 31, 2006, is 1,321 trillion cubic feet. This volume 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/assessment_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, 1977-2007



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, 1977-2007

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
2007	196.1	22.8	218.9	1,062.2	237.7	1,299.9

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.

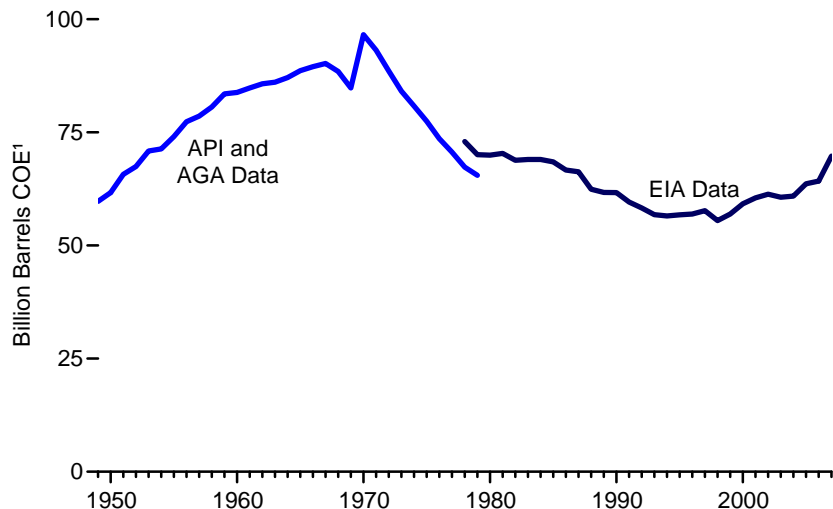
Notes: • Data are at end of year. • See "Proved Reserves, Crude Oil," "Proved Reserves, Lease Condensate," "Proved Reserves, Natural Gas," and "Proved Reserves, Natural Gas Liquids" in Glossary.

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.

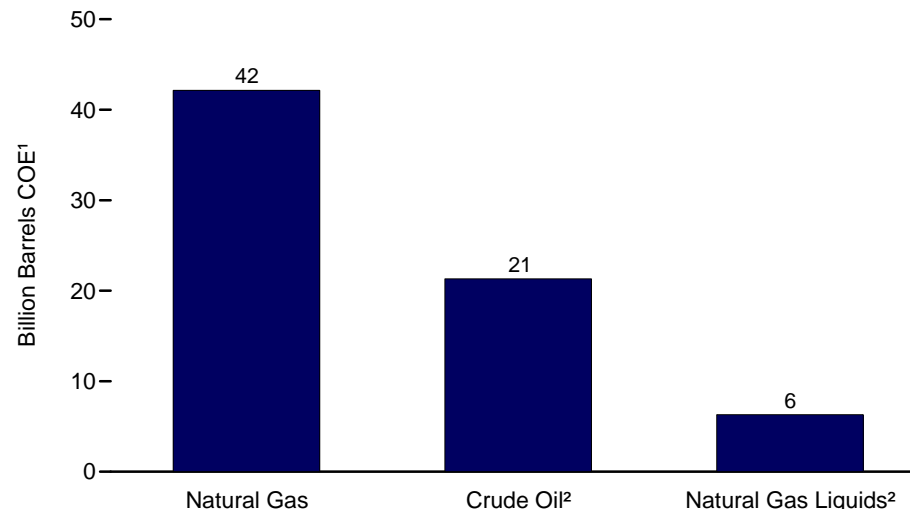
Sources: **Cumulative Production:** Calculated from Energy Information Administration (EIA), *Petroleum Supply Annual*, annual reports and *Natural Gas Annual*, annual reports. **Proved Reserves:** • 1977-2006—EIA, *U.S. Crude Oil, Natural Gas, and Natural Gas Liquids Reserves*, annual reports. • 2007—EIA, *U.S. Crude Oil, Natural Gas, and Natural Gas Liquids Reserves 2007 Annual Report* (February 2009), 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

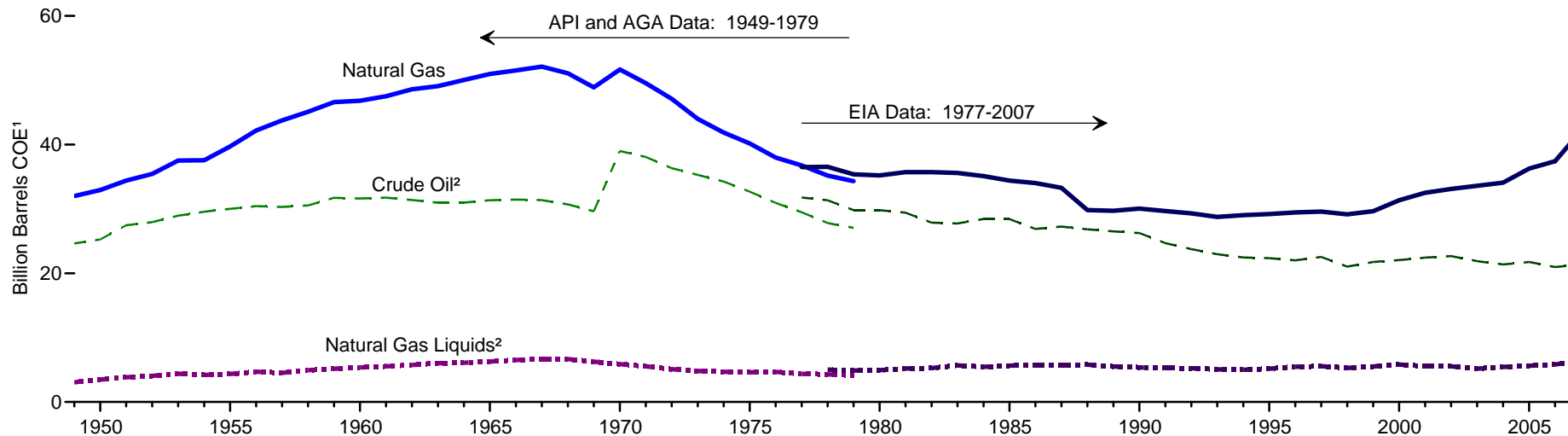
Total, 1949-2007



By Type, 2007



By Type, 1949-2007



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. Source: Table 4.3.

Table 4.3 Crude Oil, Natural Gas, and Natural Gas Liquids Proved Reserves, Selected Years, 1949-2007

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	^R 21.0	211.1	37.4	8.5	5.8	^R 64.2
2007	21.3	237.7	42.1	9.1	6.3	69.7

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.

R=Revised. NA=Not available.

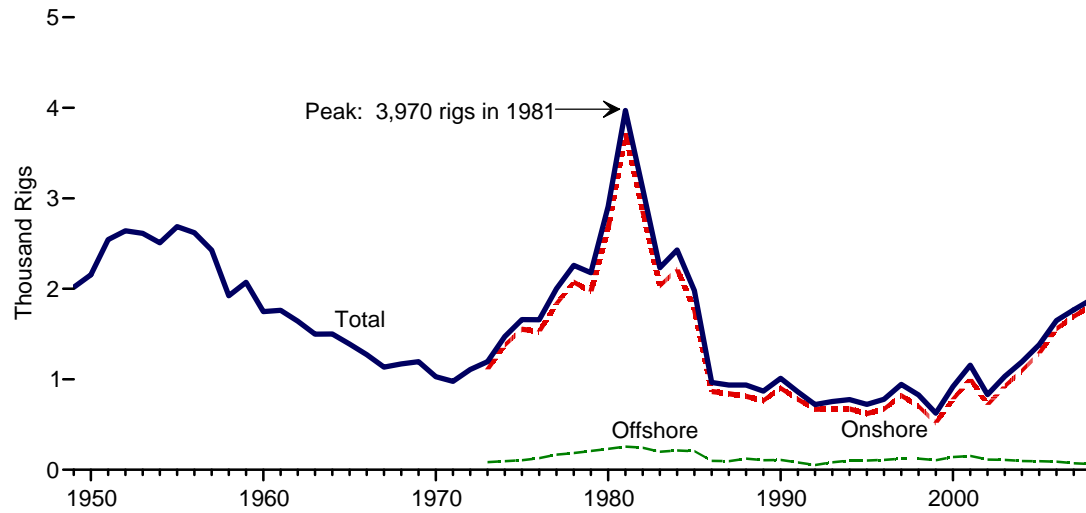
Notes: • Data are at end of year. • See "Proved Reserves, Crude Oil," "Proved Reserves, Natural Gas," and "Proved Reserves, Natural Gas Liquids" in Glossary.

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

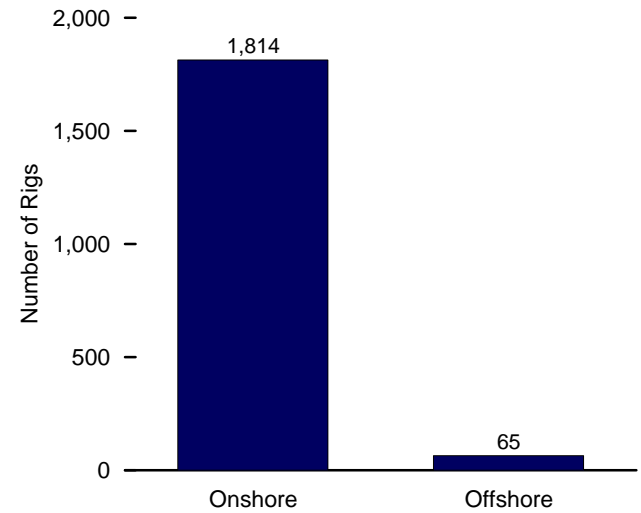
Sources: **American Petroleum Institute and American Gas Association Data:** American Petroleum Institute, American Gas Association, and Canadian Petroleum Association (published jointly), *Reserves of Crude Oil, Natural Gas Liquids and Natural Gas in the United States and Canada as of December 31, 1979*, Volume 34 (June 1980). **Energy Information Administration Data:** • 1977-1996—EIA, *U.S. Crude Oil, Natural Gas, and Natural Gas Liquids Reserves*, annual reports. • 1997 forward—EIA, *U.S. Crude Oil, Natural Gas, and Natural Gas Liquids Reserves 2007 Annual Report* (February 2009), Table 1.

Figure 4.4 Crude Oil and Natural Gas Rotary Rigs in Operation

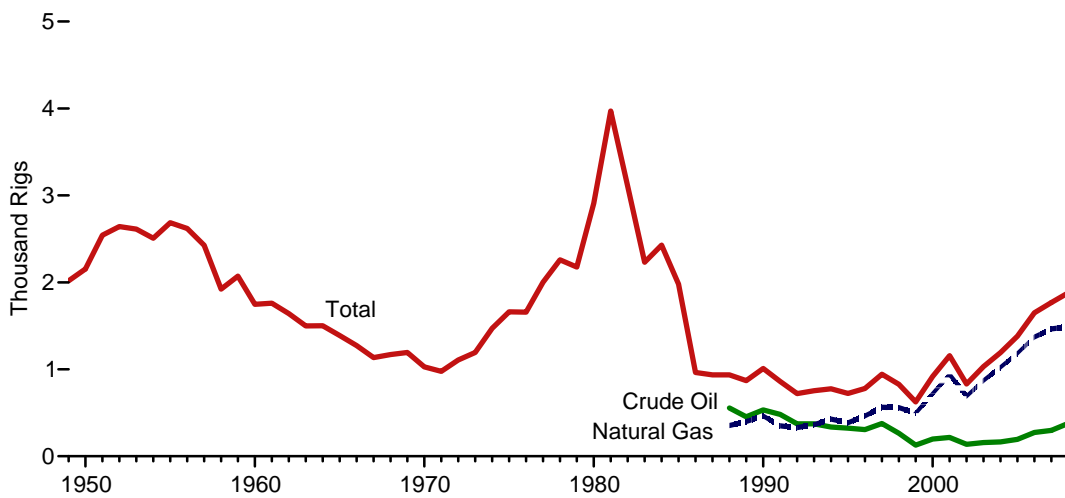
By Site, 1949-2008



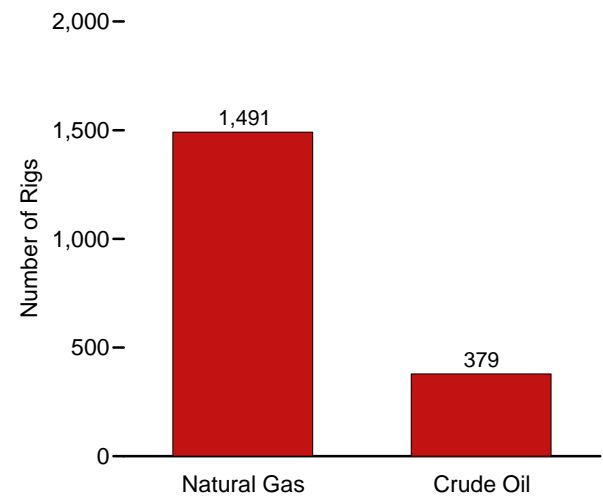
By Site, 2008



By Type, 1949-2008



By Type¹, 2008



¹ Rigs drilling for miscellaneous purposes, such as service wells, injection wells, and stratigraphic tests, are not shown.

Source: Table 4.4.

Table 4.4 Crude Oil and Natural Gas Rotary Rigs in Operation, Selected Years, 1949-2008

(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	^R 1,287	^R 94	194	^R 1,184	^R 1,381
2006	1,559	90	274	1,372	1,649
2007	1,695	72	297	1,466	1,768
2008	1,814	65	379	1,491	1,879

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.

^R=Revised. NA=Not available.

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

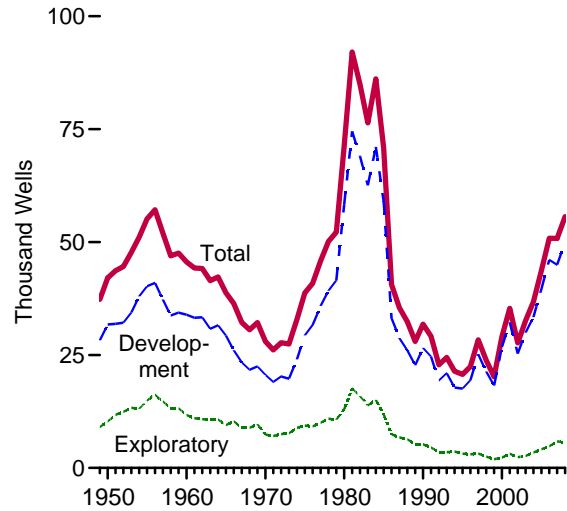
weeks that most nearly coincide with the calendar year. • Geographic coverage is the 50 States and the District of Columbia. • Totals may not equal sum of components due to independent rounding.

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

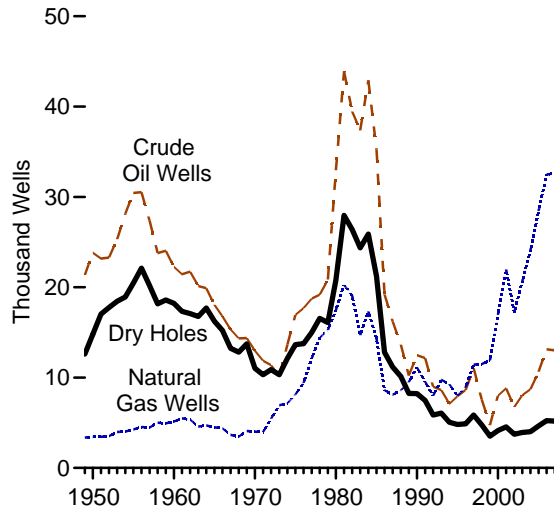
Source: Baker Hughes, Inc., Houston, Texas, *Rotary Rigs Running—By State*.

Figure 4.5 Crude Oil and Natural Gas Exploratory and Development Wells

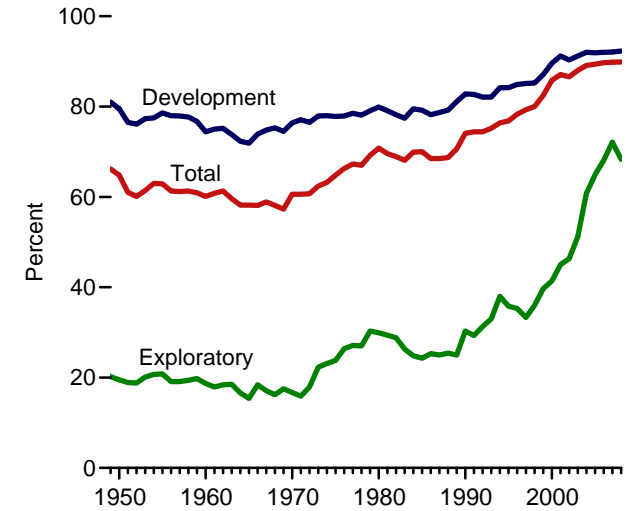
Total Wells Drilled, 1949-2008



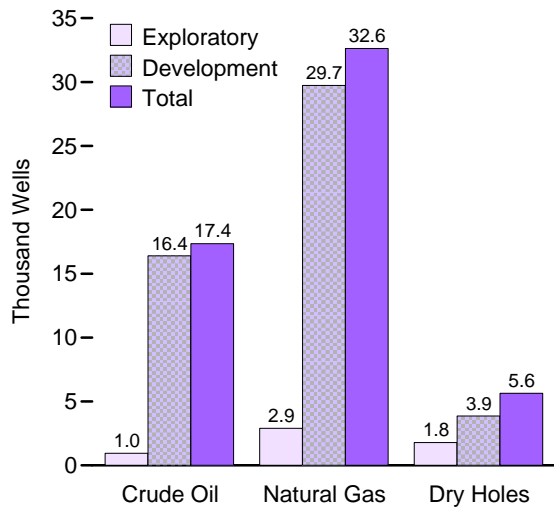
Total Wells Drilled by Type, 1949-2008



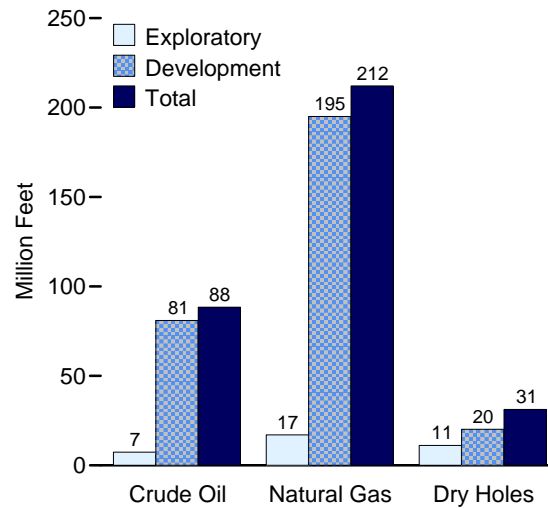
Successful Wells, 1949-2008



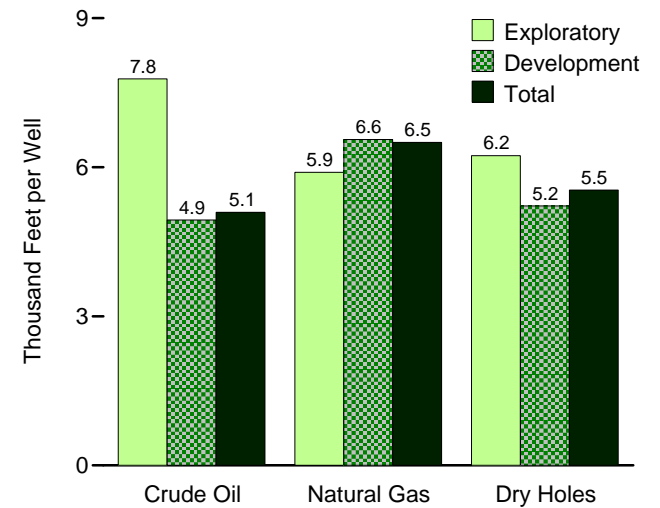
Wells Drilled, 2008



Footage Drilled, 2008



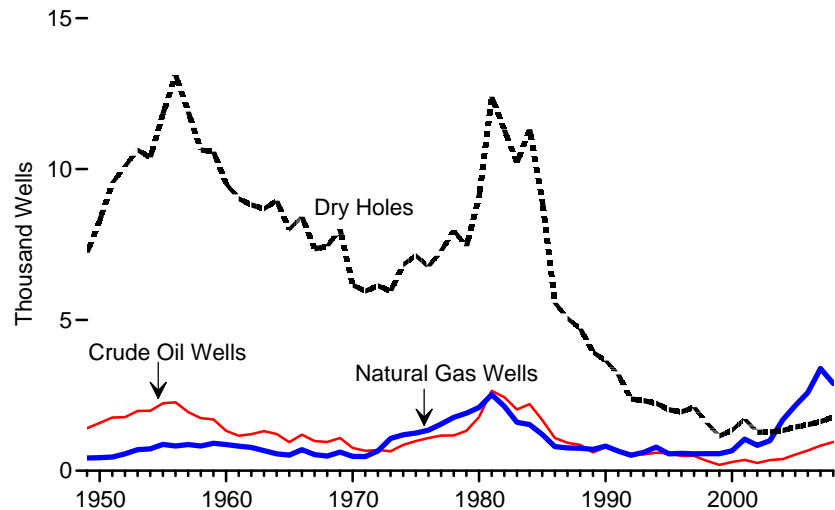
Average Depth, 2008



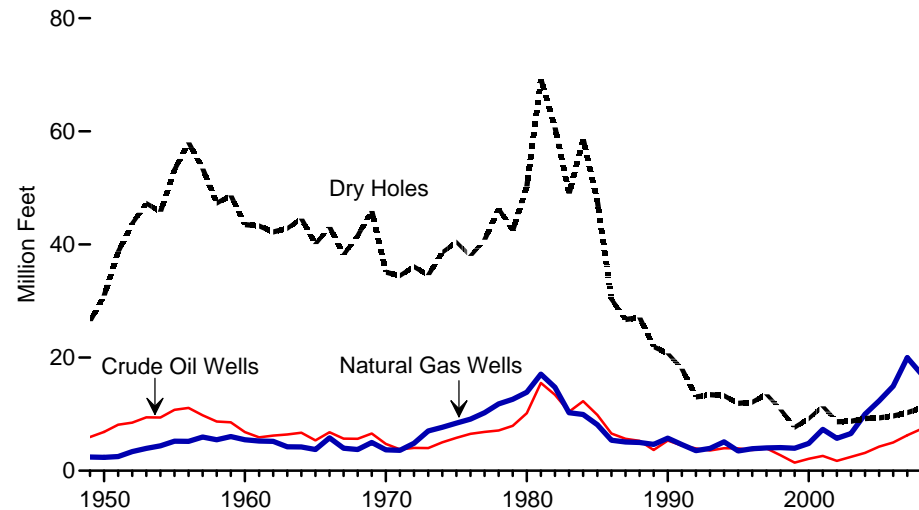
Sources: Tables 4.5-4.7.

Figure 4.6 Crude Oil and Natural Gas Exploratory Wells, 1949-2008

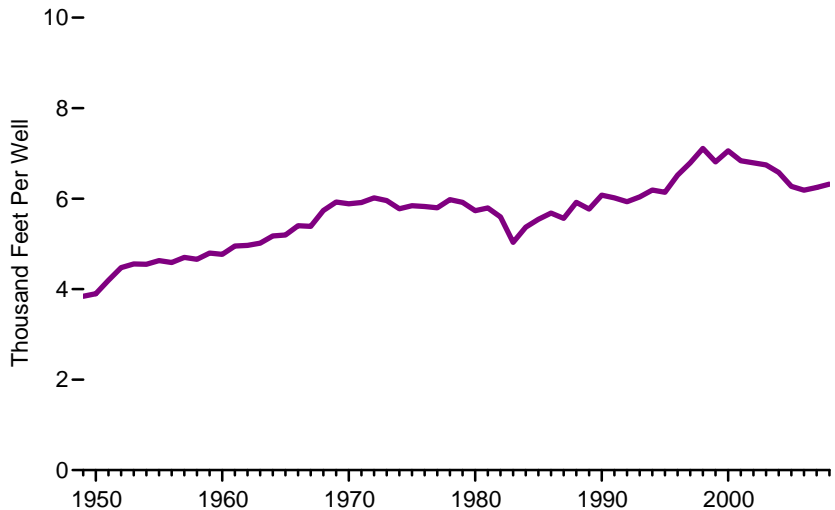
Exploratory Wells Drilled by Well Type



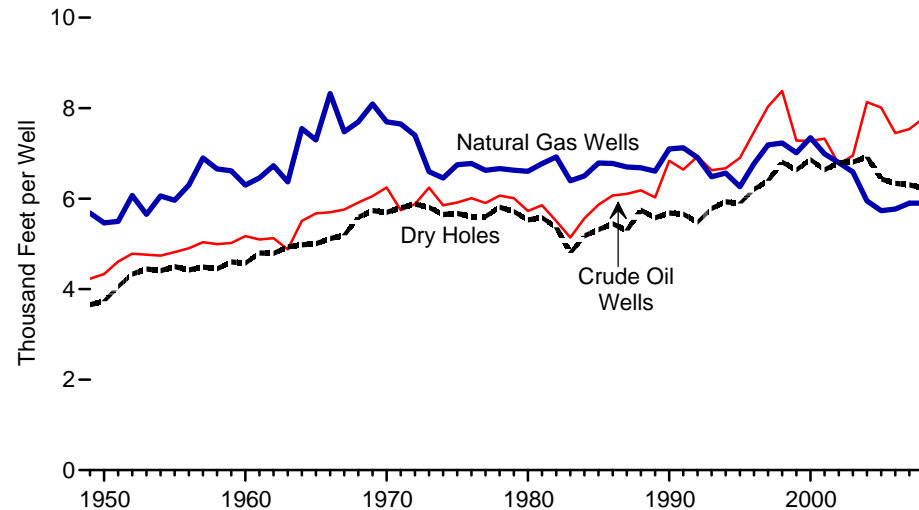
Exploratory Footage Drilled by Well Type



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, 1949-2008

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	7,038	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	R778	R812	R3,650	R5,240	R30.3	R5,320	R5,765	R20,752	R31,837	R6,838	R7,100	R5,685	R6,076
1991	R673	R648	R3,189	R4,510	R29.3	R4,469	R4,615	R18,042	R27,127	R6,641	R7,122	R5,658	R6,015
1992	R571	R513	R2,381	R3,465	R31.3	R3,957	R3,543	R13,047	R20,548	R6,930	R6,907	R5,480	R5,930
1993	R539	R609	R2,328	R3,476	R33.0	R3,572	R3,947	R13,465	R20,984	R6,627	R6,482	R5,784	R6,037
1994	R595	R780	R2,240	R3,615	R38.0	R3,970	R5,120	R13,288	R22,377	R6,671	R6,564	R5,932	R6,190
1995	R570	R557	R2,023	R3,150	R35.8	R3,934	R3,489	R11,922	R19,345	R6,901	R6,264	R5,893	R6,141
1996	R489	R576	R1,955	R3,020	R35.3	R3,655	R3,901	R12,134	R19,690	R7,474	R6,773	R6,207	R6,520
1997	R491	R561	R2,111	R3,163	R33.3	R3,946	R4,032	R13,499	R21,478	R8,037	R7,188	R6,395	R6,790
1998	R327	R566	R1,588	R2,481	R36.0	R2,740	R4,092	R10,809	R17,641	R8,378	R7,230	R6,807	R7,110
1999	R196	R565	R1,156	R1,917	R39.7	R1,428	R3,963	R7,671	R13,062	R7,283	R7,015	R6,636	R6,814
2000	R288	R658	R1,339	R2,285	R41.4	R2,095	R4,834	R9,194	R16,123	R7,275	R7,347	R6,866	R7,056
2001	R356	R1,047	R1,715	R3,118	R45.0	R2,608	R7,318	R11,387	R21,313	R7,326	R6,990	R6,640	R6,836
2002	R257	R843	R1,275	R2,375	R46.3	R1,738	R5,729	R8,663	R16,130	R6,761	R6,796	R6,795	R6,792
2003	R353	R997	R1,287	R2,637	R51.2	R2,453	R6,569	R8,763	R17,785	R6,950	R6,589	R6,809	R6,744
2004	R386	R1,681	R1,335	R3,402	R60.8	R3,141	R9,998	R9,243	R22,382	R8,136	R5,948	R6,924	R6,579
2005 ^E	R532	R2,154	R1,452	R4,138	R64.9	R4,262	R12,347	R9,347	R25,955	R8,011	R5,732	R6,437	R6,272
2006 ^E	R671	R2,590	R1,528	R4,789	R68.1	R4,998	R14,945	R9,688	R29,630	R7,448	R5,770	R6,340	R6,187
2007 ^E	R832	R3,386	R1,630	R5,848	R72.1	R6,271	R19,982	R10,281	R36,534	R7,537	R5,901	R6,307	R6,247
2008 ^E	950	2,893	1,786	5,629	68.3	7,389	17,066	11,130	35,585	7,778	5,899	6,232	6,322

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: • Revisions 1990-2007 result from updates in the data source files through September 2008, including the addition of new wells that are classified as horizontal or lateral, which previously were not included in these tables. • 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.

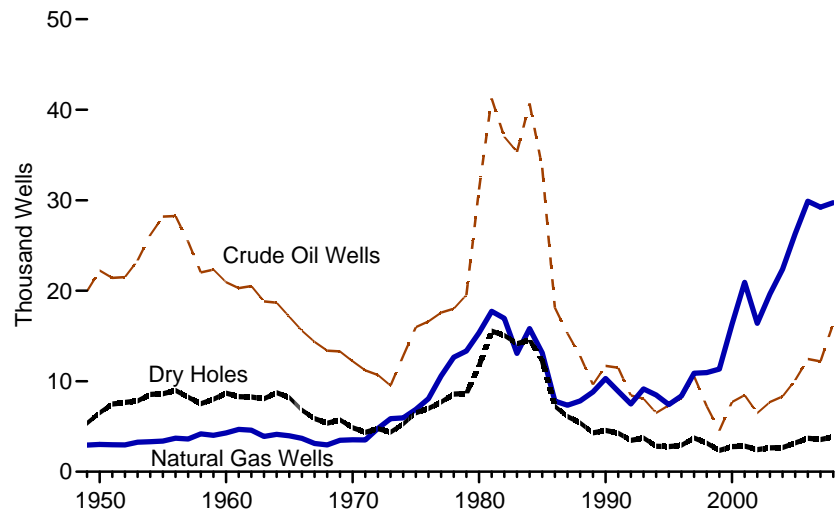
Web Pages: • For all data beginning in 1949, see <http://www.eia.doe.gov/emeu/aer/resource.html>.

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

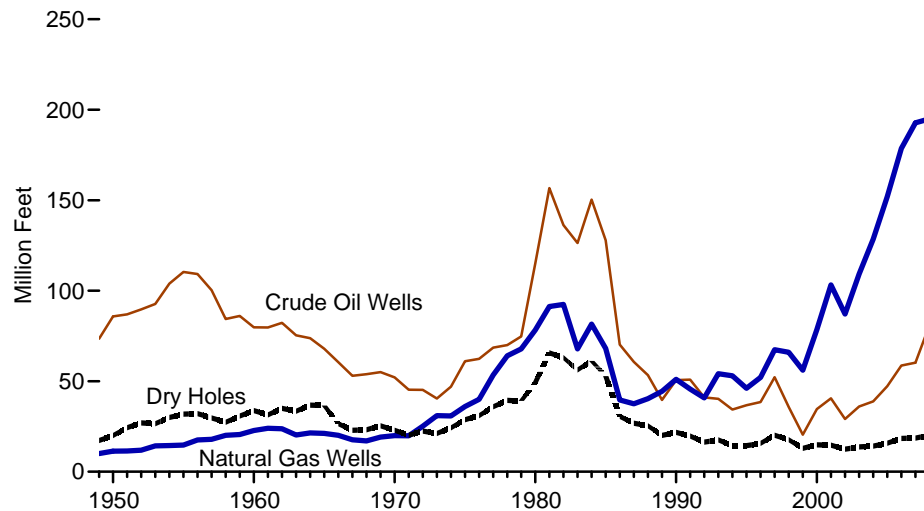
Sources: • 1949-1965—Gulf Publishing Company, *World Oil*, "Forecast-Review" issue. • 1966-1969—American Petroleum Institute (API), *Quarterly Review of Drilling Statistics for the United States*, annual summaries and monthly reports. • 1970-1989—EIA computations based on well reports submitted to the API. • 1990 forward—EIA computations based on well reports submitted to IHS, Inc. Denver, CO. For current data see the EIA, *Monthly Energy Review*, Table 5.2.

Figure 4.7 Crude Oil and Natural Gas Development Wells, 1949-2008

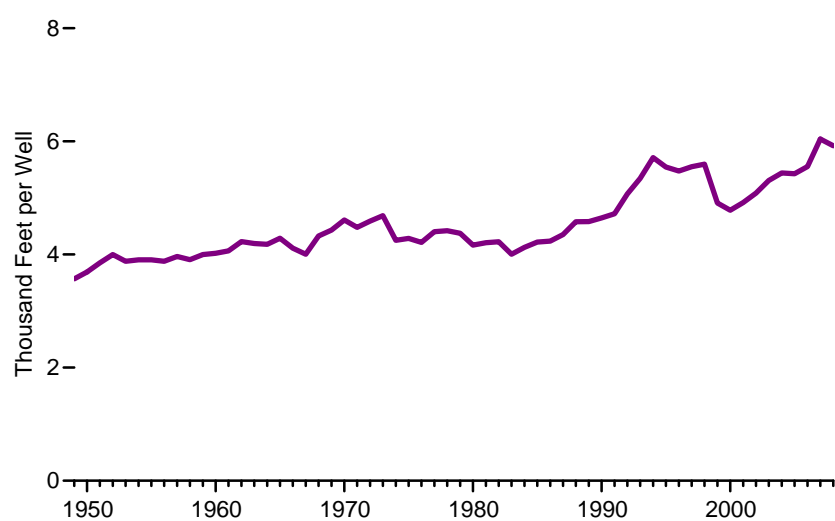
Development Wells Drilled by Well Type



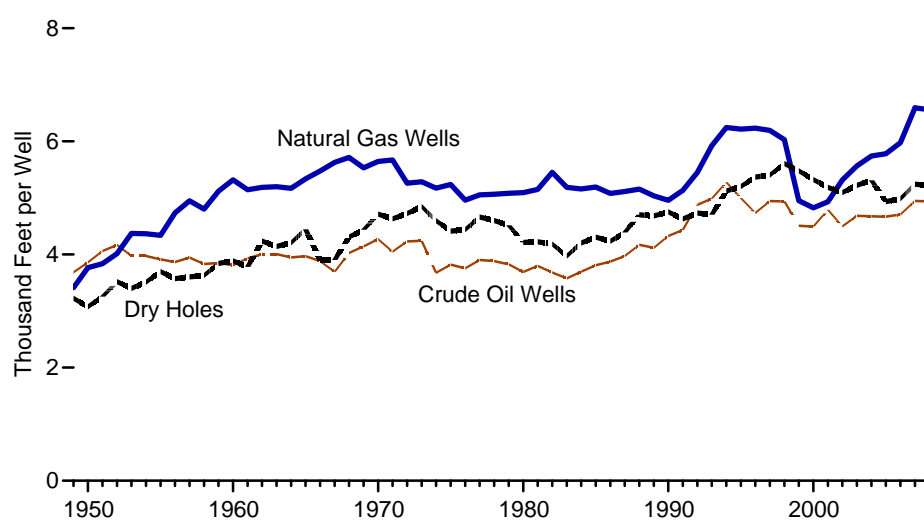
Development Footage Drilled by Well Type



Development Wells Average Depth, All Wells



Development Wells Average Depth by Well Type

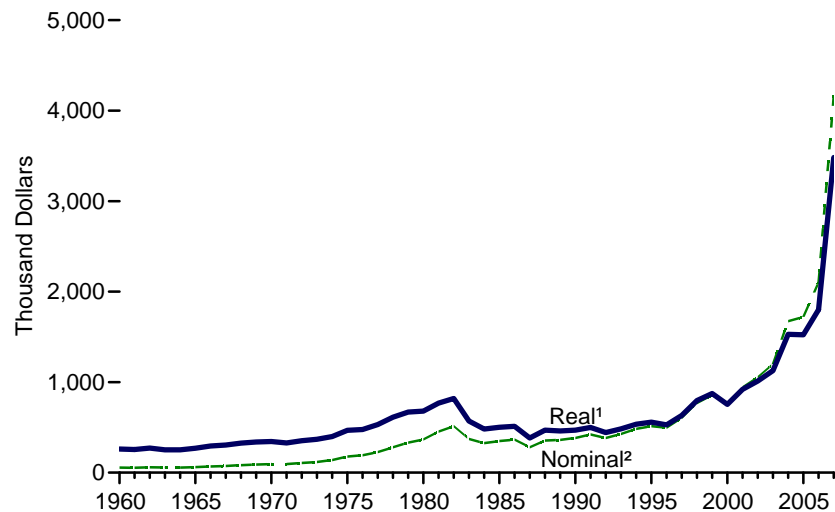


Note: These graphs depict development wells only; see Figure 4.5 for all wells and Figure 4.6 for exploratory wells only.

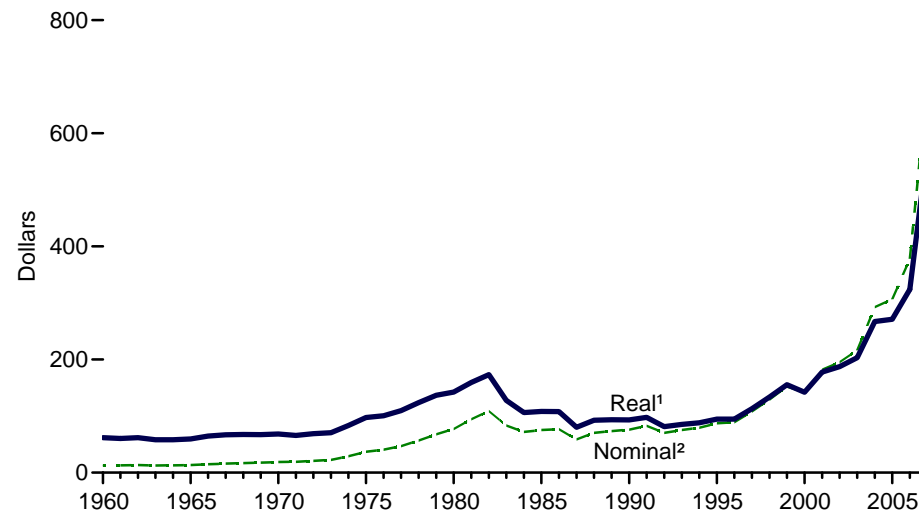
Source: Table 4.7.

Figure 4.8 Costs of Crude Oil and Natural Gas Wells Drilled

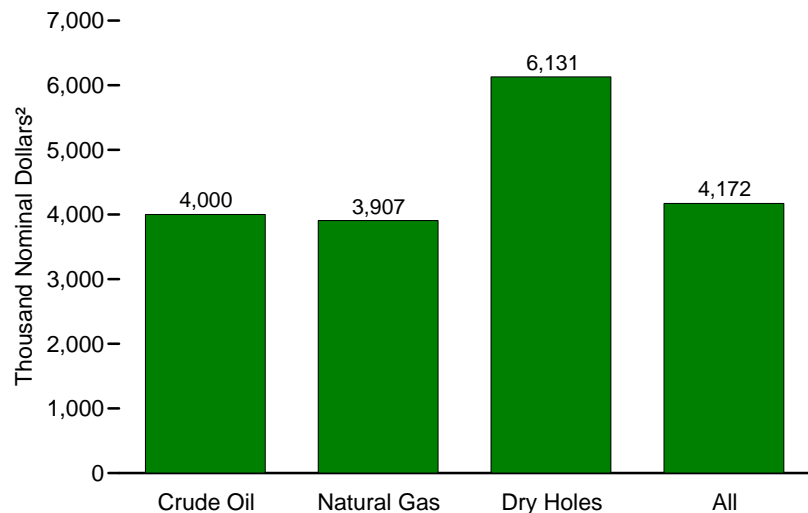
Costs per Well, All Wells, 1960-2007



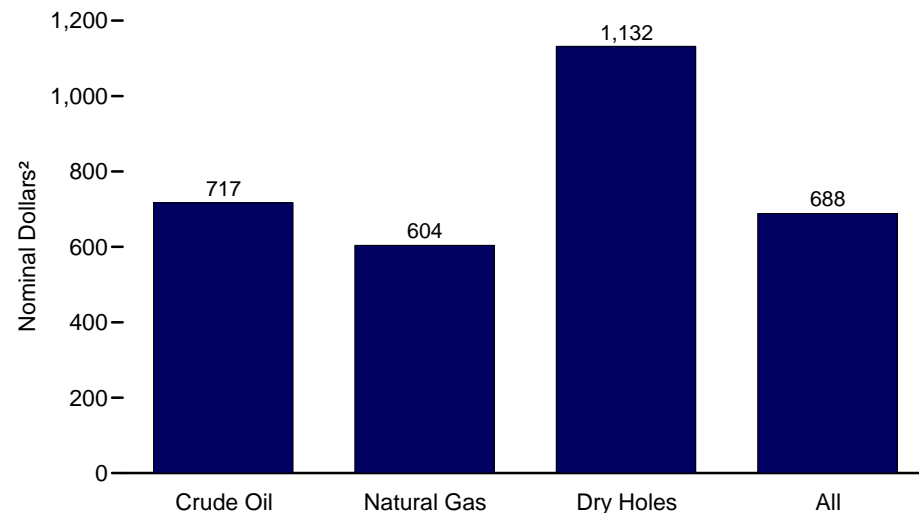
Costs per Foot, All Wells, 1960-2007



Costs per Well by Well Type, 2007



Costs per Foot by Well Type, 2007



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

² See "Nominal Dollars" in Glossary. Source: Table 4.8.

Table 4.8 Costs of Crude Oil and Natural Gas Wells Drilled, 1960-2007

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	1,528.5	298.45	284.78	327.91	292.57	267.28
2005	1,920.4	1,497.6	2,392.9	1,720.7	^R 1,522.3	314.36	280.03	429.92	306.50	^R 271.16
2006	2,238.6	1,936.2	2,664.6	2,101.7	^R 1,801.3	402.45	348.36	479.33	378.03	^R 324.00
2007	4,000.4	3,906.9	6,131.2	4,171.7	3,481.8	717.13	604.06	1,132.09	688.30	574.46

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.

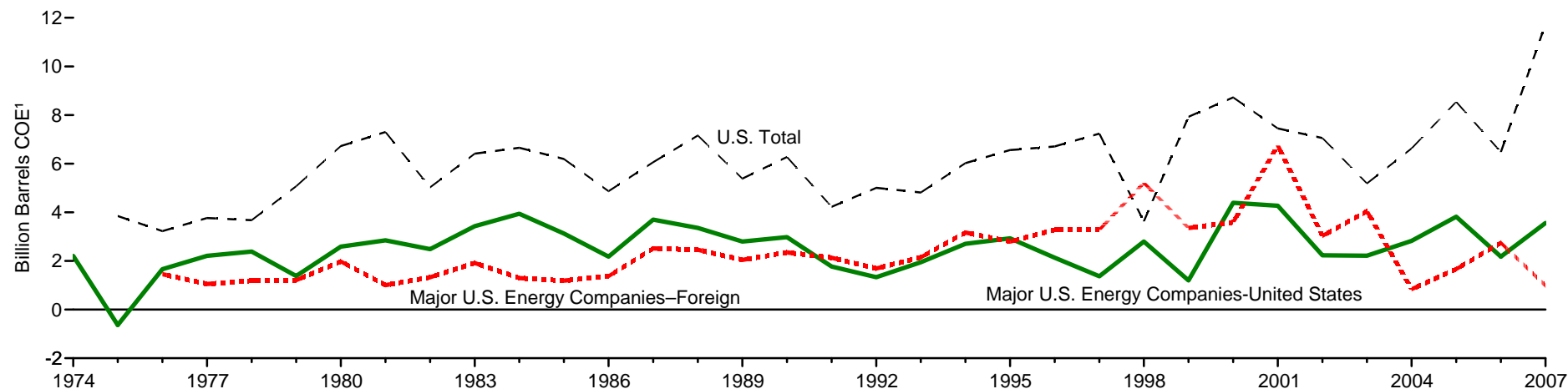
Notes: • The information reported for 1965 and prior years is not strictly comparable to that in more recent surveys. • Average cost is the arithmetic mean and includes all costs for drilling and equipping wells and for surface-producing facilities. Wells drilled include exploratory and development wells; 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/surveys/index.cfm>.

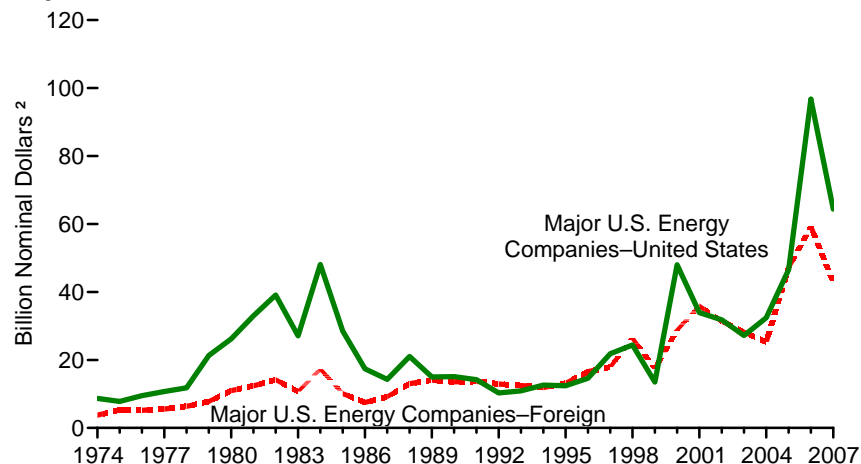
Source: American Petroleum Institute, 2007 Joint Association Survey on Drilling Costs (January 2009).

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

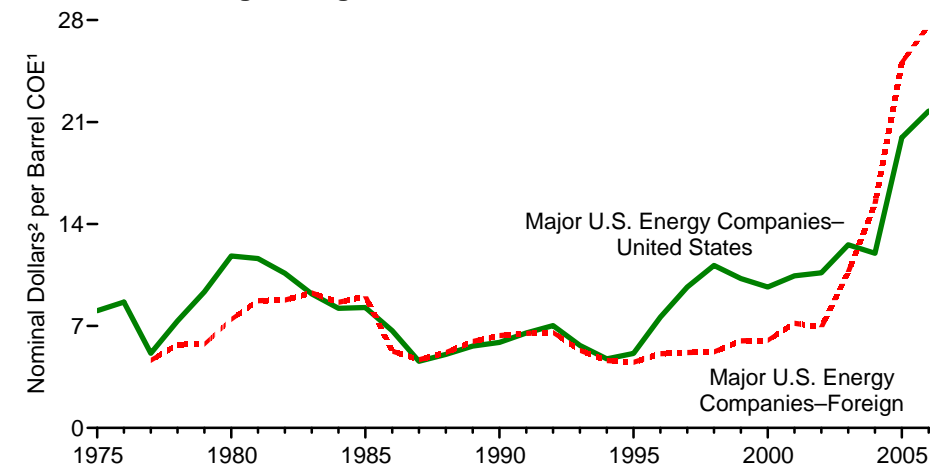
Gross Additions to Proved Reserves of Crude Oil, Natural Gas, and Natural Gas Liquids, 1974-2007



Crude Oil and Natural Gas Exploration and Development Expenditures, 1974-2007



Expenditures per Barrel of Reserve Additions, 1975-2006 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, 1974-2007

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	11.99	15.38
2005	8,543	3,818	1,664	46.6	47.3	^R 19.93	^R 25.09
2006	^R 6,479	^R 2,175	2,747	^R 96.7	^R 59.2	^R 21.75	^R 27.64
2007	11,745	3,560	985	64.4	42.7	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.

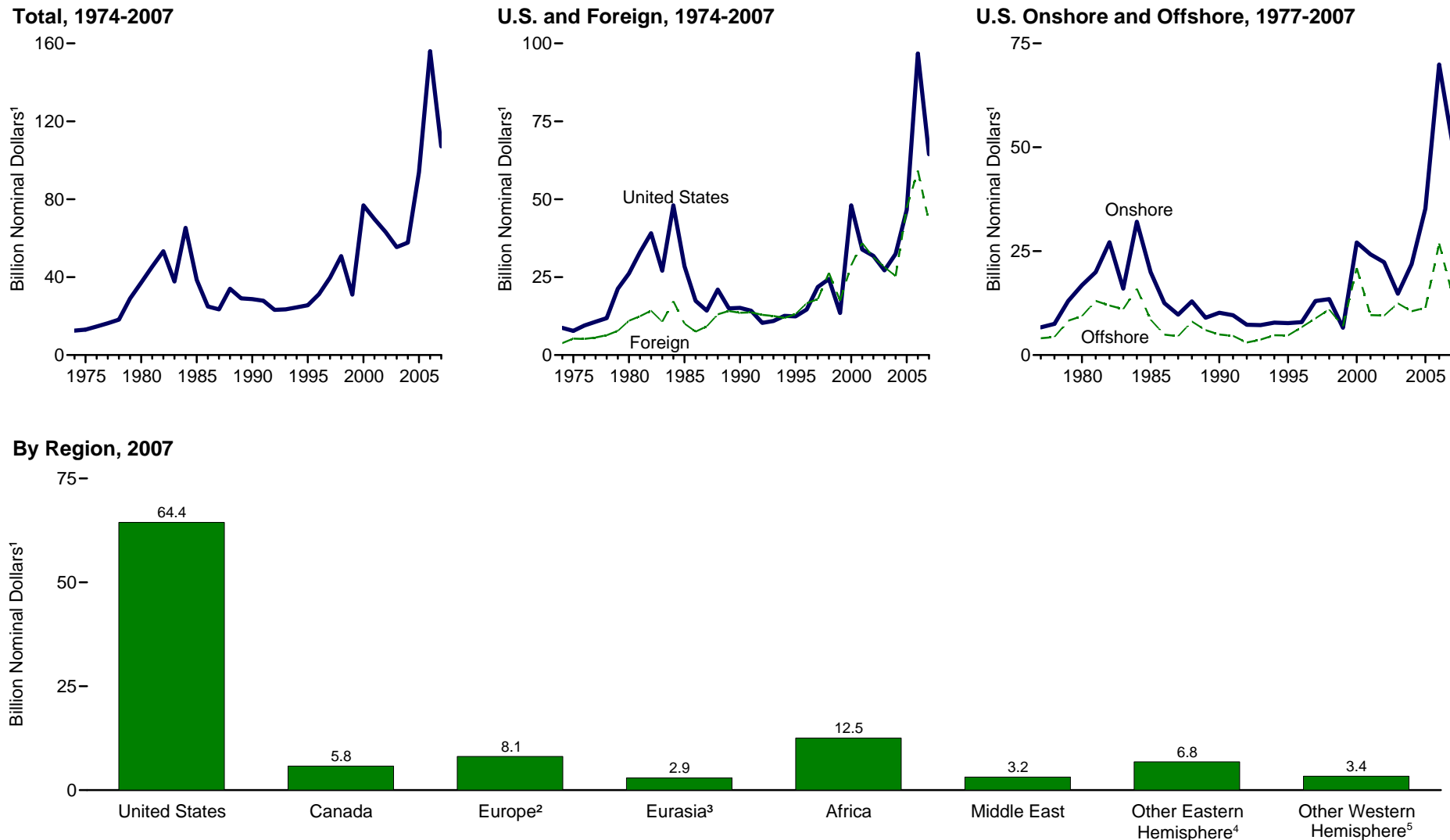
⁷ Data for 1985 and 1987 exclude downward revisions of 1,477 million barrels COE and 2,396 million barrels COE, respectively, of Alaska North Slope natural gas reserves.

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



¹ See "Nominal Dollars" in Glossary.

² Includes all Europe except countries that were part of the former U.S.S.R. See "Union of Soviet Socialist Republics (U.S.S.R.)" in Glossary.

³ Includes only countries that were part of the former U.S.S.R. See "Eurasia" and "Union of Soviet Socialist Republics (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.

Note: "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.

Source: Table 4.10.

Table 4.10 Major U.S. Energy Companies' Expenditures for Crude Oil and Natural Gas Exploration and Development by Region, 1974-2007 (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	11.3	46.6	9.1	6.1	6.3	10.7	1.5	12.0	1.7	47.3	93.8
2006	^R 69.9	^R 26.8	^R 96.7	17.0	² 9.0	³ 2.4	12.9	3.1	^R 6.6	^R 8.2	^R 59.2	^R 155.9
2007	50.3	14.1	64.4	5.8	8.1	2.9	12.5	3.2	6.8	3.4	42.7	107.1

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 "Union of Soviet Socialist Republics (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 "Eurasia" and "Union of Soviet Socialist Republics (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.

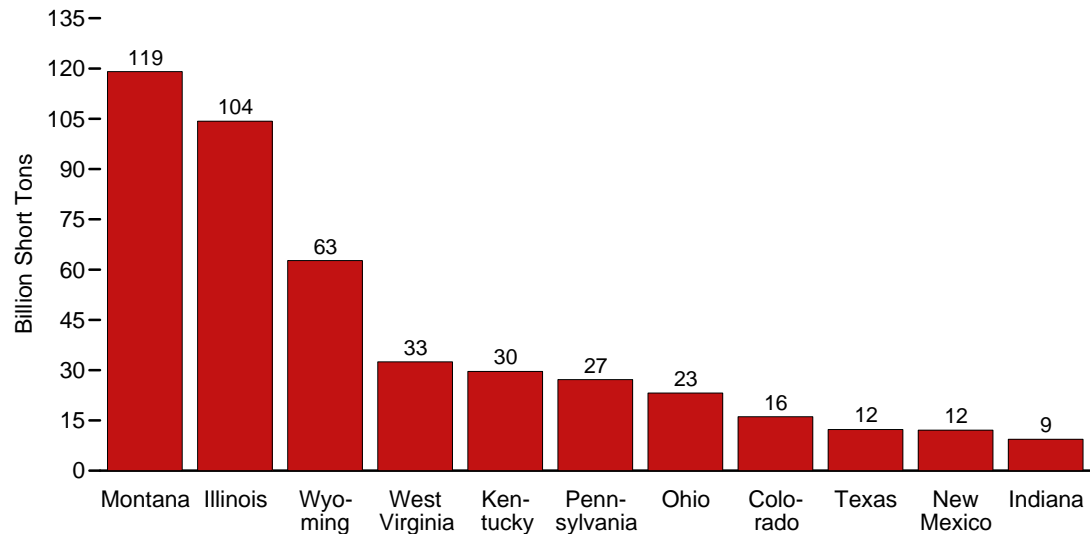
Notes: • "Major U.S. Energy Companies" are the top publicly-owned, U.S.-based crude oil and natural gas producers and petroleum refiners that form the Financial Reporting System (FRS). See Table 3.14. • Totals may not equal sum of components due to independent rounding.

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

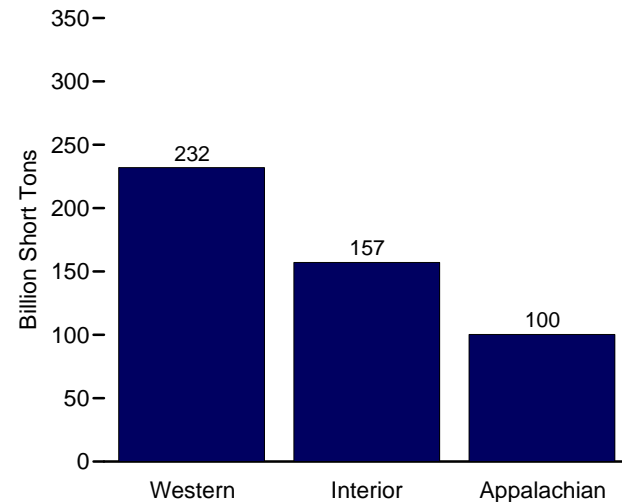
Sources: • 1974-1976—Energy Information Administration (EIA), Office of Energy Markets and End Use, FRS Database, November 1997. • 1977 forward—EIA, *Performance Profiles of Major Energy Producers*, annual reports.

Figure 4.11 Coal Demonstrated Reserve Base, January 1, 2008

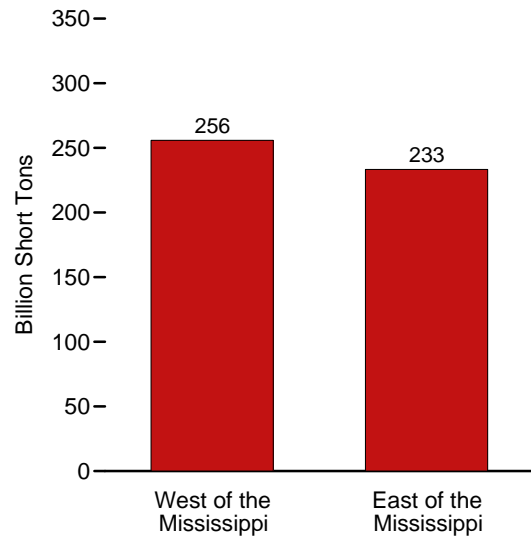
By Key State



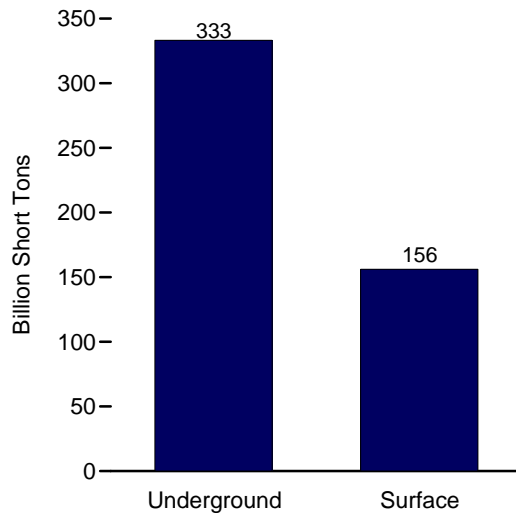
By Region



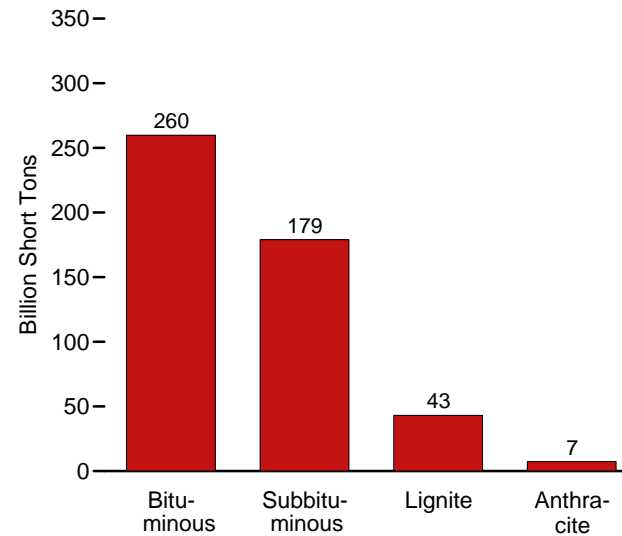
West and East of the Mississippi



By Mining Method



By Rank



Source: Table 4.11.

Table 4.11 Coal Demonstrated Reserve Base, January 1, 2008
(Billion Short Tons)

Region and State	Anthracite		Bituminous Coal		Subbituminous Coal		Lignite	Total		
	Underground	Surface	Underground	Surface	Underground	Surface	Surface ¹	Underground	Surface	Total
Appalachian	4.0	3.4	69.5	22.4	0.0	0.0	1.1	73.4	26.8	100.3
Alabama .....	.0	.0	1.0	2.1	.0	.0	1.1	1.0	3.2	4.1
Kentucky, Eastern .....	.0	.0	1.0	9.2	.0	.0	.0	1.0	9.2	10.2
Ohio .....	.0	.0	17.5	5.7	.0	.0	.0	17.5	5.7	23.2
Pennsylvania	3.8	3.4	19.2	.9	.0	.0	.0	23.0	4.2	27.2
Virginia .....	.1	.0	.9	.5	.0	.0	.0	1.1	.5	1.6
West Virginia .....	.0	.0	28.8	3.6	.0	.0	.0	28.8	3.6	32.5
Other ² .....	.0	.0	1.1	.3	.0	.0	.0	1.1	.3	1.4
Interior .....	.1	.0	117.0	27.2	.0	.0	12.7	117.1	39.9	157.1
Illinois .....	.0	.0	87.8	16.5	.0	.0	.0	87.8	16.5	104.3
Indiana .....	.0	.0	8.7	.7	.0	.0	.0	8.7	.7	9.4
Iowa .....	.0	.0	1.7	.5	.0	.0	.0	1.7	.5	2.2
Kentucky, Western .....	.0	.0	15.8	3.6	.0	.0	.0	15.8	3.6	19.4
Missouri .....	.0	.0	1.5	4.5	.0	.0	.0	1.5	4.5	6.0
Oklahoma .....	.0	.0	1.2	.3	.0	.0	.0	1.2	.3	1.5
Texas .....	.0	.0	.0	.0	.0	.0	12.3	.0	12.3	12.3
Other ³ .....	.1	.0	.3	1.1	.0	.0	0.4	.4	1.5	1.9
Western .....	.0	(s)	21.4	2.3	121.2	57.8	29.3	142.7	89.3	232.0
Alaska .....	.0	.0	.6	.1	4.8	.6	(s)	5.4	.7	6.1
Colorado .....	.0	(s)	7.6	.6	3.7	.0	4.2	11.3	4.8	16.1
Montana .....	.0	.0	1.4	.0	69.6	32.4	15.8	71.0	48.2	119.1
New Mexico .....	.0	(s)	2.7	.9	3.5	5.0	.0	6.1	5.9	12.1
North Dakota .....	.0	.0	.0	.0	.0	.0	9.0	.0	9.0	9.0
Utah .....	.0	.0	5.0	.3	(s)	.0	.0	5.0	.3	5.3
Washington .....	.0	.0	.3	.0	1.0	.0	(s)	1.3	.0	1.3
Wyoming .....	.0	.0	3.8	.5	38.7	19.7	.0	42.5	20.2	62.7
Other ⁴ .....	.0	.0	.0	.0	(s)	(s)	.4	.0	.4	.4
U.S. Total	4.1	3.4	207.9	51.9	121.2	57.8	43.1	333.2	156.1	489.3
States East of the Mississippi River	4.0	3.4	181.8	43.2	.0	.0	1.1	185.7	47.7	233.4
States West of the Mississippi River .....	.1	.0	26.2	8.6	121.2	57.8	42.0	147.5	108.4	255.9

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.

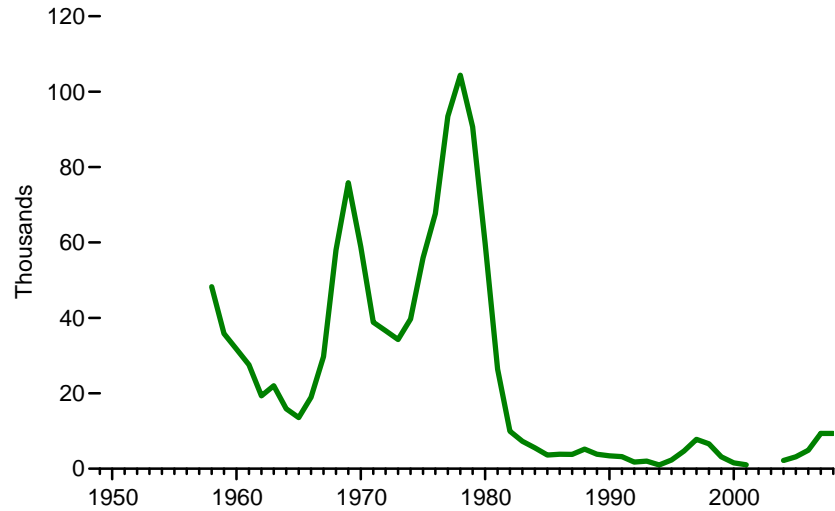
Notes: • See *U.S. Coal Reserves: 1997 Update* on the Web Page for a description of the methodology used to produce these data. • Data represent remaining measured and indicated coal resources, analyzed

and on file, meeting minimum seam and depth criteria, and in the ground as of January 1, 2008. 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.

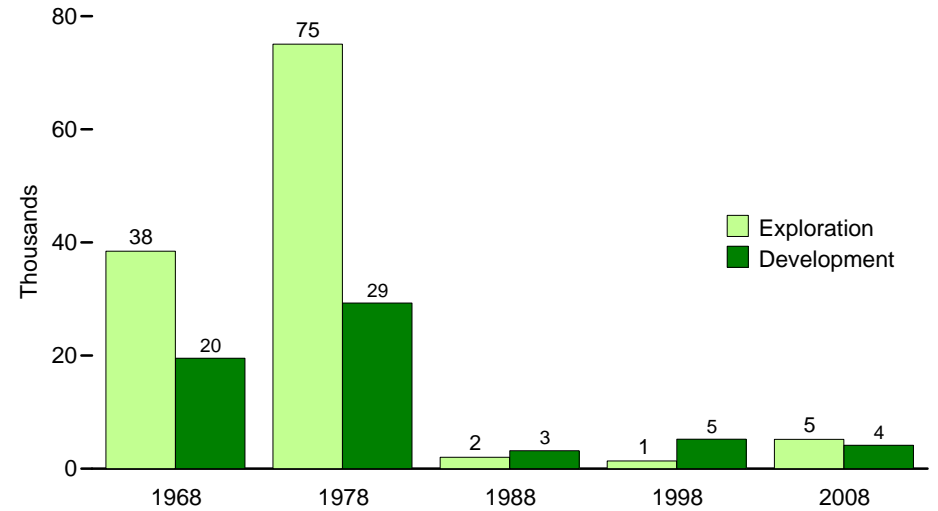
Web Page: For related information, see <http://www.eia.doe.gov/fuelcoal.html>.
Source: Energy Information Administration, Coal Reserves Database.

Figure 4.12 Uranium Exploration and Development Drilling

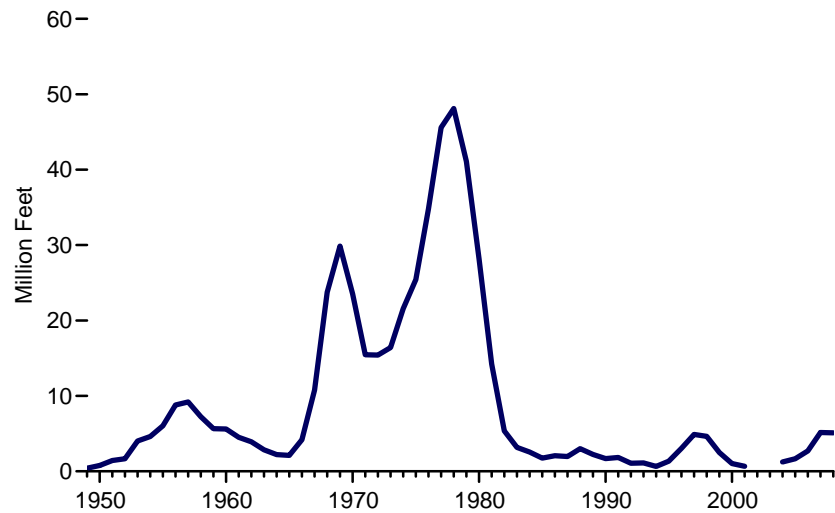
Total Holes Drilled, 1958-2001 and 2004-2008



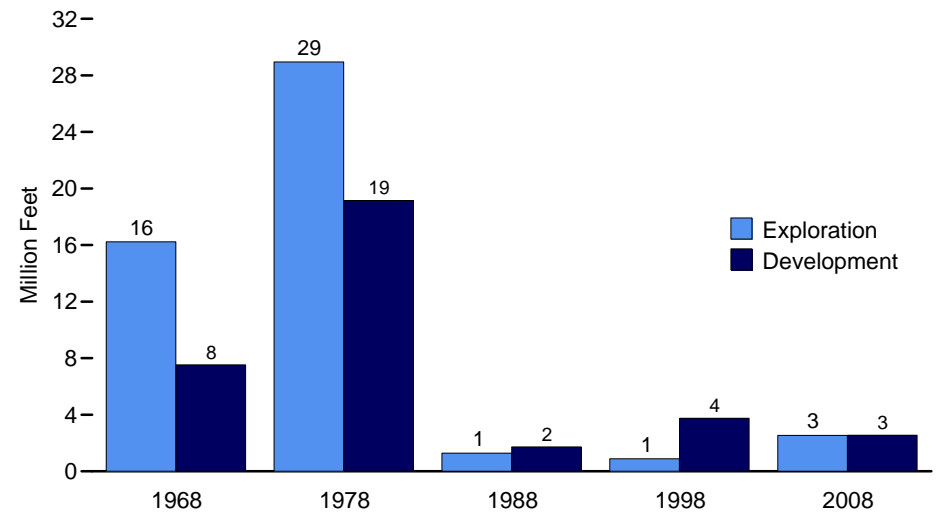
Holes Drilled, Selected Years



Total Footage Drilled, 1949-2001 and 2004-2008



Footage Drilled, Selected Years



Source: Table 4.12.

Table 4.12 Uranium Exploration and Development Drilling, Selected Years, 1949-2008

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
2008	5.20	2.54	4.16	2.55	9.36	5.09

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.

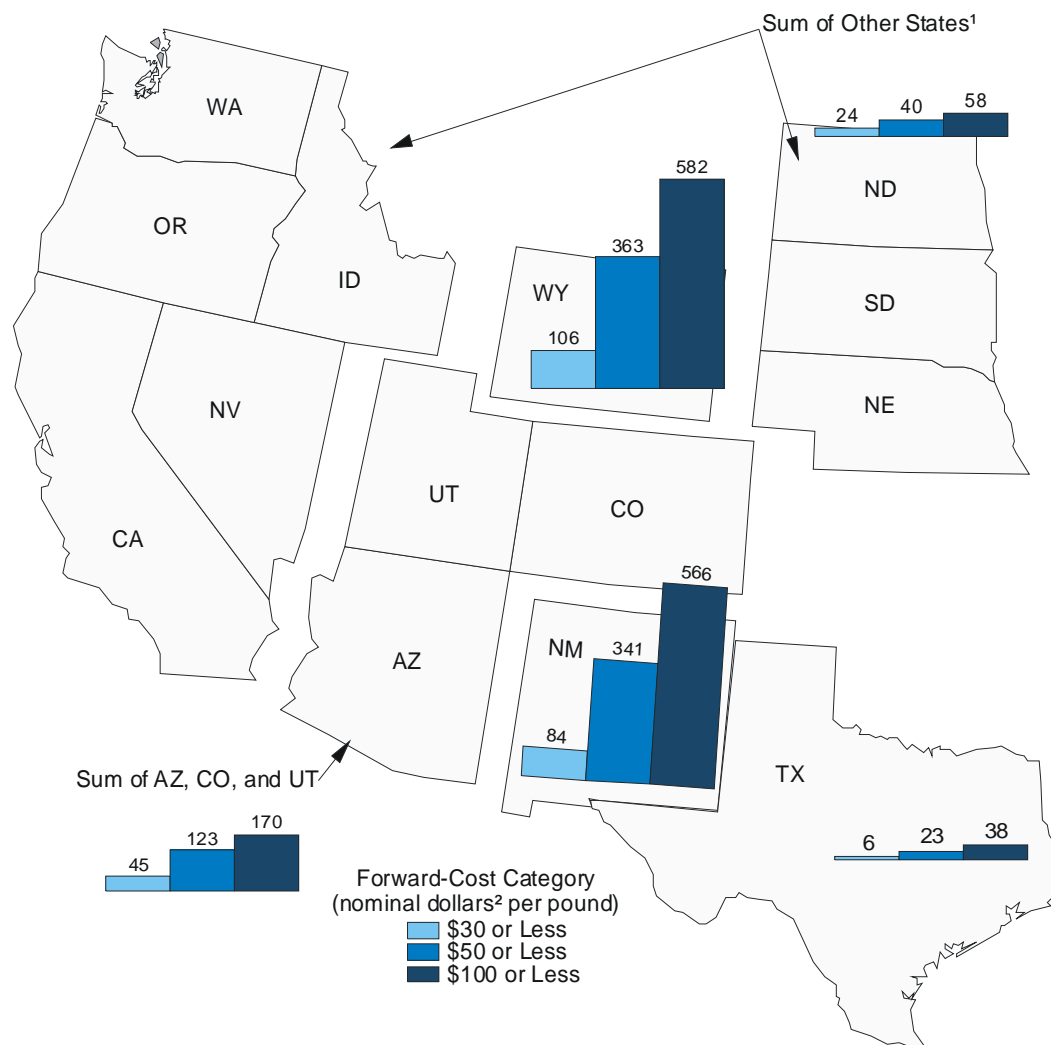
Web Pages: • For all data beginning in 1949, see <http://www.eia.doe.gov/emeu/aer/resource.html>.
• For related information, see <http://www.eia.doe.gov/fuelnuclear.html>.

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 2009).

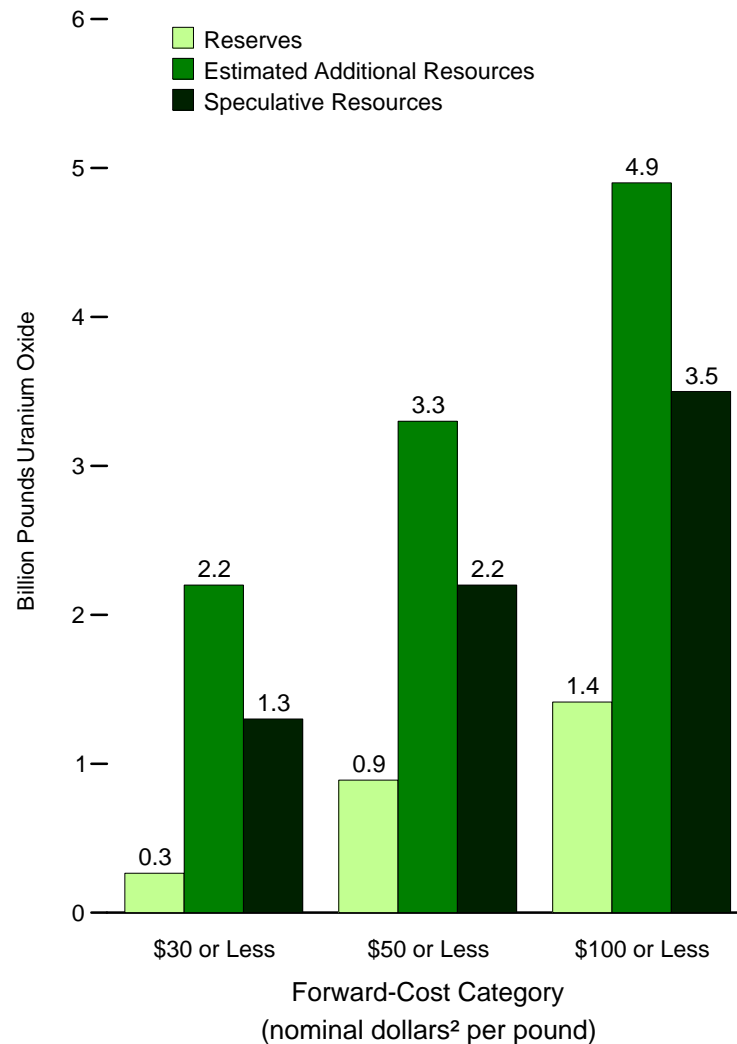
Figure 4.13 Uranium Reserves and Resources, 2003

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.

