



Source: NGSA

Natural Gas Outlook

Briefing Before the Louisiana Public Service Commission
Business and Executive Meeting

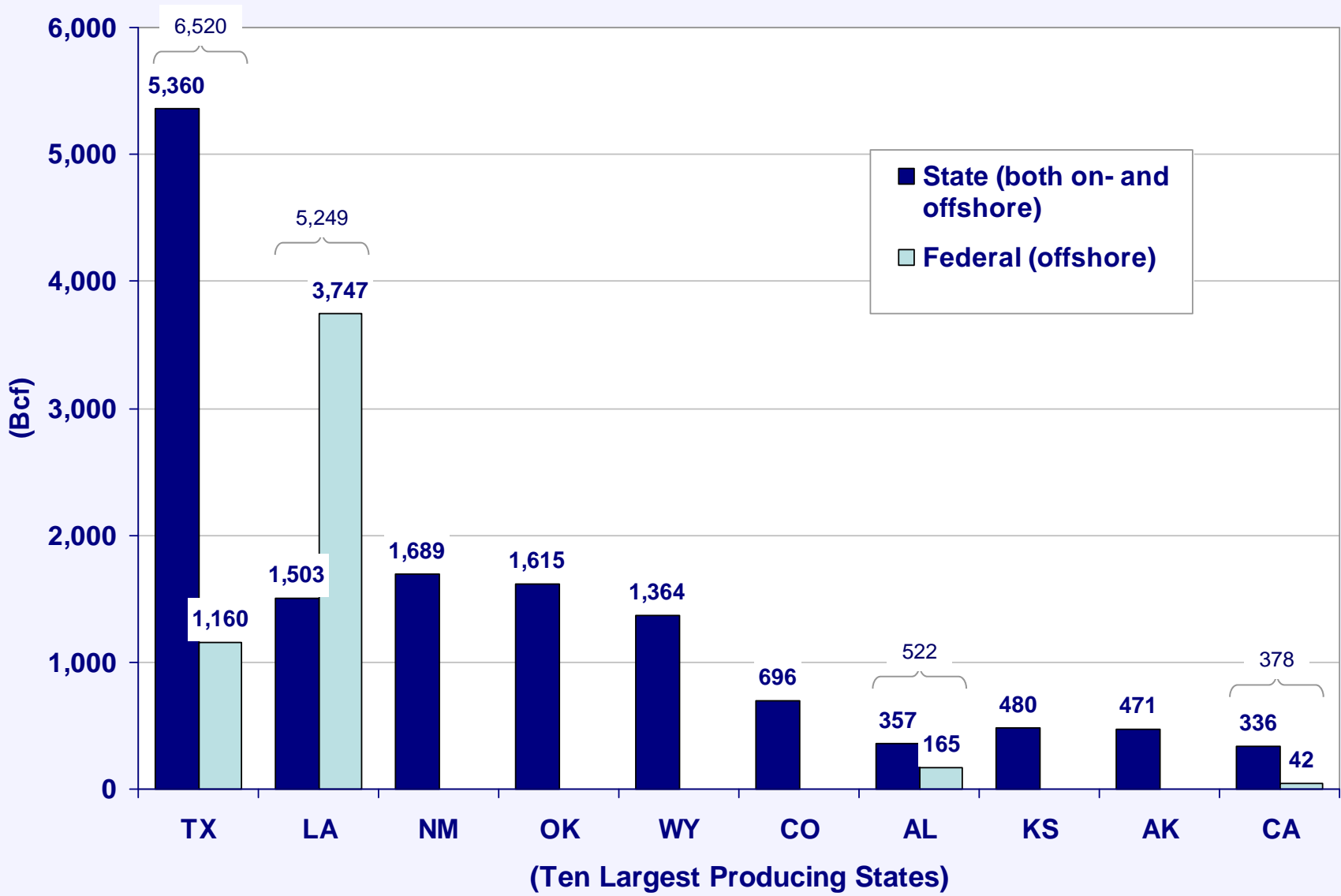
February 19, 2003



David E. Dismukes
Center for Energy Studies
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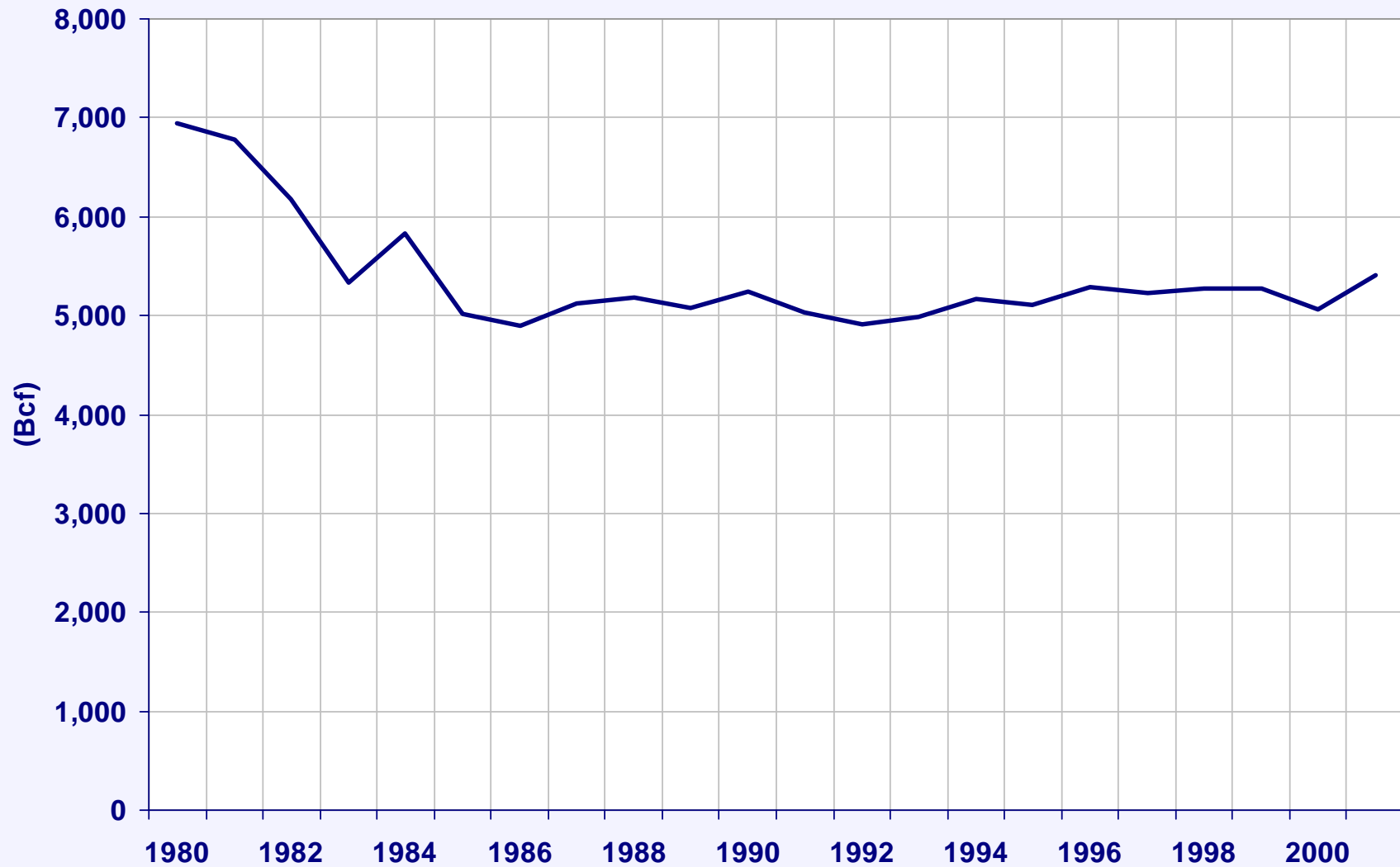
Exhibit 1: Marketed Production of Natural Gas, by State (2001)



Source: *Natural Gas Annual*, Energy Information Administration, Department of Energy.



Exhibit 2: Historic Production of Natural Gas in Louisiana

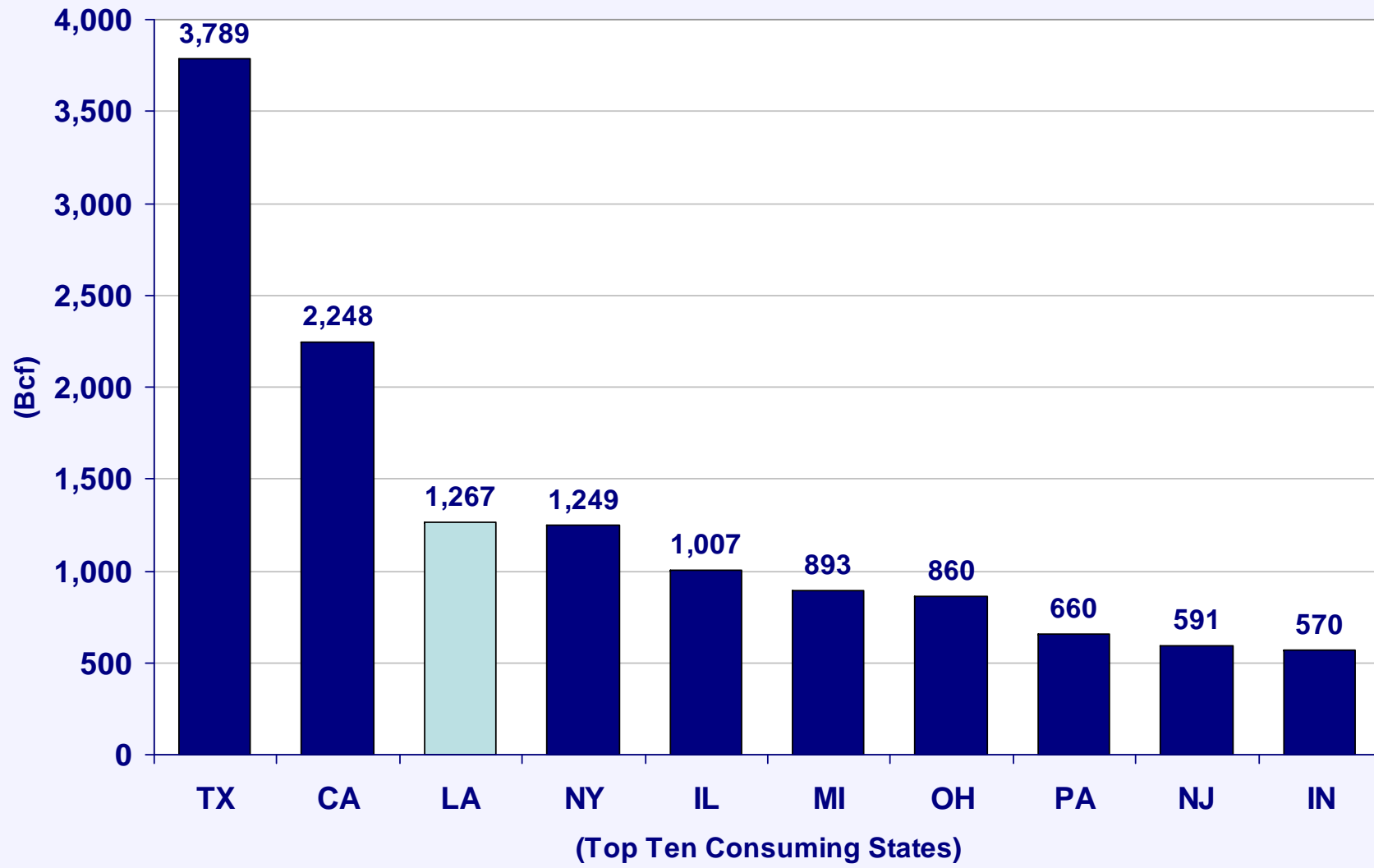


Note: Includes both onshore and offshore (state and federal) production

Source: *Natural Gas Monthly*, Energy Information Administration, Department of Energy.



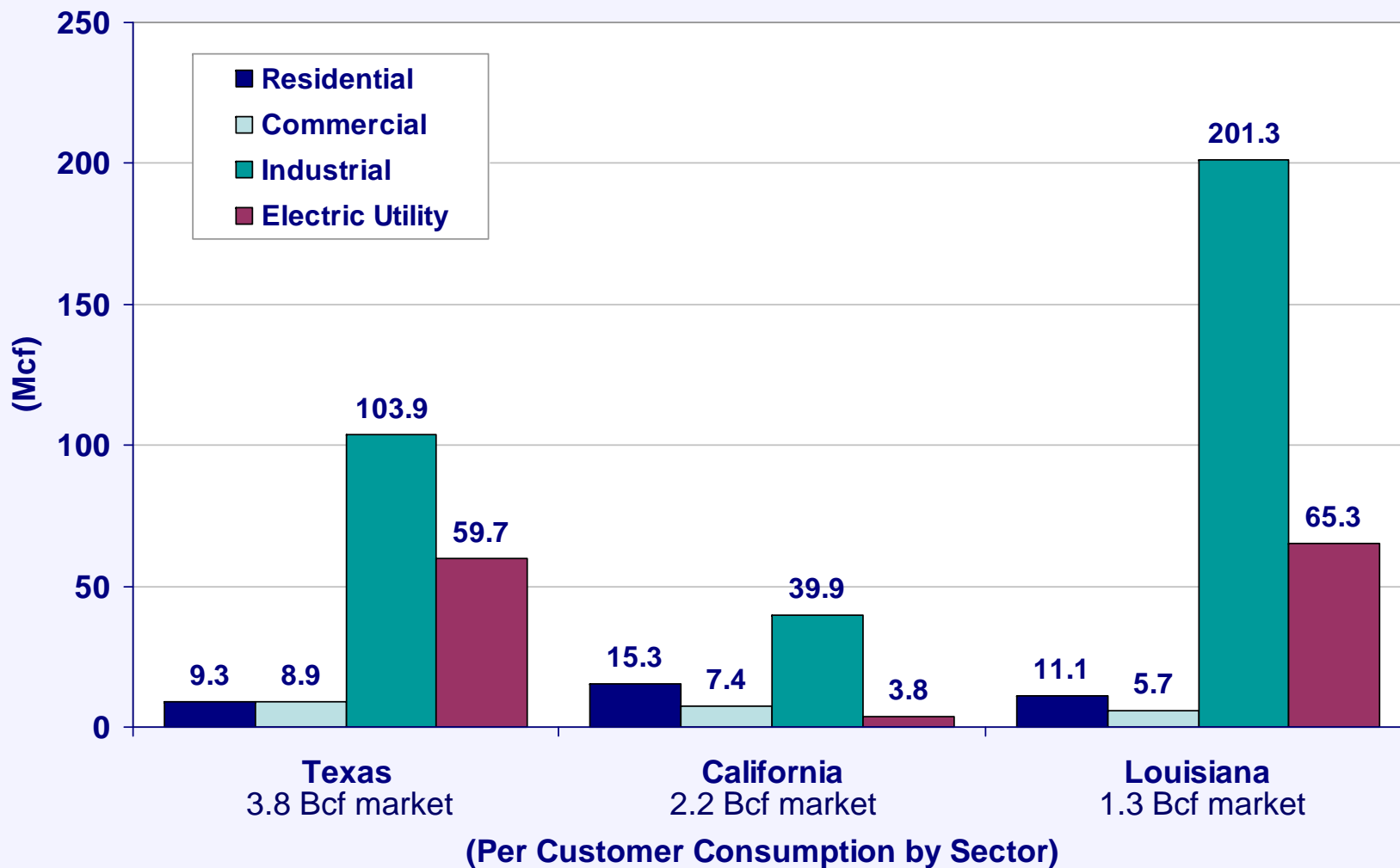
**Exhibit 3: Natural Gas
Consumption in the U.S. (2000)**



Source: *U.S. Natural Gas Consumption*, Energy Information Administration, Department of Energy.



Exhibit 4: Per Customer Natural Gas Consumption by Sector (2000)



Source: U.S. Natural Gas Consumption, Energy Information Administration, Department of Energy; and Annual Population Estimates by State, Population Division, U.S. Census Bureau.

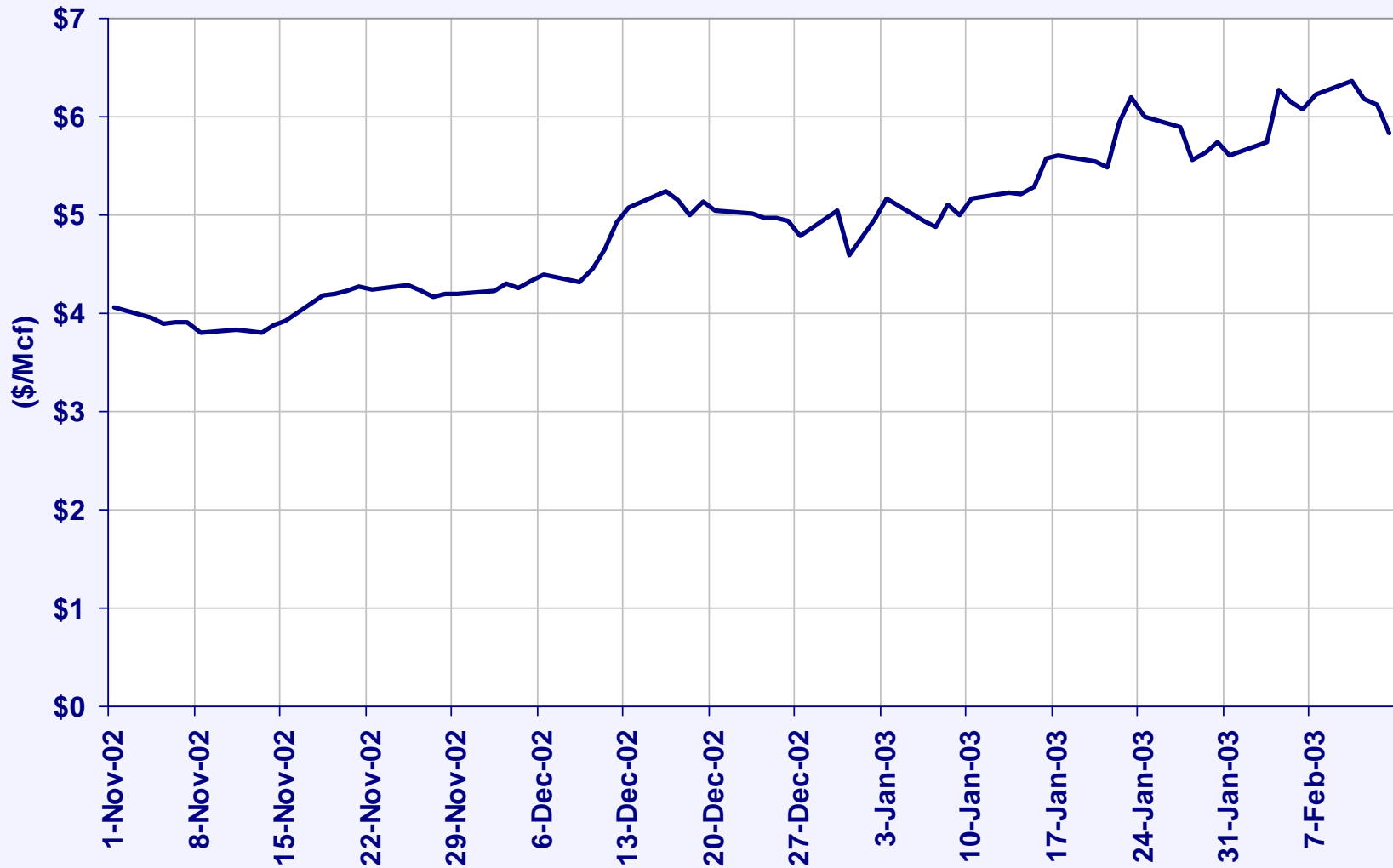


**Exhibit 5: Natural Gas Used by
Selected Industrial Sectors (2001)**

Description	Total Energy Used ----- (trillion Btu) -----	Total Natural Gas Used	Natural Gas as a Percent of Total Energy ----- (Percent) -----	Percent of Natural Gas Used for:			Natural Gas Used per Day (Bcf)	Number of Employees
				Boilers	Furnaces	Feedstock		
Chemicals and Allied Products	583.4	557.3	95.5%	44.8%	40.0%	15.2%	1.53	23,586
Petroleum and Coal Products	153.1	109.3	71.4%	28.4%	71.2%	0.4%	0.30	15,685
Paper and Allied Products	132.0	26.3	19.9%	69.3%	30.7%	0.0%	0.07	25,348
Others	9.4	7.5	80.0%	65.8%	34.2%	0.0%	0.02	40,200
Food and Kindred Products	5.8	5.1	87.7%	85.7%	14.3%	0.0%	0.01	6,382
Primary Metal Industries	3.6	3.3	91.0%	14.3%	78.5%	7.2%	0.01	2,425
Stone, Clay & Glass Products	2.9	2.9	100.0%	2.1%	97.9%	0.0%	0.01	1,762



Exhibit 6: Daily Henry Hub Prices for 2002-2003 Heating Season

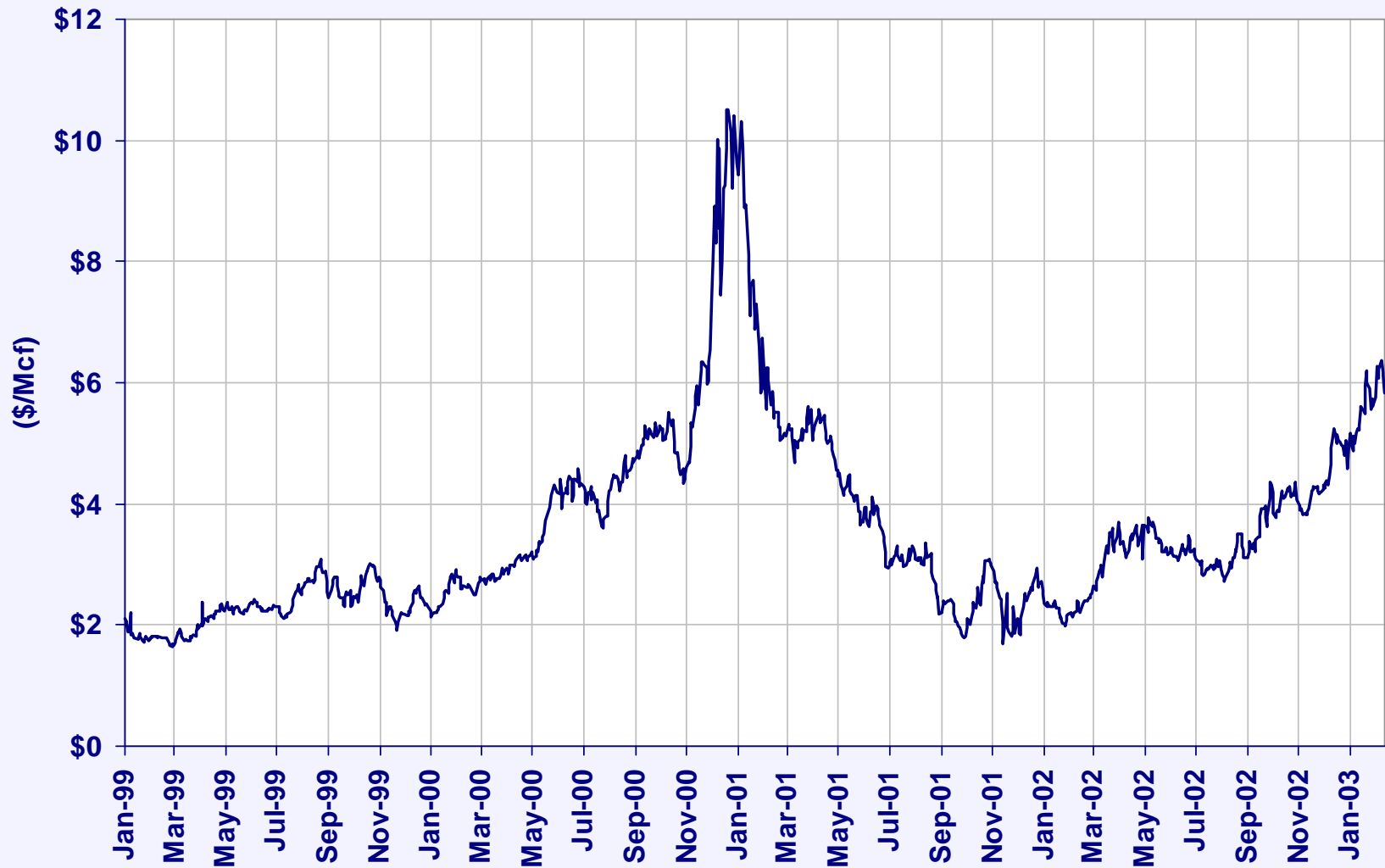


Note: Heating season is assumed to be November 1 through March 31.

Source: Energy Information Administration, Department of Energy.



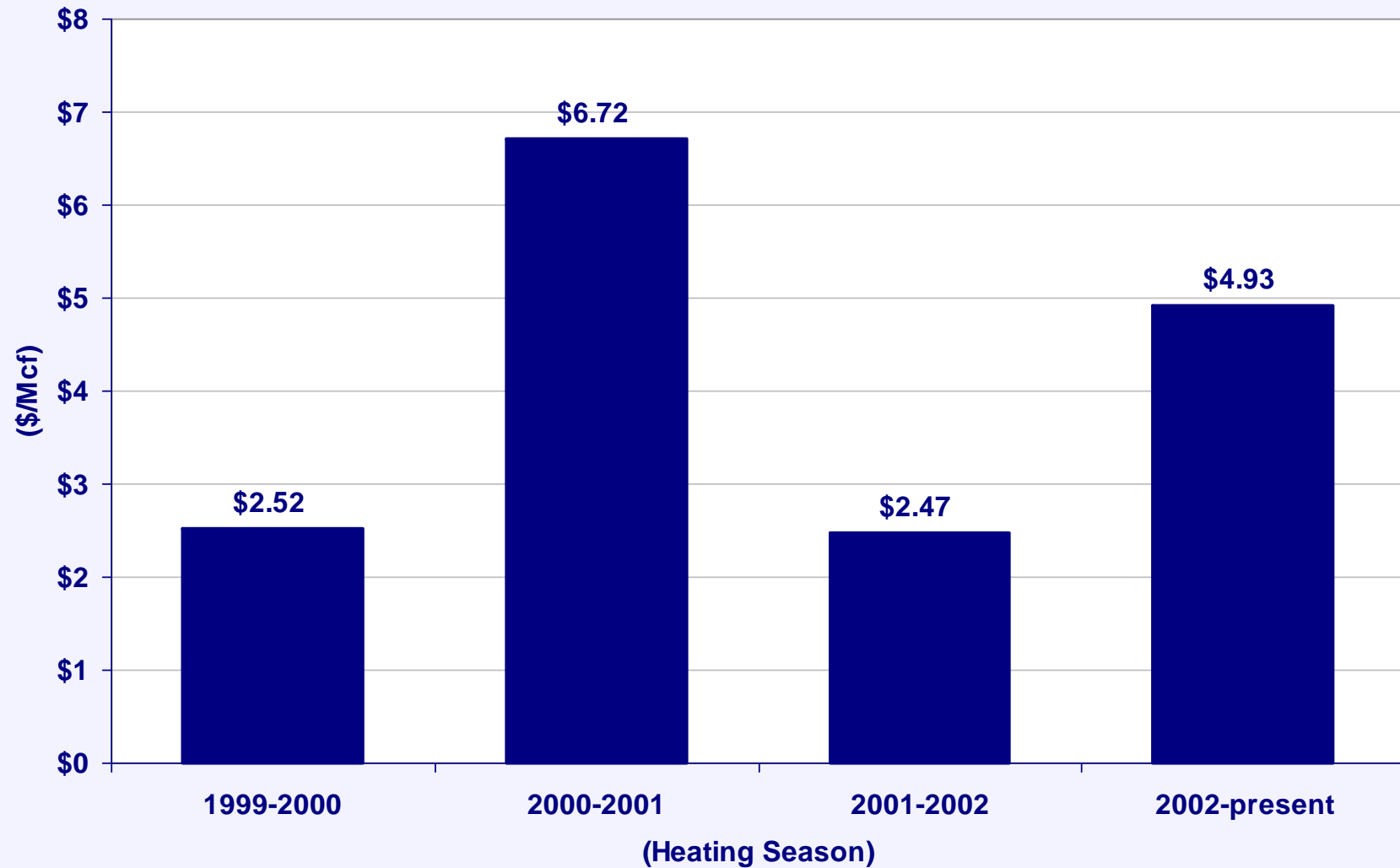
**Exhibit 7: Daily Henry Hub
Prices (1999-Present)**



Source: Energy Information Administration, Department of Energy.



Exhibit 8: Average Henry Hub Price by Heating Season

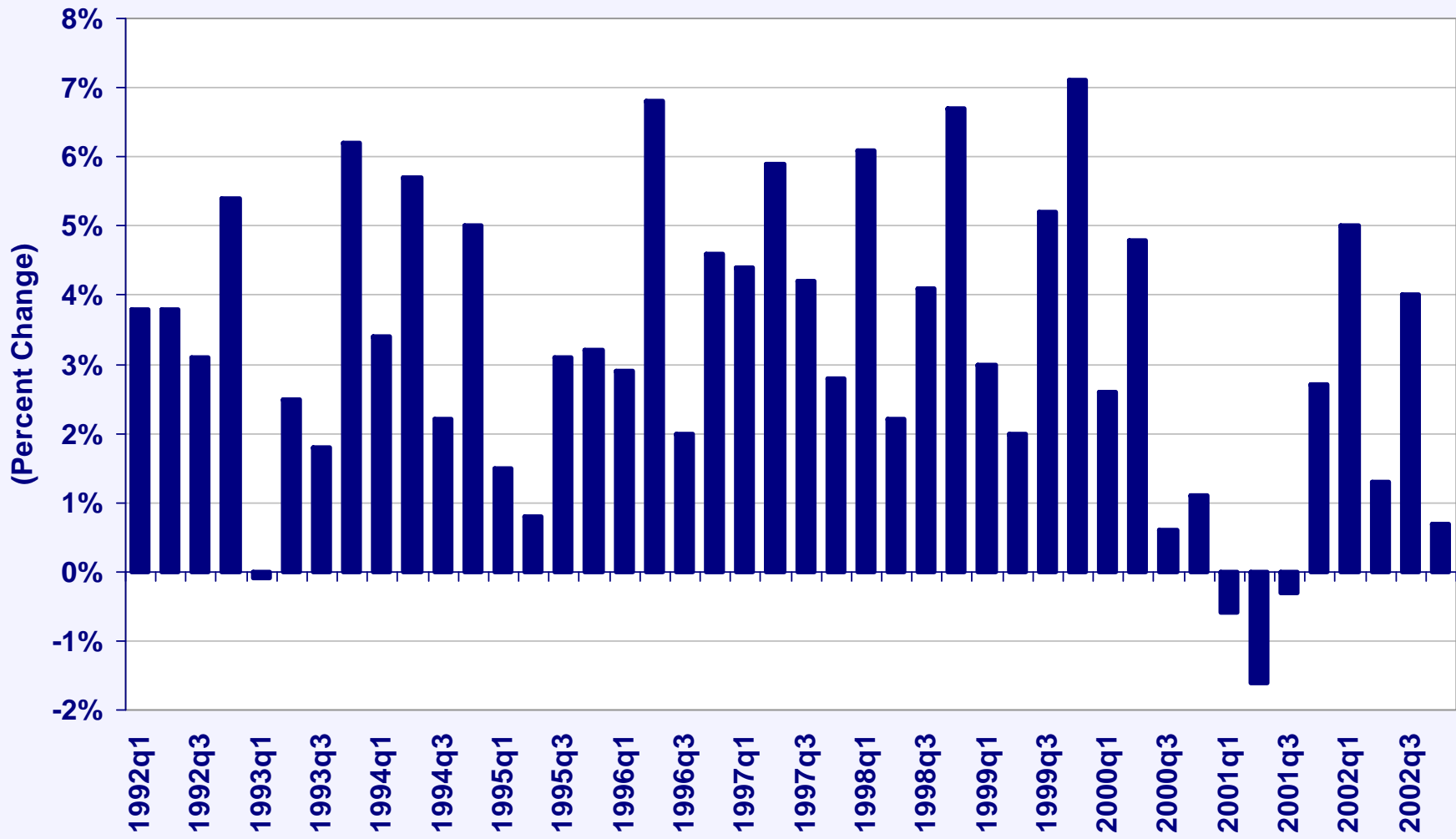


Note: Heating season is assumed to be November 1 through March 31.

Source: Energy Information Administration, Department of Energy.



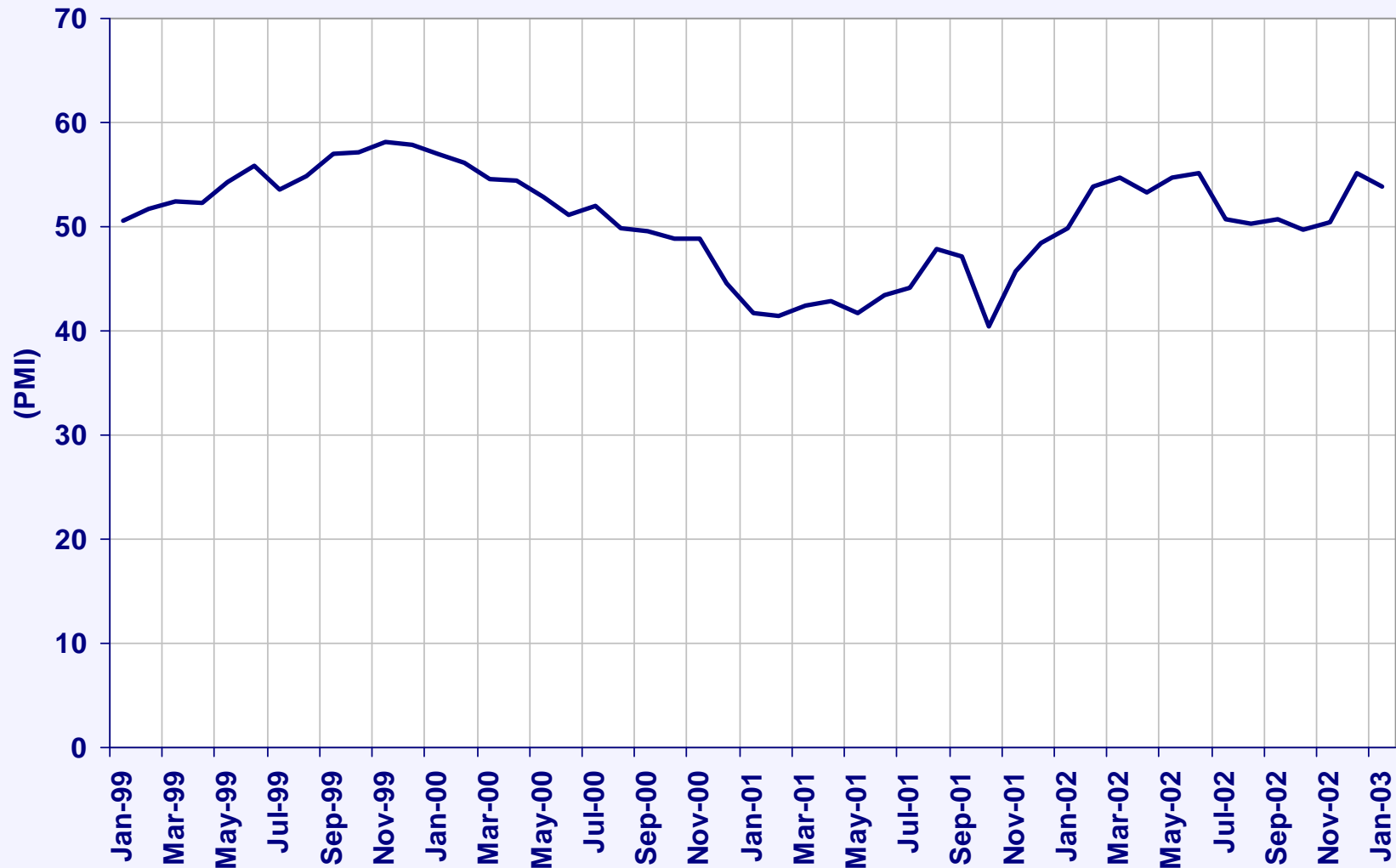
Exhibit 9: Gross Domestic Product, Quarterly Percent Change from Preceding Period (Based on Chained 1996 Dollars)



Source: *National Accounts Data*, Bureau of Economic Analysis, U.S. Department of Commerce.



Exhibit 10: Institute for Supply Management's Index for Manufacturing Conditions (PMI)



Source: *PMI History*, Institute for Supply Management, <http://www.ism.ws>.



**Exhibit 11: Change in
Weather Patterns**

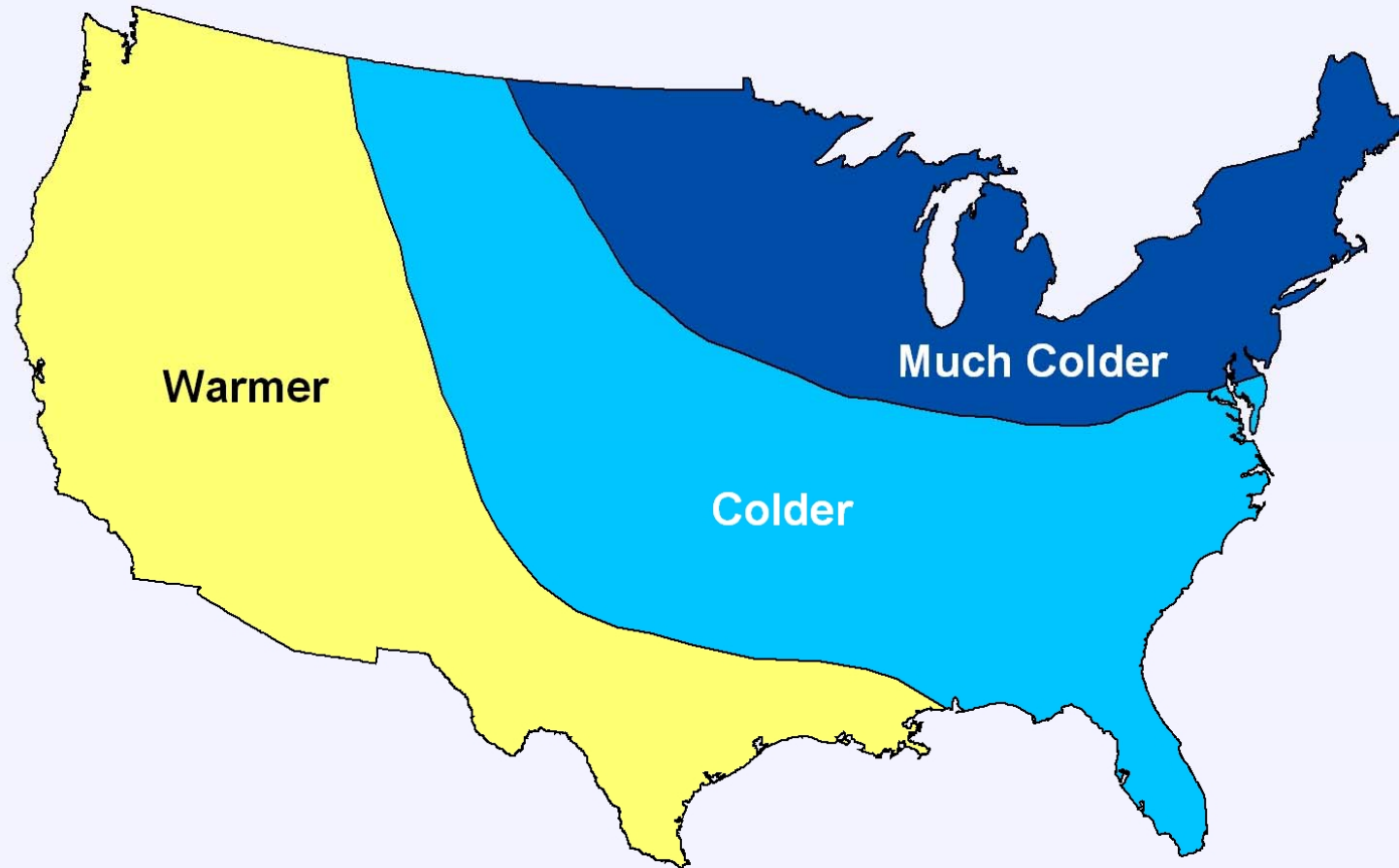
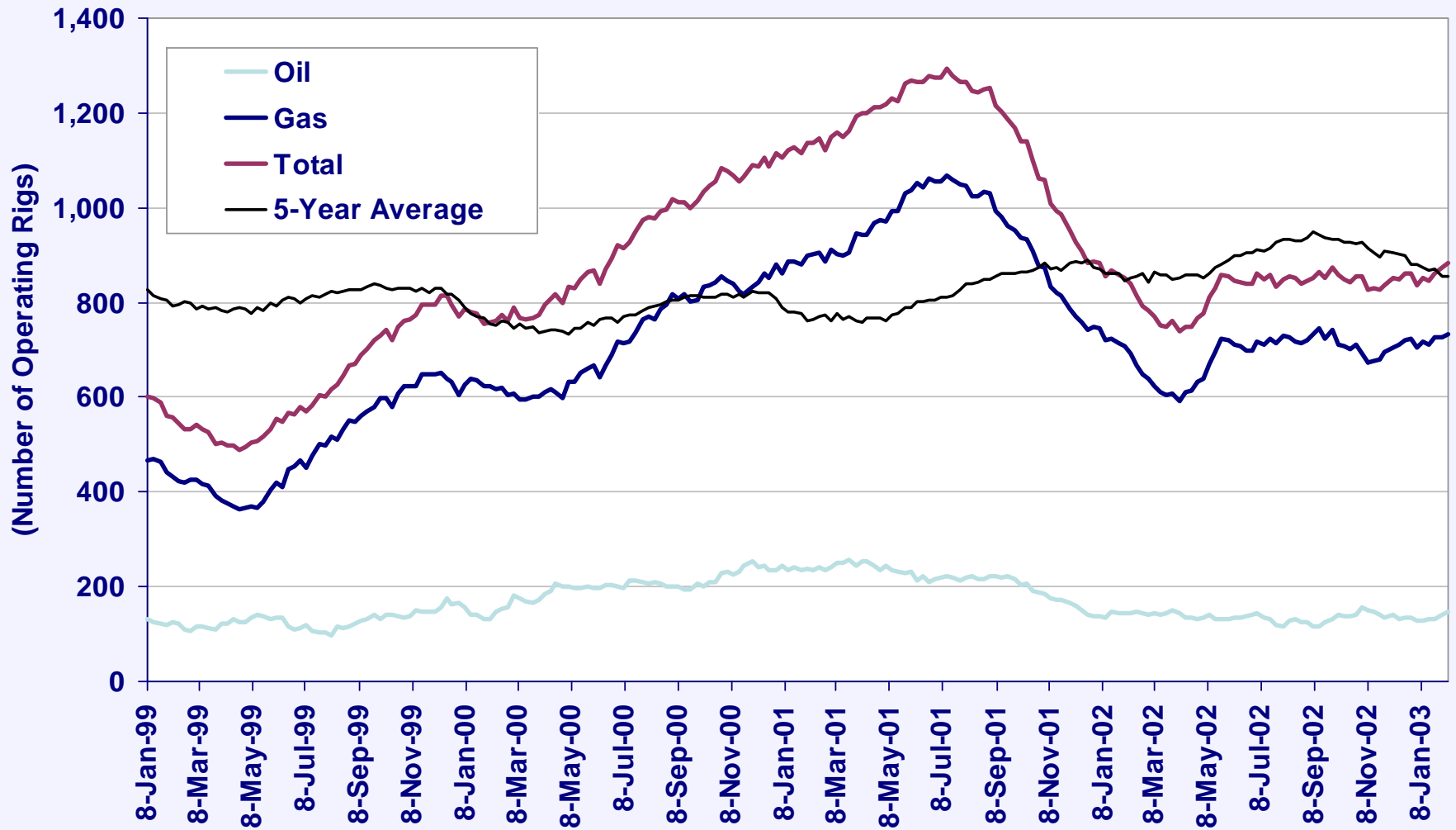




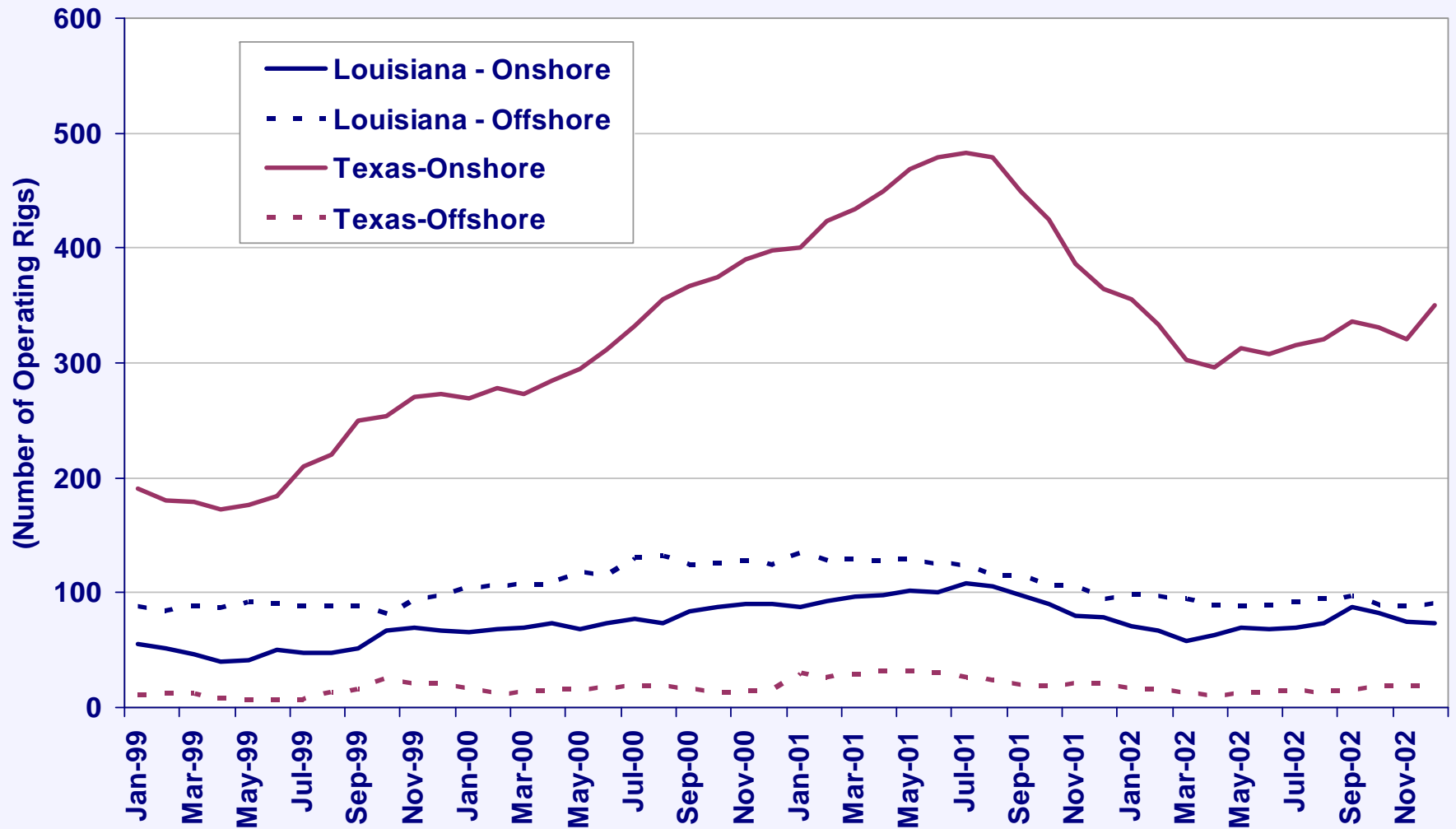
Exhibit 12: Weekly Counts of Rotary Rigs in Operation (1999–Present)



Source: Baker-Hughes Inc. (February 12, 2003) web site: www.bakerhughes.com/investor/rig/rig_na.htm.



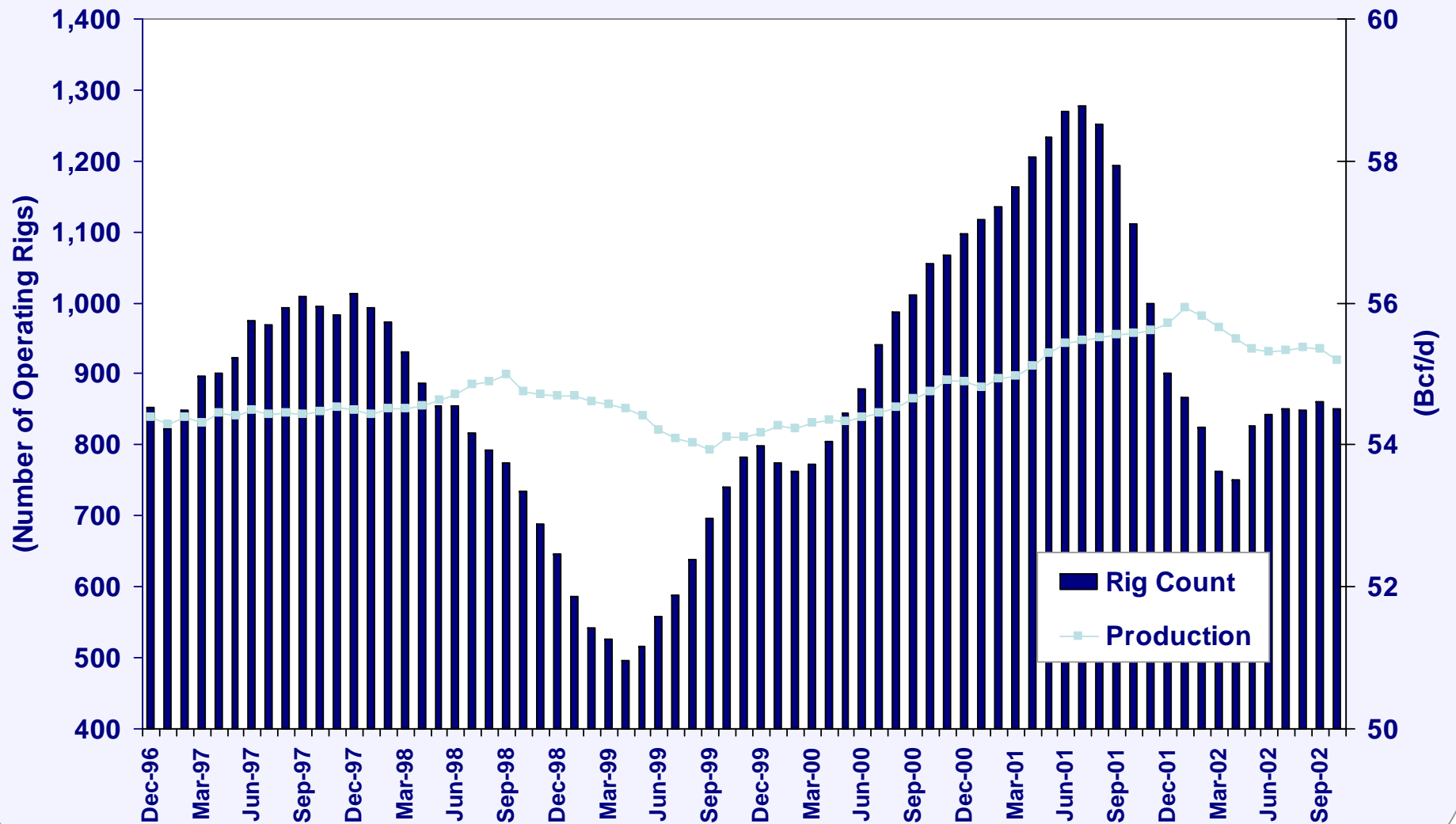
Exhibit 13: Monthly Average of Rotary Rigs in Operation, Louisiana and Texas (1999-2002)



Source: Baker-Hughes Inc. (February 12, 2003) web site: www.bakerhughes.com/investor/rig/rig_na.htm.



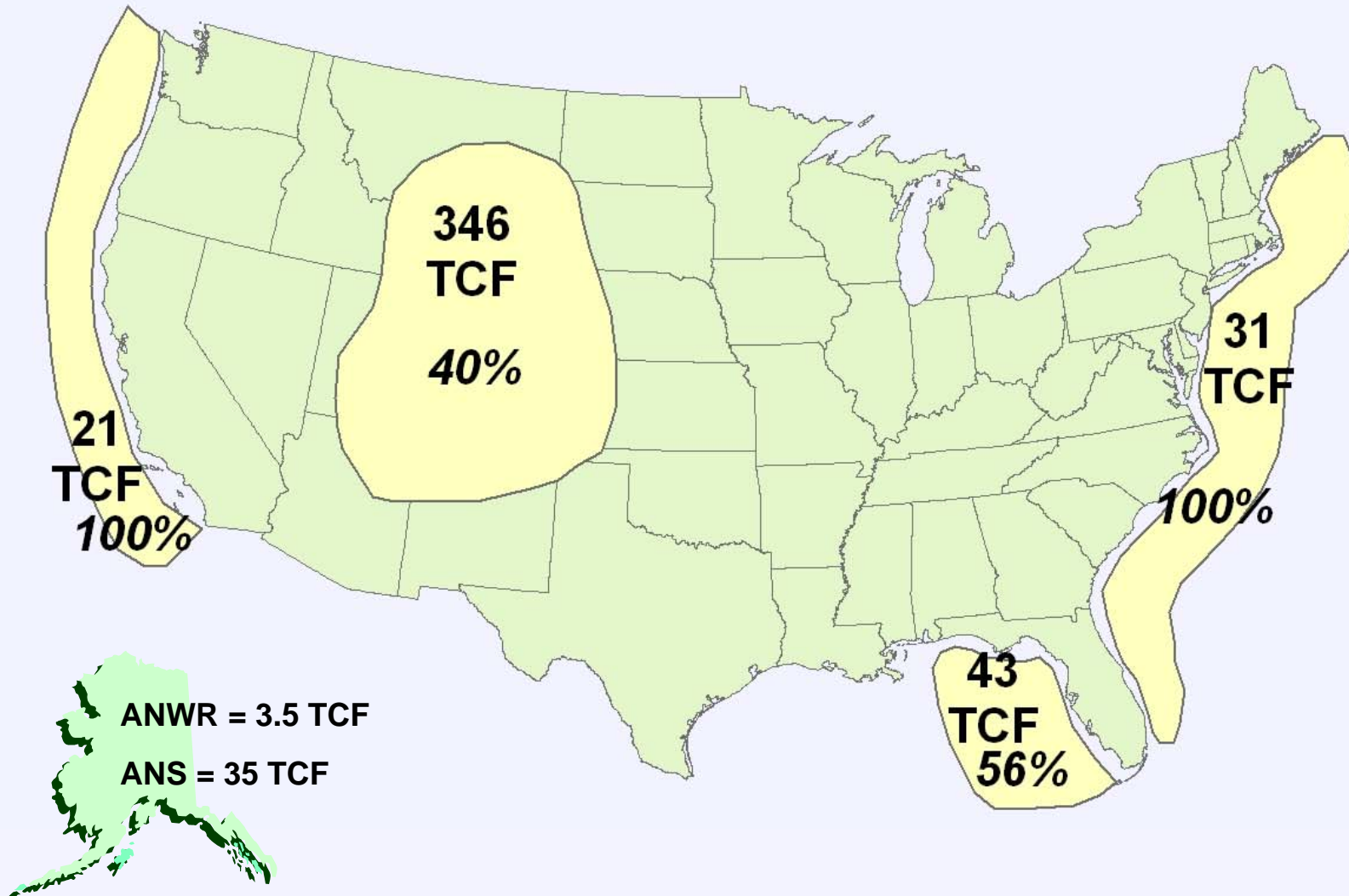
Exhibit 14: U.S. Natural Gas Production and Monthly Rig Count



Source: *Natural Gas Monthly*, Energy Information Administration, Department of Energy; and Baker-Hughes Inc. (February 12, 2003) web site: www.bakerhughes.com/investor/rig/rig_na.htm.



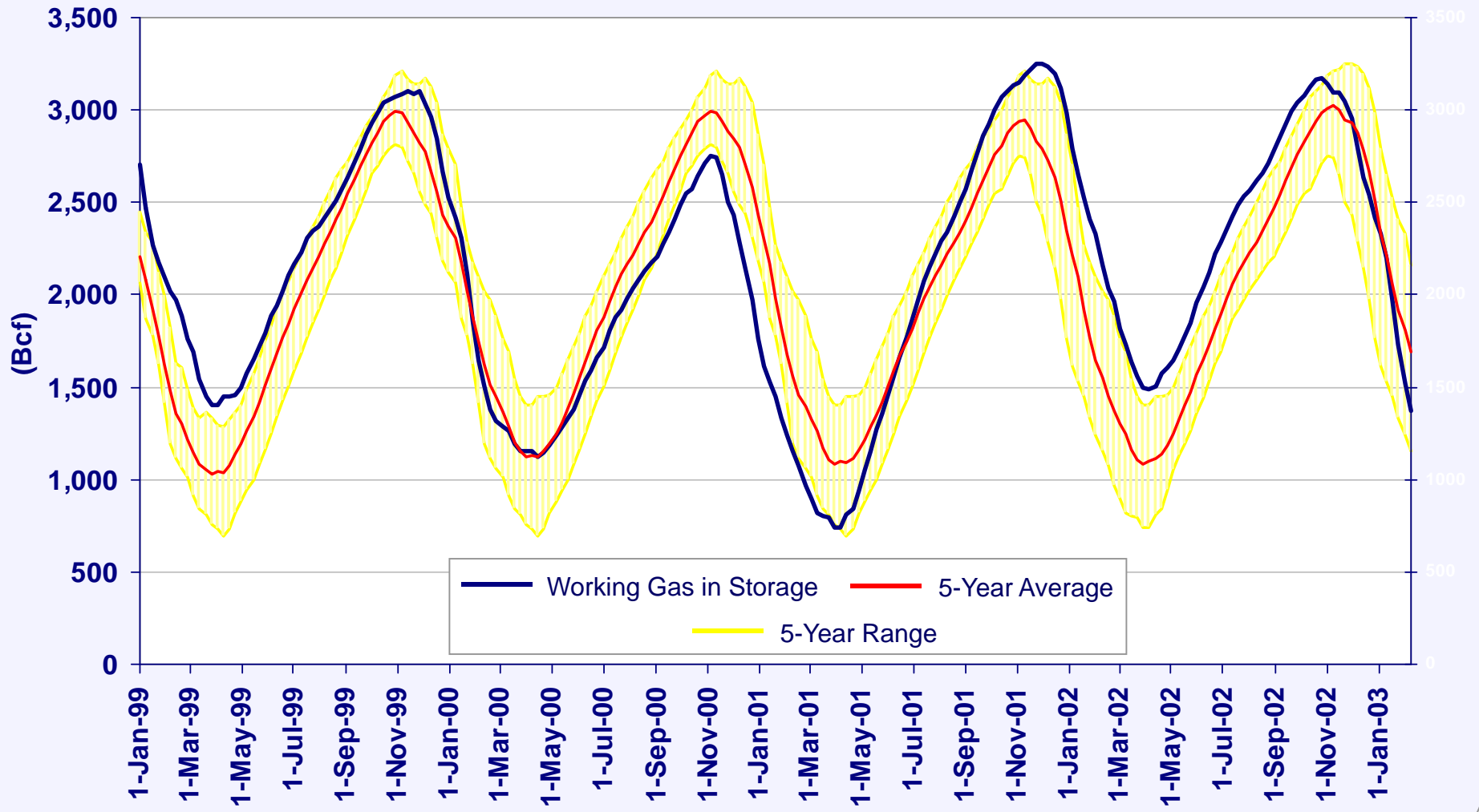
**Exhibit 15: Resource Estimates –
Restricted Areas Estimate and
Percentage Restricted**



Source: "Natural Gas: Can We Produce Enough?" Independent Petroleum Association of America,
website: <http://www.ipaa.org/govtrelations/factsheets/NaturalGasProdEnough.asp>.



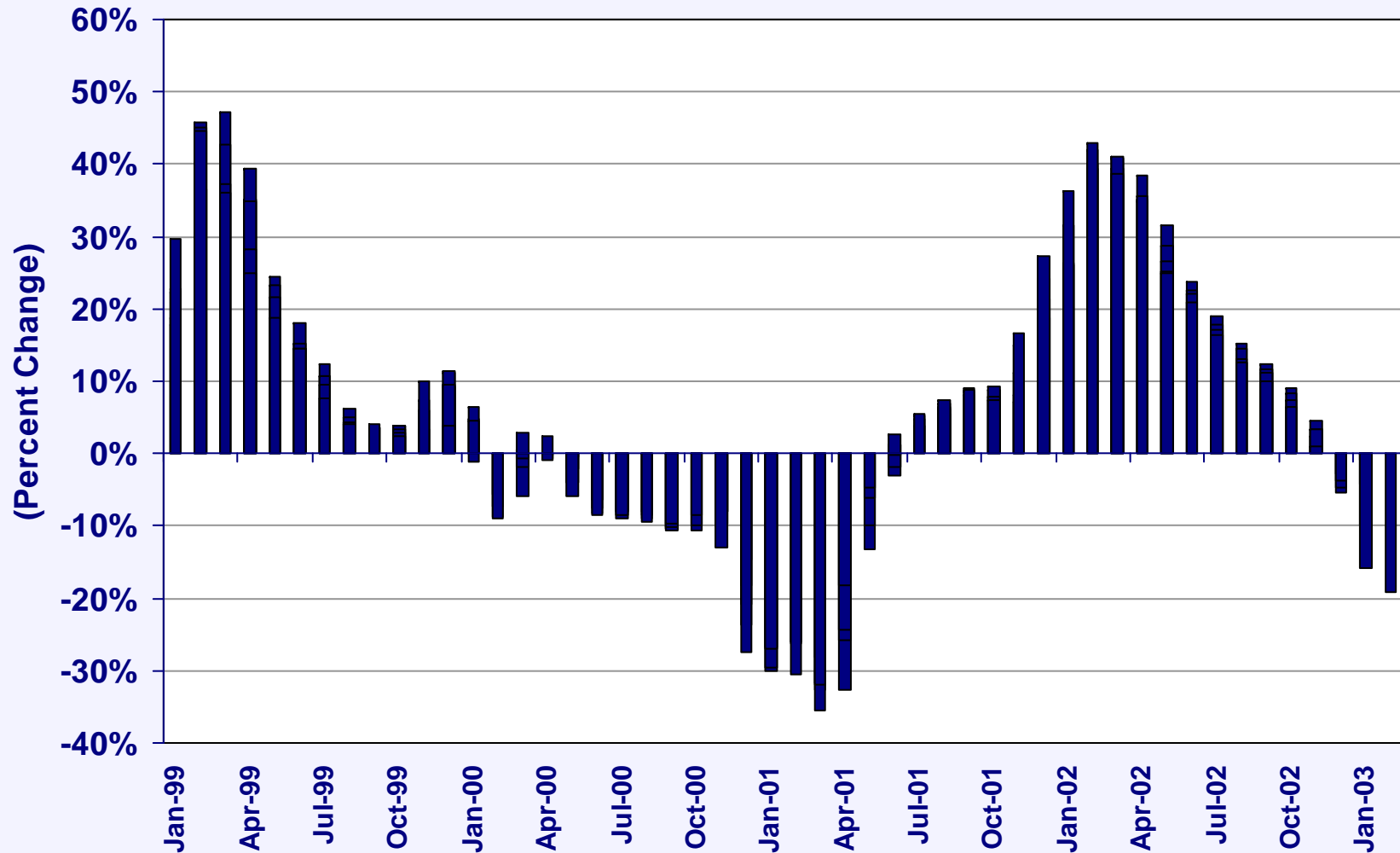
Exhibit 16: Working Gas in Underground Storage Compared to 5-Year Average and Range (1999–Present)



Source: Weekly Natural Gas Storage Report, Energy Information Administration, Department of Energy.



Exhibit 17: U.S. Natural Gas in Underground Storage – Deviation from 5-Year Average



Source: *Weekly Natural Gas Storage Report*, Energy Information Administration, Department of Energy.



Exhibit 18: Demand Side Factors Influencing Future Natural Gas Prices

- **Uncertainty Associated with Middle East and Global Conflicts**
- **Nature and Strength of Economic Recovery**
- **Weather**
- **Power Generation (Short Term and Long Term)**
- **Potential Demand Deterioration**



Exhibit 19: Supply Side Factors Influencing Future Natural Gas Prices

- **Access to Frontier Areas (ANWR, Eastern Gulf, Atlantic Seaboard, California, Western Federal Lands)**
- **Natural Gas Pipeline(s) from Alaska North Slope**
- **New Import Sources Via Liquefied Natural Gas (LNG)**
- **Alternative Hydrocarbon Recovery (Hydrates, Deepwater, Deep Formation, H₂S Resources)**
- **Drilling/Production Incentives in Mature Basins**



- **Continued Strength in Natural Gas Prices Near-Term**
- **Weather and Demand Will Play Big Role in Price Development Over Summer**
- **Worry Will Be How Storage Evolves Throughout the Year if Prices Remain High**
- **What Storage Position Will Arise Entering the Next Heating Season (?)**