

Energy Situation Analysis Report

Last Updated: December 5, 2002

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Latest Oil Market Developments

West Texas Intermediate (WTI) front month (January) crude oil futures prices on the New York Mercantile Exchange (NYMEX) fell 59 cents to settle at \$26.71 per barrel on Wednesday (12/4/02), as the market's concerns over potential military action against Iraq eased. Crude oil prices rose in early trading Thursday (12/5/02) as concerns mounted over strikes by employees of Venezuela's state-owned oil company, Petroleos de Venezuela (PdVSA). [more...](#)

Latest U.S. Weekly EIA Petroleum Information

U.S. commercial crude oil inventories (excluding those in the Strategic Petroleum Reserve) rose by 3.1 million barrels last week, continuing the up-and-down pattern seen over the last few weeks. Distillate fuel inventories dropped by 0.2 million barrels, with a decrease in high-sulfur distillate fuel (heating oil) nearly offset by an increase in low-sulfur distillate fuel (diesel fuel). Residential heating oil prices increased slightly for the period ending December 2, 2002. The average residential heating oil price was 128.4 cents per gallon, up 0.5 cent per gallon from the previous week. [more...](#)

World Oil Market Highlights

According to fourth quarter 2002 estimates, the world (excluding Iraq) holds as high as 4.9 million barrels per day of excess oil production capacity that could be brought online. Nearly all of this "excess capacity" lies in OPEC member countries. [more...](#)

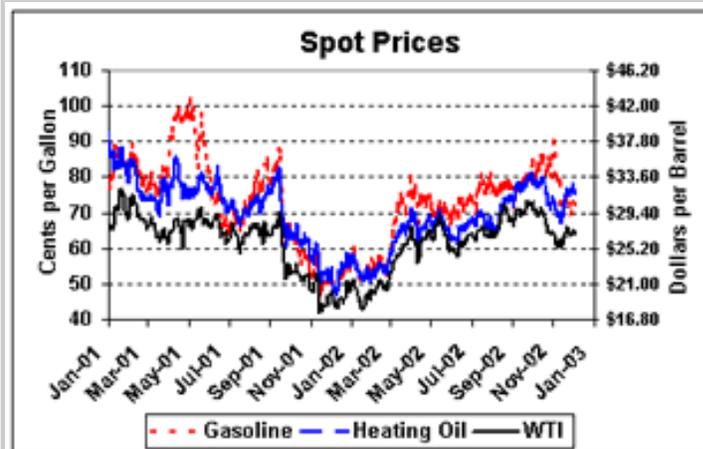
Latest U.S. Weekly Natural Gas Information

Natural gas spot prices in most trading locations along the Gulf Coast and other production regions have remained flat or climbed a dime or less since Monday, December 2, as cold weather continues to blanket much of country.

Energy Prices*

Petroleum Futures	12/4/02	12/3/02	Change
WTI (\$/Bbl)	26.71	27.30	-0.59
Gasoline (c/gallon)	72.93	75.32	-2.39
Heating Oil (c/gallon)	74.54	77.50	-2.96
Natural Gas (\$/MMBtu)			
Henry Hub	4.23	4.35	-0.12
California	4.01	4.09	-0.08
New York City	5.91	6.34	-0.43
Electricity (\$/Megawatthour)			
COB	43.00	41.38	+1.62
PJM West	46.94	44.20	+2.74
NEPOOL	61.75	56.75	+5.00
Average	46.80	45.59	+1.21

[*Definitions](#)



Source: Closing quote as reported by Reuters News Service

Henry Hub spot prices gained 12 cents per MMBtu to an average of \$4.35 per MMBtu on Tuesday, only to drop back to \$4.23 per MMBtu again yesterday (Wednesday, December 4). One notable exception to relatively flat prices since Monday has been a steep increase in prices in the Northeast. Price gains in the Northeast have been considerably larger owing in part to demand for heating at key natural gas-consuming markets. [more...](#)

Latest U.S. Coal Information

Although spot coal prices continue flat, the Central Appalachian prices are mixed but not down dramatically. The reported drop to \$27.25 per short ton for average Central Appalachian spot prices in the week ended November 15 was in error – a mix-up with a different Central Appalachian coal price than the Big Sandy/Kanawha coal EIA usually tracks. [more...](#)

Latest U.S. Electricity Information

In the Northeast, electricity prices were generally higher for the past three trading days. Prices at PJM West increased \$4.71 per megawatthour between December 2 and December 4 as colder weather increased customer demand. In the Southeast, electricity prices were elevated over the past three trading days by higher customer demand and increasing production costs caused by higher natural gas prices. Both factors were attributed to the impact from cold temperatures. Within SERC, prices increased \$5.97 per megawatthour between December 2 and December 4. [more...](#)

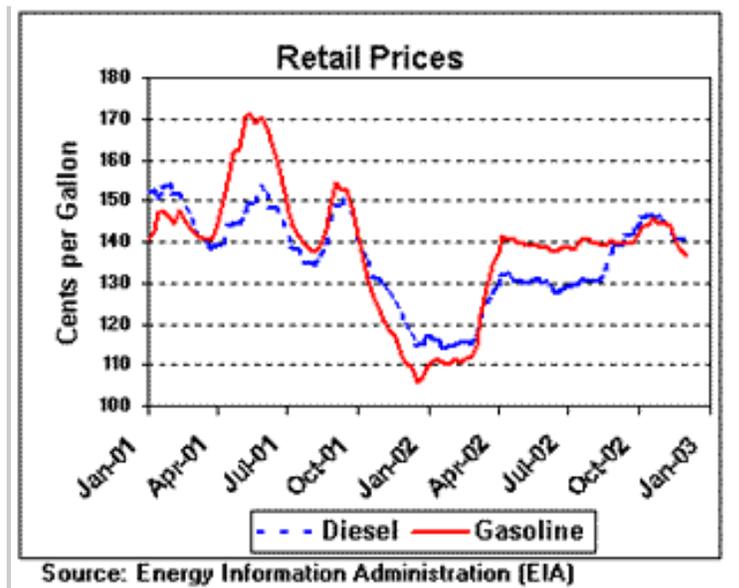
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Latest Oil Market Developments

(updated December 5, 2002)

West Texas Intermediate (WTI) front month (January) crude oil futures prices on the New York Mercantile Exchange (NYMEX) fell 59 cents to settle at \$26.71 per barrel on Wednesday (12/4/02), as the market's concerns over potential military action against Iraq eased. U.S. Deputy Secretary of Defense Paul Wolfowitz said Wednesday that the coming Iraq weapons declaration would not, by itself, trigger U.S. action.

Crude oil prices rose in early trading Thursday (12/5/02) as concerns mounted over strikes by employees of Venezuela's state-owned oil company, Petroleos de Venezuela (PdVSA). Tanker loadings at several facilities near Venezuela's Lake Maracaibo were halted Thursday. Several PdVSA tanker crews reportedly joined the strike, stopping their vessels in the waters off the Venezuelan coast. Venezuelan President Hugo Chavez ordered the country's military to provide security for PdVSA installations, and one stopped tanker was reportedly boarded by the Venezuelan Navy. The country's largest refining operation, the 940,000 barrel-per-day Paraguana complex, reportedly had cut production runs due to a shortage of natural gas feedstock. According to wire service reports, PdVSA is declaring a *force majeure* for some oil shipments due to expected delays. Venezuelan opposition leaders called the strike to demand that Chavez resign or accept a referendum on his leadership.

Topics affecting **world oil markets** include:

- The United Nations Security Council unanimously approved a resolution late Wednesday to extend the "Oil-for-Food" program under which Iraq exports oil for another six-month period. The resolution includes a provision for a review within 30 days of the list of items for which Iraq must secure U.N. approval to import. The United States has been seeking to add additional "dual use" items to the list.
- OPEC will meet on December 12 in Vienna with some members (i.e., Venezuela) calling for strengthened compliance with oil output quotas. Speculation continues over whether or not OPEC will raise its production quotas at the meeting to bring them closer to, but not fully in line with, current OPEC production levels. This would still imply a reduction in actual production levels, even if OPEC members slightly exceeded the new production quotas.
- As of December 5, 2002, the [U.S. Strategic Petroleum Reserve \(SPR\)](#) contained 595.8 million barrels of oil. The SPR has a maximum drawdown capability of 4.3 million bbl/d for 90 days, with oil beginning to arrive in the marketplace 15 days after a presidential decision to initiate a drawdown. The SPR drawdown rate declines to 3.2 million bbl/d from days 91-120, to 2.2 million bbl/d for days 121-150, and to 1.3 million bbl/d for days 151-180.

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Latest U.S. Weekly EIA Petroleum Information

(updated December 5, 2002)

Petroleum Inventories

U.S. commercial crude oil inventories (excluding those in the Strategic Petroleum Reserve) rose by 3.1 million barrels last week, continuing the up-and-down pattern seen over the last few weeks. Nationally, they are 25.0 million barrels below the level last year at this time. In PADD II (Midwest), crude oil inventories rose slightly to 54.4 million barrels, barely above the historical low level seen at the end of the previous week. Distillate fuel inventories dropped by 0.2 million barrels, with a decrease in high-sulfur distillate fuel (heating oil) nearly offset by an increase in low-sulfur distillate fuel (diesel fuel). Distillate fuel inventories are significantly below the lower limit of the normal range for this time of year. Motor gasoline inventories rose by 2.6 million barrels, and reached 200 million barrels for the first time since the week ending October 4.

U.S. inventories of propane continued nearly flat for the second week despite Arctic temperatures that blanketed many regions of the nation last week. The modest 0.1 million barrel stock draw pushed U.S. inventories slightly lower to an estimated 61.1 million barrels as of the week ending November 29, 2002, a level that remains near the upper limit of the average range for this period. While the second half of November has seen only flat to modest stock draws, the first half of the month was much different with inventories dropping at near record levels which contributed to the largest November draw on U.S. inventories since 1997. The unseasonably cold weather since late October that continued unabated through November added to the sharp inventory decline early in the month. But it could be reasonably expected that a resumption of steep inventory declines during December could occur ahead of anticipated cold weather as heating customers begin to replenish their propane tanks. Regional inventories were mixed last week with an offsetting 0.3 million-barrel gain in the East Coast region nearly matching the 0.3 million-barrel loss in the Gulf Coast region, while during this same period Midwest inventories reported a weekly decline of 0.1 million barrels. While the East Coast and Gulf Coast regions remain above the upper limit of the average range for this time of year, the Midwest region remained within the average range during this same period.

Petroleum Imports

U.S. crude oil imports (including imports going into the Strategic Petroleum Reserve) averaged 9.5 million barrels per day, up over 500,000 barrels per day from the average during the previous week. Crude oil imports have averaged over 9.4 million barrels per day over the last four weeks, or more than 100,000 barrels per day more than averaged during the same four-week period last year. Total motor gasoline imports (including both finished gasoline and gasoline blending components) averaged about 800,000 thousand barrels per day last week, a decrease from the previous week. Distillate fuel imports were once again relatively high, averaging 300,000 barrels per day last week.

Monthly data on the sources of U.S. crude oil imports in September 2002 was released recently and it shows that four countries imported more than 1.3 million barrels per day of crude oil to the United States that month. The top sources of U.S. oil imports in September 2002 were Saudi Arabia (1.512 million barrels per day), Mexico (1.417 million barrels per day), Canada (1.412 million barrels per day), and Venezuela (1.302 million barrels per day). Rounding out the top ten sources, in order, were Nigeria (0.489 million barrels per day), Angola (0.329 million barrels per day), Norway (0.294 million barrels per day), Kuwait (0.286 million barrels per day), United Kingdom (0.278 million barrels per day), and Colombia (0.263 million barrels per day). Of the 8.796 million barrels per day of crude oil imported into the United States during the month of September 2002, the top four countries accounted for 65% of these imports, while the top ten sources accounted for nearly 87% of all U.S. crude oil imports. Iraqi crude oil imports, which averaged just 0.148 million barrels per day (ranking 12th amongst crude oil import sources) were the lowest monthly average since May 1998, while Russian crude oil imports averaged 0.104 million barrels per day, ranking 13th for the month, but the 2nd largest amount since June 1994 (only exceeded by the amount imported in May 2002).

Refinery Inputs and Production

U.S. crude oil refinery inputs averaged 15.3 million barrels per day during the week ending November 29, the highest weekly average since the week ending September 6. Increases occurred in PADD I (East Coast), PADD II (Midwest), and PADD V (West Coast). However, the increase in refinery inputs did not affect products equally as a large increase in distillate fuel refinery production last week was vastly different from motor gasoline and jet fuel refinery production, which were relatively unchanged.

Petroleum Demand

Total product supplied over the last four-week period averaged 20.0 million barrels per day, or about 3.1 percent more than the level last year. Over the last four weeks, motor gasoline demand is up 0.9 percent, kerosene-jet fuel demand is up 16.1 percent, and distillate fuel demand is up 6.3 percent compared to the same four-week period last year.

Spot Prices (updated December 3)

The average world crude oil price on November 27, 2002 was \$23.30 per barrel, up \$0.78 per barrel from the previous week and \$5.77 per barrel more than last year. The spot price for conventional gasoline in the New York Harbor was 69.18 cents per gallon on Wednesday, November 27, down 5.52 cents per gallon from last week and 17.95 cents higher than a year ago (this was a Friday price due to Thanksgiving occurring one week earlier last year). The spot price for No. 2 heating oil in the New York Harbor was 75.48 cents per gallon, 1.32 cents per gallon lower than last week but 22.40 cents per

gallon more than last year (also a Friday price).

Retail Gasoline and Diesel Fuel Prices Fall Back Last Week (updated December 3)

The U.S. average retail price for regular gasoline fell last week for the fourth week in a row, decreasing by 1.6 cents per gallon as of December 2 to end at 136.4 cents per gallon. Although this price is 25.6 cents per gallon higher than last year, it has dropped by 7.5 cents per gallon over the last three weeks. Regionally, Midwest states have seen the largest decreases in prices over the past three weeks (15.4 cents), while New England saw a slight (0.1 cent) increase this week.

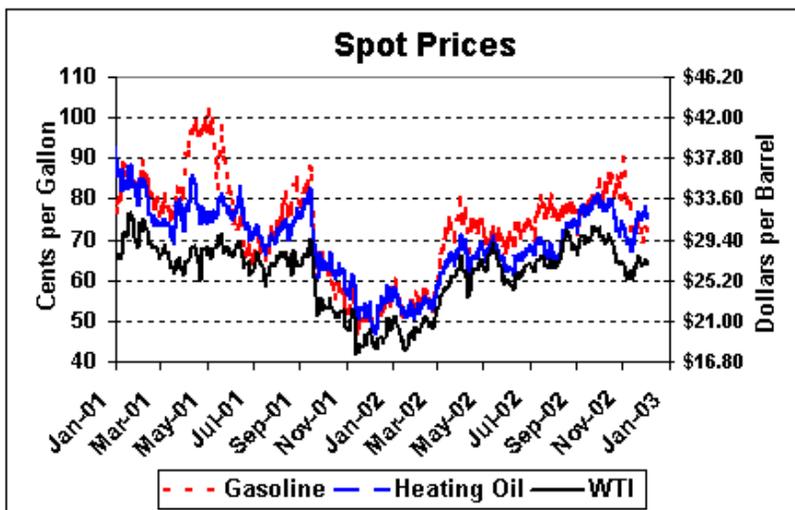
Retail diesel fuel prices increased last week for the first time since October 21, rising to a national average of 140.7 cents per gallon as of December 2. Diesel fuel prices are not expected to soften significantly during the coming months, as distillate fuel inventories have dropped below the normal range this winter and are expected to remain low through 2003. Retail diesel prices were mixed, with the largest price increase occurring on the Gulf Coast, which saw the price rise by 0.7 cent per gallon to end at 134.7 cents per gallon. Prices fell in the Midwest, dropping by 0.2 cent to end at 141.0 cents per gallon.

Residential Heating Fuel Prices Increase

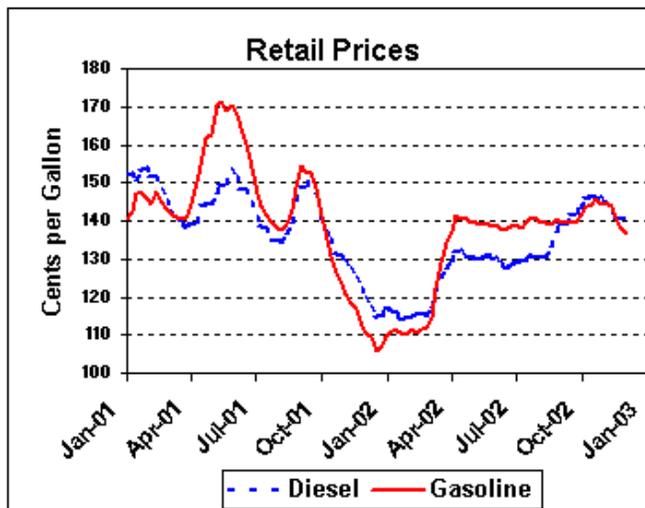
Residential heating oil prices increased slightly for the period ending December 2, 2002. The average residential heating oil price was 128.4 cents per gallon, up 0.5 cent per gallon from the previous week. Residential propane prices continued to move upward by 0.7 cent per gallon, from 116.8 to 117.5 cents per gallon. Heating oil prices are 11.7 cents per gallon higher than last year at this time while residential propane prices are 4.9 cents higher than one year ago. Wholesale heating oil prices decreased 1.7 cents per gallon this week, to 82.1 cents per gallon, while wholesale propane prices decreased from 55.2 to 55.0 cents a gallon, down 0.2 cent per gallon.

U.S. Petroleum Prices

(updated December 5, 2002)



Source: Closing quote as reported by Reuters News Service



Source: Energy Information Administration (EIA)

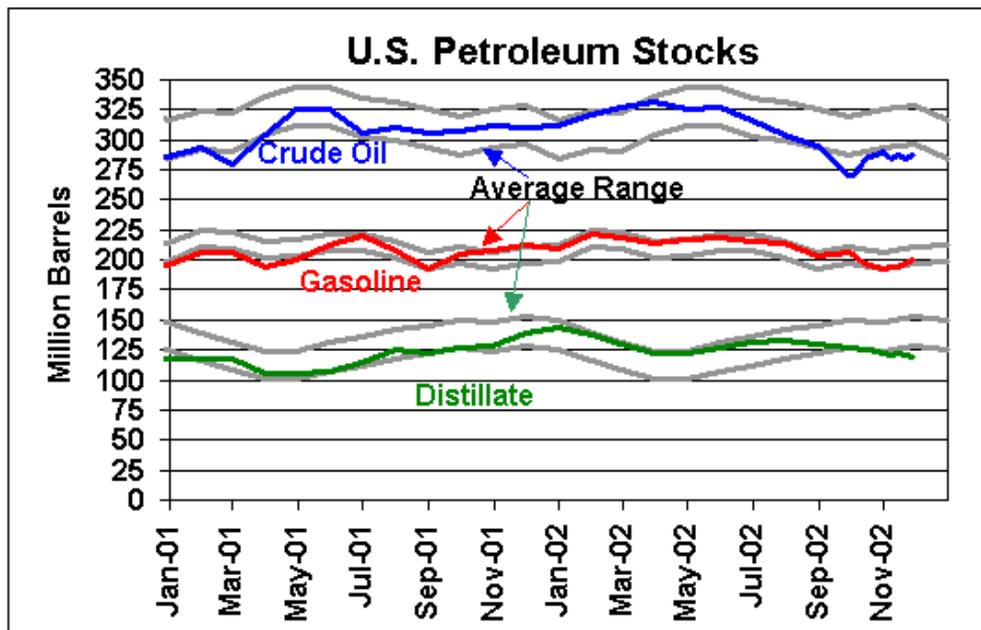
Crude Oil and Oil Products Price Table

Date	WTI Crude Oil		Gasoline		Heating Oil		Kerojet	Propane		EIA Weekly Retail	
	Spot	Futures	Spot	Futures	Spot	Futures	Spot	Spot	Spot	US Average	
	Cushing		NYH		NYH		NYH	Mt. Belvieu	Conway	Gasoline	Diesel
	\$/bbl	\$/bbl	cents per gallon		cents per gallon		¢/gal	cents per gallon		cents per gallon	
10/17/2002	\$29.61	\$29.62	85.75	83.98	79.85	80.77	84.05	48.63	47.00		
10/18/2002	\$29.56	\$29.60	85.90	85.17	79.90	80.35	83.25	48.82	47.50		
10/21/2002	\$28.31	\$28.37	80.54	81.03	75.66	76.29	79.49	47.68	46.75	145.8	146.9
10/22/2002	\$27.93	\$27.92	80.93	79.85	75.36	75.78	79.06	47.50	46.63		
10/23/2002	\$28.19	\$28.18	81.40	81.40	75.03	75.67	79.40	48.25	47.69		
10/24/2002	\$27.87	\$28.20	82.23	84.17	74.73	75.97	79.10	48.50	48.32		
10/25/2002	\$27.09	\$27.05	85.45	86.09	72.05	72.76	76.28	47.88	47.94		
10/28/2002	\$27.25	\$27.29	83.60	85.30	71.95	73.08	76.10	47.75	48.00	144.4	145.6
10/29/2002	\$26.81	\$26.86	80.05	82.27	70.55	71.55	74.90	47.75	48.00		
10/30/2002	\$26.85	\$26.81	80.80	82.83	72.55	72.77	76.05	47.88	47.94		
10/31/2002	\$27.18	\$27.22	79.65	86.35	74.50	74.38	77.85	48.25	48.69		
11/1/2002	\$27.04	\$27.13	85.25	76.45	73.90	74.16	76.60	48.38	49.63		
11/4/2002	\$26.89	\$26.95	89.93	77.43	73.08	73.33	75.53	47.88	49.07	144.8	144.2
11/5/2002	\$26.06	\$26.14	86.50	74.07	71.41	71.80	74.33	47.25	48.50		
11/6/2002	\$25.72	\$25.77	80.60	71.78	70.72	70.79	73.50	46.57	47.75		
11/7/2002	\$25.36	\$25.38	78.85	70.14	69.80	69.62	72.35	46.50	47.63		
11/8/2002	\$25.83	\$25.78	79.45	71.28	69.08	68.88	71.03	46.32	47.00		
11/11/2002	\$26.02	\$25.94	79.25	71.04	69.00	68.85	70.90	46.69	46.94	143.9	142.7
11/12/2002	\$26.19	\$25.90	78.20	69.84	69.75	69.01	71.73	46.57	46.82		
11/13/2002	\$25.28	\$25.19	72.00	68.54	67.30	67.25	69.55	45.75	46.00		
11/14/2002	\$25.40	\$25.29	72.23	69.76	67.90	67.69	70.15	45.25	45.57		
11/15/2002	\$25.50	\$25.51	72.10	69.73	68.80	68.85	70.90	46.38	45.82		
11/18/2002	\$26.71	\$26.71	74.20	71.94	72.30	72.28	74.68	47.25	47.75	140.9	140.5
11/19/2002	\$26.41	\$26.42	71.75	70.16	71.90	72.17	74.38	47.25	48.25		
11/20/2002	\$27.00	\$26.98	72.85	71.29	74.80	74.51	76.93	47.82	48.94		
11/21/2002	\$27.07	\$26.95	73.13	72.42	74.80	74.93	76.18	48.25	49.51		
11/22/2002	\$27.73	\$26.76	74.70	74.87	76.80	76.64	78.18	48.25	49.32		
11/25/2002	\$27.01	\$26.11	71.70	71.55	74.85	75.04	76.10	47.75	48.25	138.0	140.5
11/26/2002	\$26.60	\$26.40	72.60	72.53	76.08	75.75	76.33	47.88	48.38		
11/27/2002	\$26.87	\$26.89	69.18	73.43	75.48	75.71	75.98	48.26	48.75		
11/28/2002	NA	NA	NA	NA	NA	NA	NA	NA	NA		
11/29/2002	NA	NA	NA	NA	NA	NA	NA	NA	NA		
12/2/2002	\$27.27	\$27.24	72.77	74.39	77.80	77.39	78.20	48.57	49.19	136.4	140.7
12/3/2002	\$27.34	\$27.30	72.95	75.32	76.78	77.50	77.28	49.38	49.69		
12/4/2002	\$26.80	\$26.71	71.63	72.93	75.05	74.54	75.23	48.88	49.38		

Source: Spot and futures closing quotes as reported by Reuters News Service, retail prices reported by EIA

U.S. Petroleum Supply

(Thousand Barrels per Day)	Four Weeks Ending		vs. Year Ago	
	11/29/2002	11/29/2001	Diff.	% Diff.
Refinery Activity				
Crude Oil Input	15,091	15,001	90	0.6%
Operable Capacity	16,800	16,512	288	1.7%
Operable Capacity Utilization (%)	90.6%	92.2%	-1.6%	
Production				
Motor Gasoline	8,540	8,366	174	2.1%
Jet Fuel	1,525	1,398	127	9.1%
Distillate Fuel Oil	3,723	3,968	-245	-6.2%
Imports				
Crude Oil (incl. SPR)	9,449	9,320	129	1.4%
Motor Gasoline	830	742	88	11.9%
Jet Fuel	132	104	28	26.9%
Distillate Fuel Oil	336	244	92	37.7%
Total	11,865	11,628	237	2.0%
Exports				
Crude Oil	10	9	1	11.1%
Products	959	951	8	0.8%
Total	969	960	9	0.9%
Products Supplied				
Motor Gasoline	8,757	8,677	80	0.9%
Jet Fuel	1,676	1,443	233	16.1%
Distillate Fuel Oil	3,982	3,746	236	6.3%
Total	20,001	19,396	605	3.1%
vs. Year Ago				
Stocks (Million Barrels)	11/29/2002	11/29/2001	Diff.	% Diff.
Crude Oil (excl. SPR)	287.3	312.3	-25.0	-8.0%
Motor Gasoline	200.0	212.0	-12.0	-5.7%
Jet Fuel	41.2	40.1	1.1	2.7%
Distillate Fuel Oil	119.8	138.3	-18.5	-13.4%
Total (excl. SPR)	976.9	1,039.9	-63.0	-6.1%



Source: Energy Information Administration, Weekly Petroleum Status Report, Petroleum Supply Monthly

File last modified: December 5, 2002

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World Oil Market Highlights

(updated November 12, 2002)

According to fourth quarter 2002 estimates, the world (excluding Iraq) holds as much as 4.9 million barrels per day of excess oil production capacity that could be brought online. Nearly all of this "excess capacity" is located in OPEC member countries.

OPEC Crude Oil Production ¹ (Thousand barrels per day)					
	3Q 2002 Production	4Q 2002 Production	1/01/02 Quota ²	2002 Production Capacity ³	4Q Surplus Capacity ³
Algeria	876	900	693	1,100	200
Indonesia	1,112	1,100	1,125	1,200	100
Iran	3,402	3,500	3,186	3,850	350
Kuwait ⁴	1,923	1,950	1,741	2,400	450
Libya	1,333	1,340	1,162	1,400	60
Nigeria	1,949	2,000	1,787	2,300	300
Qatar	650	670	562	850	180
Saudi Arabia ⁴	7,743	7,933	7,053	10,000-10,500 ⁵	2,067-2,567 ⁵
UAE ⁶	1,987	2,000	1,894	2,600	600
Venezuela ⁷	2,733	2,900	2,497	2,950	50
OPEC 10 Crude Oil Total	23,707	24,293	21,700	28,650-29,150⁵	4,357-4,857⁵
Iraq ⁸	1,719	2,232	N/A	2,900	668

OPEC Crude Oil Total	25,426	26,524	N/A	31,550-32,050⁵	5,026-5,526⁵
Other Liquids ⁹	2,761	2,761	N/A		
Total OPEC Production	28,187	29,285	N/A		

NA: Not Applicable

¹Crude oil does not include lease condensate or natural gas liquids.

²Quotas are based on crude oil production only.

³Maximum sustainable production capacity, defined as the maximum amount of production that: 1) could be brought online within a period of 30 days; and 2) sustained for at least 90 days.

⁴Kuwaiti and Saudi Arabian figures each include half of the production from the Neutral Zone between the two countries. Saudi Arabian production also includes oil produced from its offshore Abu Safa field on behalf of Bahrain.

⁵Saudi Arabia is the only country with the capability to further increase its capacity significantly within 90 days. Saudi Arabia can increase its sustainable production capacity to 10 million barrels per day within 30 days and to 10.5 million barrels per day within 90 days. As a result, the estimates for Saudi Arabia are as shown as a range, with the lower figure using the 30 days' definition and the upper end reflecting Saudi Arabia's 90 days' capability. OPEC's surplus capacity estimates are also shown as a range for this reason.

⁶The UAE is a federation of seven emirates. The quota applies only to the emirate of Abu Dhabi, which controls the vast majority of the UAE's economic and resource wealth.

⁷Venezuelan capacity and production numbers exclude extra heavy crude oil used to produce Orimulsion.

⁸Iraqi oil exports are approved by the United Nations under the oil-for-food program for Iraq established by Security Council Resolution 986 (April 1995) and subsequent resolutions. As a result, Iraqi production and exports have not been a part of any recent OPEC agreements. Resolution 986 limited the sale of Iraqi crude oil over six-month periods to specified dollar amounts. However, the Security Council voted to remove any limits on the amount of oil Iraq could export in December 1999.

⁹Other liquids include lease condensate, natural gas liquids, and other liquids including volume gains from refinery processing.

Major Sources of U.S. Petroleum Imports, Jan.-August 2002*

(all volumes in million barrels per day)

	Total Oil Imports	Crude Oil Imports	Petroleum Product Imports
Canada	1.89	1.39	0.50
Saudi Arabia	1.51	1.48	0.03
Mexico	1.50	1.46	0.04
Venezuela	1.39	1.19	0.20
Nigeria	0.60	0.57	0.03
Iraq	0.52	0.52	0.00
United Kingdom	0.46	0.39	0.07
Norway	0.41	0.36	0.05
Angola	0.32	0.31	0.01
Algeria	0.28	0.03	0.25

Total Imports	11.30	9.01	2.29
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** Table includes all countries from which the U.S. imported more than 300,000 barrels per day in Jan.-August 2002.*

Top World Oil Net Exporters, Jan.-Aug. 2002*		
	Country	Net Exports (million barrels per day)
1)	Saudi Arabia	6.10
2)	Russia	4.67
3)	Norway	2.81
4)	Iran	2.35
5)	Venezuela	2.20
6)	Nigeria	1.84
7)	United Arab Emirates	1.72
8)	Iraq	1.45
9)	Kuwait	1.45
10)	Mexico	1.21
11)	Libya	1.12
12)	Algeria	1.04

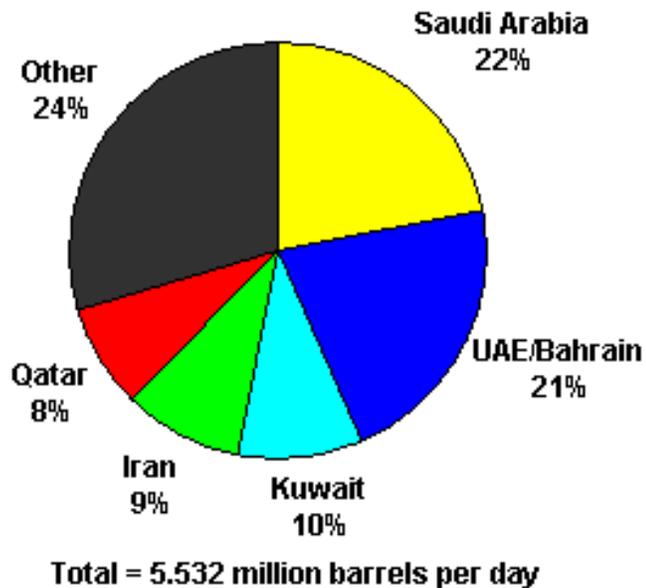
**Table includes all countries with net exports exceeding 1 million barrels per day in Jan.-Aug 2002.*

During the first five months of 2002, about half of U.S. crude oil imports came from the Western Hemisphere (17% from South America, 16% from Mexico, 15% from Canada, 2% from the Caribbean), while 27% came from the Persian Gulf region (17% from Saudi Arabia, 8% from Iraq, 2% from Kuwait).

In general, OECD Europe depends far more heavily on the Persian Gulf and North Africa for oil imports than does the United States. Japan receives over three-quarters of its oil supplies from the Persian Gulf (mainly the UAE, Saudi Arabia, Kuwait, Iran, and Qatar) with the remainder coming from Indonesia, China, and other sources.

Having provided this information, it is important to stress that oil is a "fungible" (interchangeable, traded on a world market) commodity, that a disruption of oil flows anywhere will affect the price of oil everywhere, and that the specific suppliers of oil to a particular country or region are not of enormous significance, at least from an economic point of view.

Japanese Gross Oil Imports by Country, 1H 2002



File last modified: November 12, 2002

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Definitions

Petroleum

WTI – West Texas Intermediate (for the purposes of this table, prices provided are near month futures price) Cushing OK.

Bbl – Barrel (42 gallons).

C's – cents.

Natural Gas

Henry Hub – A pipeline hub on the Louisiana Gulf coast. It is the delivery point for the natural gas futures contract on the New York Mercantile Exchange (NYMEX).

Electricity

COB – average price of electricity traded at the California-Oregon and Nevada-Oregon border.

Palo Verde - average price of electricity traded at Palo Verde and West Wing Arizona.

Average - average price of electricity traded at all locations.



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Latest U.S. Weekly Natural Gas Information

(updated December 5, 2002)

[Industry/Market Developments](#)

Natural Gas Rig Counts: The number of rigs drilling for natural gas climbed by 16 to 708 for the week ending November 27, according to Baker-Hughes Incorporated. This is the third highest rig count recorded for the report week in the 15 years that Baker-Hughes has reported rigs separately by gas or oil drilling. Natural gas rigs are roughly 10 percent below last year at this time, however that is when they numbered a near-record high of 785 for the report week. Natural gas rigs are almost 3 percent above the 5-year (1997-2001) average for the report week, and nearly 1 percent over the average number of rigs so far in 2002. The share of rigs drilling for natural gas has been consistently above 80 percent since early last year. Since the week ended May 17, 2002, rigs drilling for natural gas have comprised roughly 84 percent of total rigs drilling, which is close to a record for the split between gas and oil rigs. Rigs drilling for natural gas last week constituted 83.2 percent of rigs drilling in the United States, which is the highest share of rigs drilling for natural gas for the report week in 15 years. The emphasis on gas prospects undoubtedly reflects a relative advantage in the economics of natural gas prospects compared with domestic crude oil prospects.

[Storage](#)

Working gas in storage was 2,956 Bcf or 0.9 percent above the 5-year average for the week ending November 29, according to EIA's Weekly Natural Gas Storage Report. The implied net withdrawal was 91 Bcf, the highest withdrawal for the week since 1996. Although this season's inventories have dropped 298 Bcf below last year's mark for this week, inventories currently remain more than 500 Bcf above the less than 2,500 Bcf in storage at this time in 2000.

All Volumes in Bcf	Current Stocks 11/29/2002	Estimated Prior 5-year (1997 -2001) Average	Percent Difference from 5-Year Average	Implied Net Change from Last Week	One-Week Prior Stocks 11/22/2002
East Region	1,751	1,791	-2.2%	-58	1,809
West Region	411	356	15.4%	-4	415
Producing Region	794	783	1.4%	-29	823
Total Lower 48	2,956	2,931	0.9%	-91	3,047

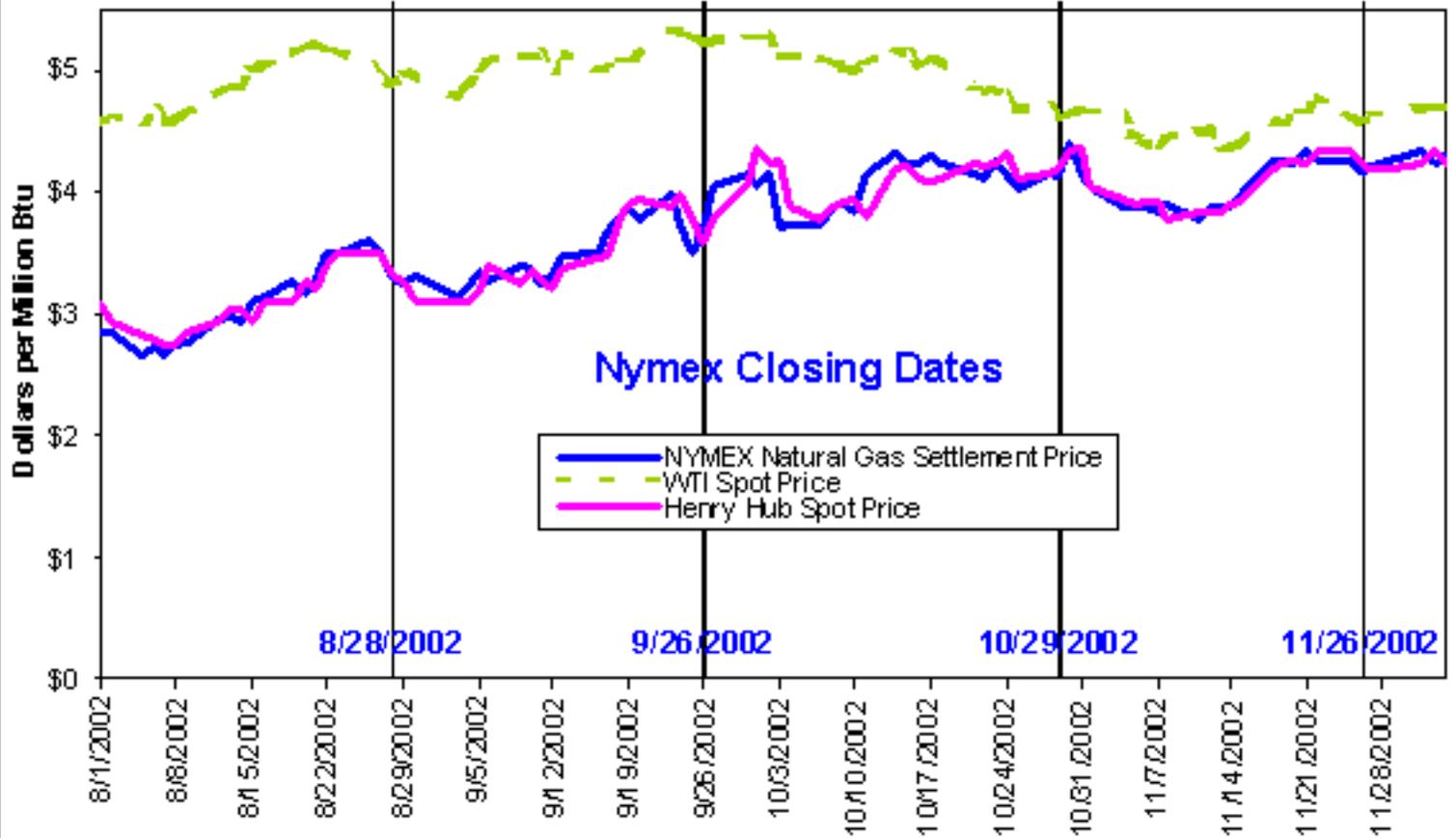
Source: Energy Information Administration: Form EIA-912, "Weekly Underground Natural Gas Storage Report," and the Historical Weekly Storage Estimates Database.

Prices:

Natural gas spot prices in most trading locations along the Gulf Coast and other production regions have remained flat or climbed a dime or less since Monday, December 2, as cold weather continues to blanket much of country. The Henry Hub gained 12 cents per MMBtu to an average of \$4.35 per MMBtu on Tuesday, only to drop back to \$4.23 per MMBtu again yesterday (Wednesday, December 4). One notable exception to relatively flat prices since Monday has been a steep increase in Northeast prices. Price gains in the Northeast have been considerably larger owing in part to demand for space heating at key natural gas-consuming markets. The New York citygate price is still nearly \$1.00 per MMBtu more than last week, although it dropped 43 cents per MMBtu to an average of \$5.91 per MMBtu yesterday. A compressor outage on Algonquin Gas Transmission and restrictions on Tennessee Gas Pipeline in the Northeast likely contributed to prices rising well above \$7.00 per MMBtu on the pipelines in trading yesterday. The Tennessee Zone 6 spot price averaged \$7.62 per MMBtu, an increase of \$0.99 per MMBtu on the day.

At the NYMEX, the futures contract for January delivery at the Henry Hub yesterday (Wednesday, December 4) closed at \$4.298 per MMBtu, up slightly more than 7 cents per MMBtu on the day. The relatively small gain partially offset Tuesday's price decrease of 9.4 cents per MMBtu, which appeared to result from concerns over longer-term weather forecasts of a possible warming trend for later in December. The possibility of another El Nino phenomenon this winter, which would increase the likelihood of a warmer-than-normal January and February, continues to temper futures prices. The 12-month strip, or the average price of the futures contracts for each month in 2003, on Wednesday closed at \$4.077, up 4.2 cents per MMBtu.

NYMEX Natural Gas Futures Near-Month Contract Settlement Price, West Texas Intermediate Crude Oil Spot Price, and Henry Hub Natural Gas Spot Price



Note: The West Texas Intermediate crude oil price, in dollars per barrel, is converted to \$/MMBtu using a conversion factor of 5.80 MMBtu per barrel. The dates marked by vertical lines are the NYMEX near-month contract settlement dates.
 Source: NGI's *Daily Gas Price Index* (<http://Intelligencepress.com>)

<i>Trade Date (All prices in \$ per MMBtu)</i>	California Composite Average Price*				NYMEX futures contract-January delivery	NYMEX futures contract-February delivery
	Henry Hub	New York City	Chicago			
11/5/02	3.88	3.90	4.42	3.92	3.993	3.953
11/6/02	3.89	3.93	4.44	3.92	3.971	3.936
11/7/02	3.89	3.91	4.28	3.85	3.971	3.936
11/8/02	3.70	3.77	4.03	3.72	4.032	3.975
11/11/02	3.75	3.83	4.14	3.83	3.910	3.875
11/12/02	3.72	3.83	4.20	3.85	3.991	3.948
11/13/02	3.70	3.83	4.21	3.86	3.982	3.936
11/14/02	3.74	3.90	4.25	3.96	3.984	3.939
11/15/02	3.63	3.91	4.30	3.92	4.093	4.043
11/18/02	3.87	4.18	4.60	4.20	4.356	4.271
11/19/02	3.93	4.25	4.56	4.25	4.352	4.262
11/20/02	3.92	4.27	4.61	4.26	4.352	4.262
11/21/02	3.85	4.24	4.59	4.22	4.439	4.342
11/22/02	3.88	4.32	4.77	4.33	4.357	4.285
11/25/02	3.99	4.33	4.87	4.42	4.323	4.258
11/26/02	3.94	4.21	4.90	4.28	4.236	4.186
11/27/02	4.00	4.19	4.95	4.09	4.200	4.145
12/2/02	4.01	4.23	6.14	4.17	4.320	4.259
12/3/02	4.09	4.35	6.34	4.28	4.226	4.175
12/4/02	4.01	4.23	5.91	4.20	4.298	4.243

* Average of NGI's reported average prices for: Malin, PG&E citygate, and Southern California Border Average.

Source: NGI's Daily Gas Price Index (<http://intelligencepress.com>)

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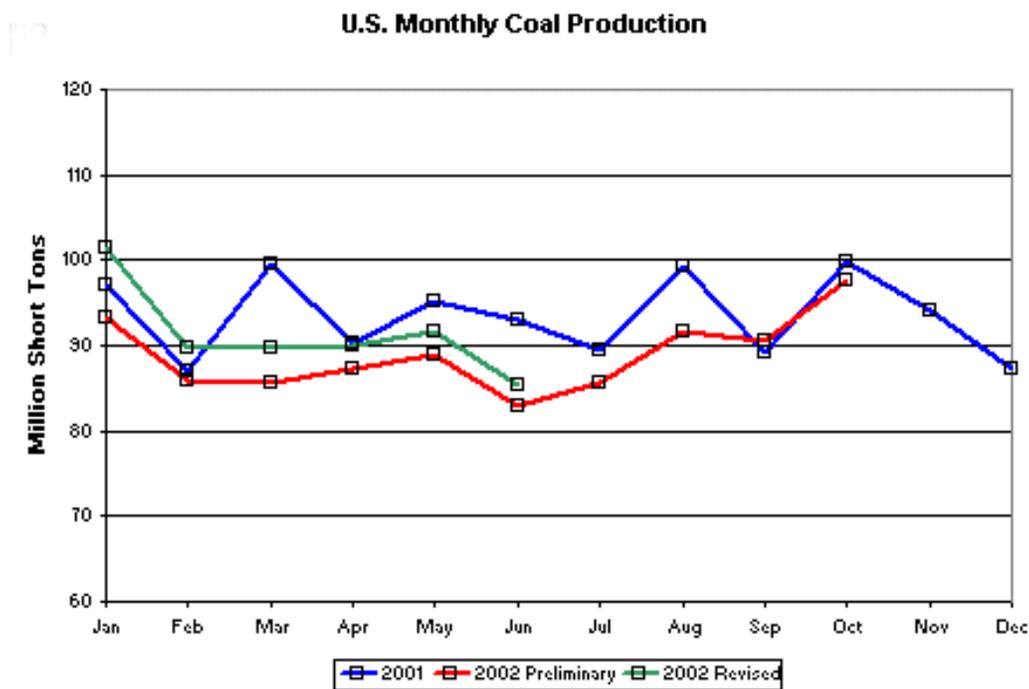
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Latest U.S. Coal Information

(last complete update: November 21, 2002)

Coal Production (Updated November 21, 2002)

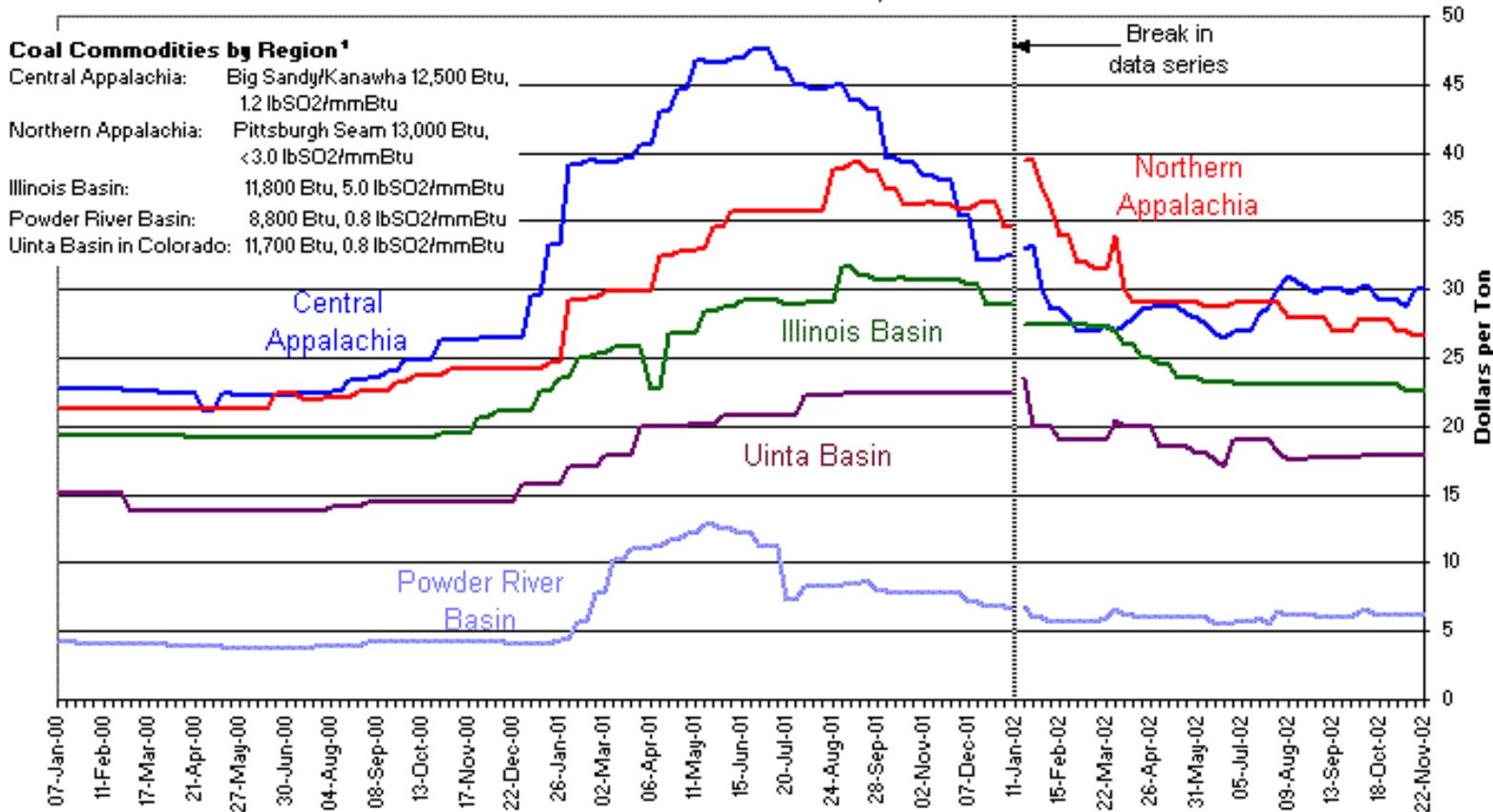
For the week ended November 16, coal-related statistics were nearly the same as the same week in 2001. Railcar loadings of coal were 0.4% higher than year-ago levels whereas national coal production was 0.2% lower. Year-to-date, estimated western U.S. coal production is only 0.2% below the levels of a year ago; eastern U.S. coal production is estimated to be 5.8% below last year's level. The estimated production for the first 10 months of 2002 is 914.5 million short tons (mmst), 2.7% lower than the 939.9 mmst in the first 10 months of 2001. The estimate incorporates Mine Safety and Health Administration coal production survey data through the second quarter 2002.



Coal Prices

Although spot coal prices continue flat, the Central Appalachian prices are mixed but not down dramatically. The reported drop to \$27.25 per short ton for average Central Appalachian spot prices in the week ended November 15 was in error – a mix-up with a different Central Appalachian coal price than the Big Sandy/Kanawha coal EIA usually tracks. The correct average price last week was \$30.00 per short ton, the same as for the week ended November 22. In fact, prices in all basins for the week ended November 22 Illinois are unchanged from the previous week. Compared to peak prices in summer 2001, Central and Northern Appalachian coal prices are now about \$18.00 and \$13.00 lower per short ton, respectively, or 37% and 32% lower. The largest change in percentage is for the Powder River Basin coal prices, now settling at half of the late Spring 2001 peak (down by \$6.50 per ton, or 51%). Compared to previous price floors in the summer of 2000, the latest EIA-indexed spot prices of \$30.00 per short ton for Central Appalachian and \$26.65 per short ton for Northern Appalachian coal are higher by 35% and 25% respectively. Other prices also remain higher than the summer 2000 base: by 30% for the Uinta Basin, 18% for the Illinois Basin, and 67% for the Powder River Basin.

Average Weekly Coal Commodity Spot Prices Week Ended November 22, 2002



¹Prior to January 11, 2002, EIA averaged 12-month "forward" spot prices for several coal specifications; after that date, coal prices shown are for a relatively high-Btu coal selected in each region, for delivery in the "prompt" quarter. The "prompt quarter" is the next calendar quarter, with quarters shifting forward after the 15th of the month preceding each quarter's end.

Source: with permission, selected from listed prices in Platts Coal Outlook, "Weekly Price Survey"

Over-the-counter (OTC) trading volumes on the [NYMEX](#) throughout the months of September and October were the lowest since trade was initiated in coal in July 2001. November trading thus far is continuing the trend. The settled prices for near-month deliveries remain around \$28 per ton, prices for Central Appalachian coal that major producers have declared untenable. NYMEX prices for early 2003 are below \$29, with offers rising to \$30 starting in October 2003. Prevailing tepid trade volumes, however, render OTC and NYMEX prices only barely relevant.

Market Trends

At the American Coal Council's 20th annual Coal Market Strategies Conference in October, analysts emphasized the continuing impact of a host of negative factors on coal markets. It was generally agreed that the above normal coal stockpiles at power plants and a number of economic concerns will keep coal prices and purchases low for the rest of 2002, even if the weather becomes colder than normal. A few weeks later, according to comments on third quarter performance by Peabody CEO, Irl Engelhardt, many customers were believed to be bringing stockpiles down to levels lower than historical norms. Arch Energy president and CEO, Steven Leer, voiced similar observations. Arch estimates that utility coal stocks are already in line with the same point in 1999, 2000, and 2001. "It is possible . . . that power producers are planning to operate with stockpiles at levels lower than the historical range," he said. If so, "the long run impact is likely to be a positive one for coal producers, as the market moves toward better overall supply-demand balance" (Coal Transportation Report, November 4).

Meanwhile, broad problems are currently depressing the coal industry, such as: the overall economy; failure or bankruptcies among last year's ebullient independent power producers (IPPs) and online energy traders; low electricity prices and post-Enron credit problems for electric power producers; relatively low gas prices; operational expediciencies of combined-cycle natural gas generators, which sometimes keep them online even when coal-fired dispatch would be cheaper; and reluctance of investors to finance new or innovative coal-based generation, with longer lead-times, greater capital requirements, and uncertain eventual environmental compliance costs.

In addition, the rush by IPPs to build new natural gas-fired units resulted in a glut of shelved gas-fired generating equipment available at bargain prices. This will make new coal-fired plants - normally larger, more capital-intensive, and requiring more lead time than gas-fired plants to permit and build - less attractive for the next year or more and even harder to finance. In the wings, preliminary estimates of probable costs of mercury abatement regulations being considered by the Environmental Protection Agency are projected to be high for coal. Since final standards have not been promulgated, estimates are speculative, but could add \$2.6 million per year on the low end to \$10.6 million per year on the high end to annualized costs for a 250-megawatt coal-fired power plant. Because of the nature of the mercury and other minerals typically associated with western coal deposits, the higher-end costs are expected for plants burning western subbituminous coals (presentation by Michael Durham, ADA Environmental Solutions, October 16).

Would-be buyers have found coal producers generally unwilling to commit beyond existing contracts at current prices. With some eastern mines still off line, supplies of eastern compliance coal have reportedly been tight and many buyers, either with a stockpile cushion or credit problems, have delayed buys. Citing the high capital costs of opening new coal mines, Consol Energy disclosed on September 24 that the company does not intend to invest in new mines until contract coal prices in Appalachia go above \$30 per short ton and buyers are willing to commit to contracts longer than 2 or 3 years (Energy Argus Coal Daily, September 26). Meanwhile, stock market prices for energy trading companies and some utilities have taken heavy losses recently due to bankruptcy announcements and credit downgrades. One effect of these trends is a tightening of new capital, credit, and short-term cash for expansions as well as coal purchases and operating expenses. Concurrently, power plant operators are generally planning for continuing slack demand. The outlook for delayed growth in electricity demand is reflected in EIA's figures for electricity generation capacity additions: 37.0 gigawatts delayed past 2002 and 5.5 gigawatts canceled (<http://www.eia.doe.gov/cneaf/electricity/page/capacity/capacity.html>). Most of that planned capacity was natural gas-fired. Coal-fired plants are similarly affected but not reflected in 2002 capacity changes because they are longer-term projects.

Coal Producer Issues

Peabody Energy COO Richard Whiting commented at the Coal Market Strategies Conference that his company has moved away from the philosophy of producing as much coal as possible at all times to tailoring production to meet demand. That is, they will be return-on-investment-driven rather than cash-flow driven. In the past few years, companies like Peabody and Consol used IPOs to raise money needed to pay down debt; now they are more focused on profitability. Mr. Whiting noted that productivity gains will inevitably flatten out. Peabody continues to push mining equipment vendors for better technology, but he is concerned about a lack of capital investment in the industry and about low rates of return. Meanwhile, some eastern coal producers grouse that some of their fellow producers are not being disciplined, and that they continue to produce unwanted coal at a time when the market is virtually nonexistent. The major problem for producers, however, is that there is too much "coal on the ground," (in consumers' stockpiles). Unless and until colder weather takes hold in the East, with significant consumption of those stocks, buyers simply cannot justify contracting for more coal, even at bargain prices. If consumer stocks are drawn down rapidly, however, producers hope to get the \$30+ per ton they are seeking (Coal Outlook, November 18).

John Dean of JD Consulting displayed a graph at the Conference showing that productivity at Powder River Basin (PRB) high-Btu mines (8800 Btu/lb) peaked in 1998 and has declined since. This would reverse the general trend, as PRB productivity had been increasing for many years. An Arch coal speaker was pessimistic about the productivity

outlook in both the East and West. Key factors are higher stripping ratios in the PRB as mines progress, thinner seams in the East, tighter environmental restrictions in the East, and the introduction of inexperienced new miners in the PRB. The one area he was optimistic about was northern Appalachia, where he believes there is significant opportunity to increase output at the longwall mines by upgrading the conveyor systems that move coal out of the mines.

Coal Import Prospects

During the 1980s and 1990s, the U.S. coal industry was often its own worst enemy. Hundreds of large and intermediate coal producers kept much more capacity operational than justified by demand. Hundreds more small producers were on the sidelines ready to fulfill spot and short-term contracts at marginal profits. As a result, coal buyers could shop around and generally find a lower price from a cash-strapped coal producer. Over time, this situation helped extend years of declining real-dollar coal prices. Now, according to a new trade report, Energy Publishing's "Coal Americas," another source of downward pressure on coal prices is in place. It may not be obvious from available 2002 coal import statistics, but foreign coal producers are looking to the United States to expand their markets significantly (Coal Americas, October 21).

Coal Americas' message makes sense. The same major factor EIA believes led to several years of declines in U.S. exports - low international coal prices - has not gone unnoticed by U.S. coal buyers. As fewer, larger leaders in the U.S. industry try to impose market discipline by taking less profitable units off line during the current period of low demand, offshore producers are now vying for a share of the expected market comeback. In 2001, the United States imported nearly 20 mmst of coal, largely from South America - a 58% jump from the 12.5 mmst a year earlier. Imports for January through June 2002 are 7.9 mmst and are on track to reach about 16 mmst, which would still represent growth over the 3-year period.

Energy Publishing lists 18 coal-fired power plants that currently burn at least some imported coal. Nearly every coastal State is represented from Maine to Texas, as well as the Rockport plant in Indiana. The article identifies 46 additional plants situated well to burn imported coal in the future and claims that "the list of U.S. utilities that are eager to explore the possibility of tapping offshore suppliers is continuously growing." As a prime example, the Southern Company with 35,000 megawatts of coal-fired capacity, has long-term contracts in place with American producer Drummond Coal's Colombian operations and has tested Australian and Polish coal. In addition, "valley fill" rulings by U.S. District Judge Charles Haden last summer, which have placed new mining permits in West Virginia on hold, could affect mines supplying both metallurgical coal and premium steam coal. An ongoing legal dispute over overweight coal haul trucks, also in West Virginia, is another factor whose outcome could raise operating costs and prices for domestic coal.

File last modified: November 26, 2002

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Latest U.S. Electricity Information

(updated December 5, 2002)

Selected Wholesale Electricity Prices: Several factors caused spot electricity prices to continue to increase across the Western United States. First, colder weather led to higher customer demand. Second, higher natural gas prices increased the cost of producing electricity. Third, a reduction in generating capacity contributed to high electricity prices. The Four Corners Power Plant suffered the loss of two generators this week because of boiler-tube leaks. At Mid-Columbia, a benchmark for the Northwest, prices increased \$4.40 per megawatthour between December 2 and December 4. In California, prices were up only slightly during the same time period, \$1.27 and \$1.21 per megawatthour at NP-15 and SP-15, respectively.

In the Midwest, electricity prices increased over the past three trading days as colder weather caused an increase in customer demand. Palisades Unit 1 was still off-line this week after a ground wire in the switchyard was damaged. At the Cinergy Trading Center, prices were 17 percent higher between December 2 and December 4.

In the Southeast, electricity prices were elevated over the past three trading days by higher customer demand and increasing production costs caused by higher natural gas prices. Both factors were attributed to the impact from cold temperatures. Within SERC, prices increased \$5.97 per megawatthour between December 2 and December 4.

In the Northeast, prices were generally higher for the past three trading days. Electricity prices at PJM West increased \$4.71 per megawatthour between December 2 and December 4 as colder weather increased customer demand. New England and New York were also affected by the colder weather and high customer demand. New England's prices were up 21 percent during the same three-day period. New York City's prices increased to \$79.75 per megawatthour on December 3 and then fell slightly to \$79.13 per megawatthour.

Over the past seven days, average prices at all trading centers ranged between \$36.62 and \$46.80 per megawatthour with an overall weekly average of \$41.45 per megawatthour.

U.S. Regional Electricity Prices at Major Trading Centers (Dollars per megawatthour)

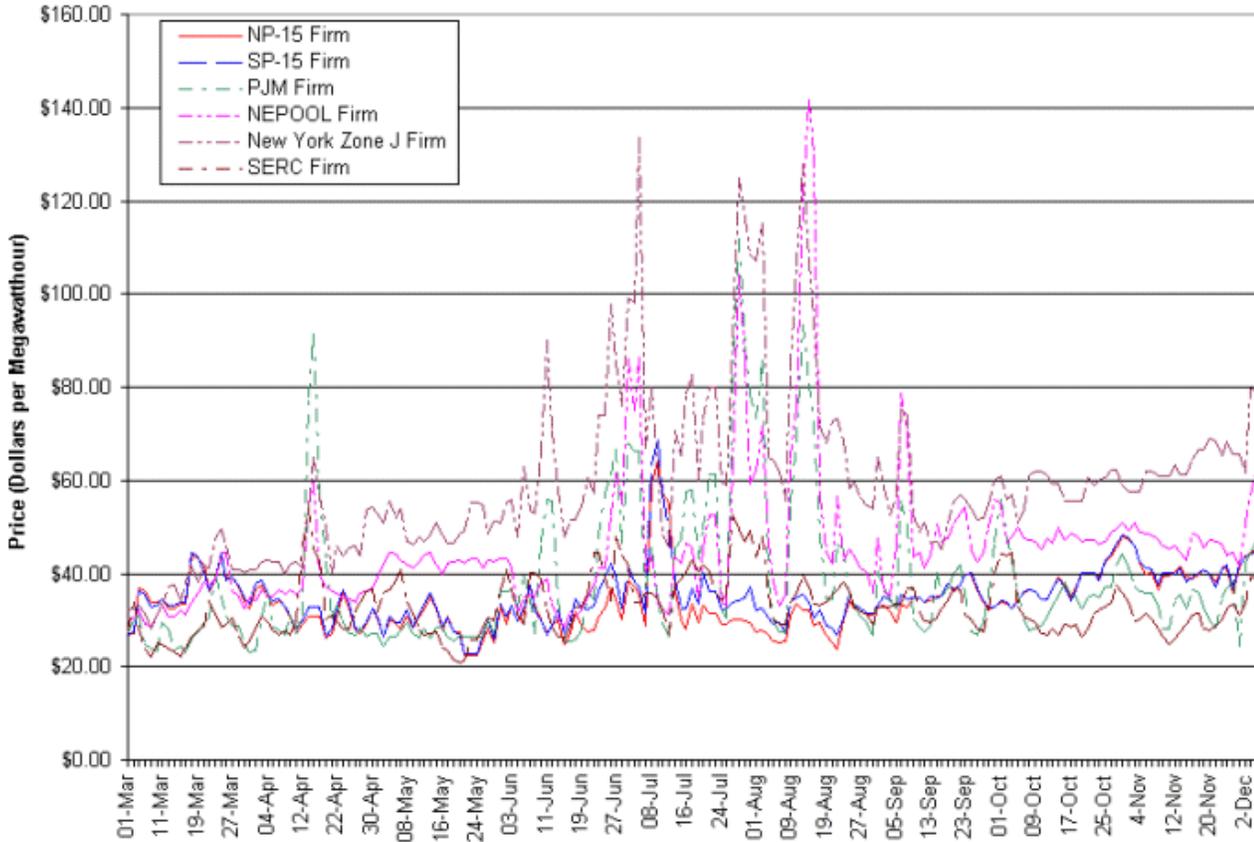
Trading Centers	Date						Price Range				
	11/26/02	11/27/02	11/28/02	11/29/02	12/2/02	12/3/02	12/4/02	Max	Min	Average	
	Holiday										
COB	32.75	36.56	n.a.	n.a.	40.20	41.38	43.00	43.00	32.75	38.78	
Palo Verde	31.16	34.77	n.a.	n.a.	36.14	39.48	39.73	39.73	31.16	36.26	
Mid-Columbia	32.14	34.39	n.a.	n.a.	36.36	39.51	40.76	40.76	32.14	36.63	
Mead/Marketplace	32.88	37.00	n.a.	n.a.	39.71	40.63	42.17	42.17	32.88	38.48	
4 Corners	30.69	35.36	n.a.	n.a.	37.86	40.50	41.50	41.50	30.69	37.18	
NP 15	35.71	41.39	n.a.	n.a.	43.81	44.30	45.08	45.08	35.71	42.06	
SP 15	36.43	41.90	n.a.	n.a.	43.44	44.15	44.65	44.65	36.43	42.11	
PJM West	38.59	24.54	n.a.	n.a.	42.23	44.20	46.94	46.94	24.54	39.30	
NEPOOL	44.63	42.00	n.a.	n.a.	51.00	56.75	61.75	61.75	42.00	51.23	
New York Zone J	65.50	65.50	n.a.	n.a.	61.50	79.75	79.13	79.75	61.50	70.28	
Cinergy	27.10	14.78	n.a.	n.a.	32.08	37.23	37.57	37.57	14.78	29.75	
SERC	33.34	31.29	n.a.	n.a.	33.36	39.15	39.33	39.33	31.29	35.29	
Average Price	36.74	36.62	n.a.	n.a.	41.47	45.59	46.80	46.80	36.62	41.45	

Sources: COB, Palo Verde, Mid-Columbia, Mead/Market Place, Four Corners, NP-15, SP-15, PJM-West, NEPOOL, New York Zone J, Cinergy, and SERC trading centers. Used with permission from Bloomberg L.P. (www.bloomberg.com).

COB: Average price of electricity traded at the California-Oregon and Nevada-Oregon Borders.
Palo Verde: Average price of electricity traded at Palo Verde and the West Wing, Arizona.
Mid-Columbia: Average price of electricity traded at Mid-Columbia.
Mead/Market Place: Average price of electricity traded at Mead Market Place, McCullough and Eldorado.
Four Corners: Average price of electricity traded at Four Corners, Shiprock, and San Juan, New Mexico.
NP-15: Average price of electricity traded at NP-15.
SP-15: Average price of electricity traded at SP-15.

SP-15:	Average price of electricity traded at SP-15.
PJM-West:	Average price of electricity traded at PJM Western hub.
NEPOOL	Average price of electricity traded at Nepool.
New York Zone J:	Average price of electricity traded at the New York Zone J - New York City.
Cinergy:	Average price of electricity traded into the Cinergy control area.
SERC:	Average price of electricity traded into the Southeastern Electric Reliability Council.

Average Wholesale Electricity Prices in the U.S.



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