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Short-Term Energy Outlook Supplement:

Natural Gas in the Rocky Mountains: Developing Infrastructure[1]

Highlights

- Recent natural gas spot market volatility in the Rocky Mountain States of Colorado, Utah, and Wyoming has been the result of increased production while consumption and pipeline export capacity have remained limited. This Supplement analyzes current natural gas production, pipeline and storage infrastructure in the Rocky Mountains, as well as prospective pipeline projects in these States.

- Natural gas reserves in the Rocky Mountain States account for nearly 22 percent of the total natural gas reserves in the United States, and are mostly located in unconventional tight-gas or coalbed formations.

- Dry natural gas production in Colorado, Utah, and Wyoming has increased from an average of 5.49 billion cubic feet per day (Bcf/d) in 2000 to 8.61 Bcf/d in 2006.

- Total natural gas volumes delivered to consumers in Colorado, Utah, and Wyoming are much less than volumes produced, totaling 0.61 trillion cubic feet (Tcf) (average 1.66 Bcf/d) in 2006 which was only slightly above the level of deliveries in 2001.

- Pipeline capacity that exports natural gas flows from Colorado, Utah, and Wyoming was 8.49 Bcf/d in 2006. Efforts to increase the pipeline infrastructure in the Rocky Mountain States are expected to add roughly

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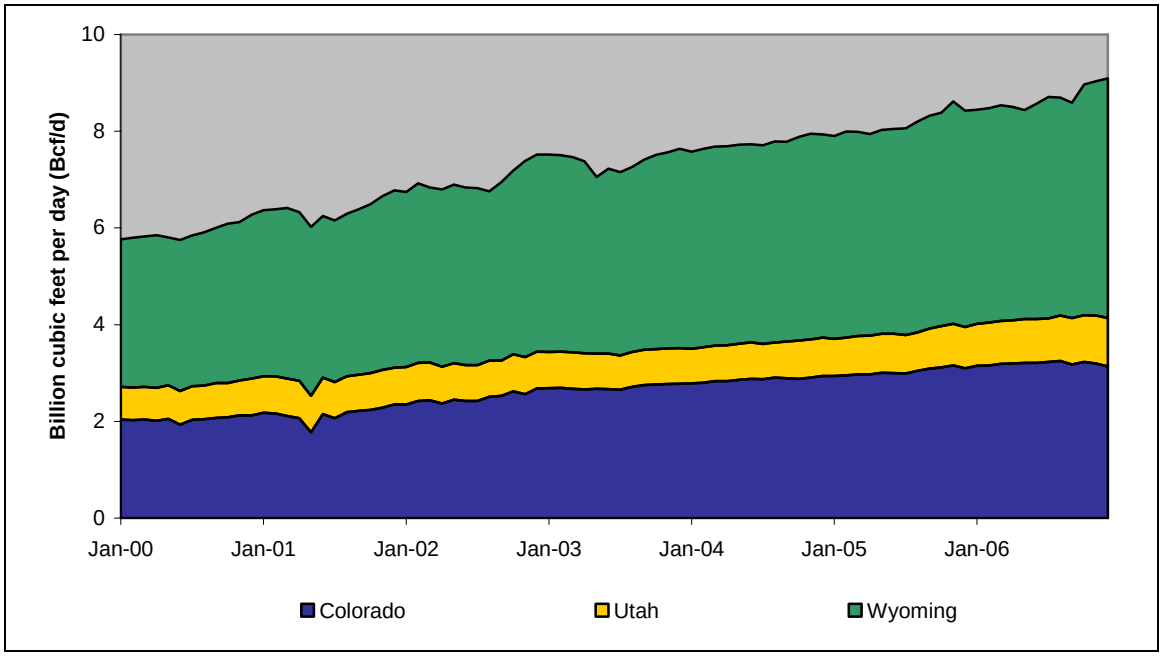
1.5 Bcf/d of capacity to transport natural gas from the region by the end of 2008.

Production

Natural gas reserves in the Rocky Mountain States (Colorado, Utah, and Wyoming) account for nearly 22 percent of the total natural gas reserves in the United States and are mostly located in unconventional tight gas or coalbed formations.[2, 3] Colorado, Utah, and Wyoming are net producers of natural gas. In 2006, these three States produced 3.14 Tcf (average 8.61 Bcf/d) of dry natural gas (Figure 1).

Figure 1. Dry Natural Gas Production: Colorado, Utah, and Wyoming, 2000-2006



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

[2] Energy Information Administration, Natural Gas Division: Natural Gas Navigator. http://tonto.eia.doe.gov/dnav/ng/ng_enr_sum_dcu_NUS_a.htm

[3] Department of Energy (DOE) Office of Fossil Energy. *Rocky Mountain States Natural Gas: Resource Potential and Prerequisites to Expanded Production*, September 2003 (Washington, DC). http://www.fossil.energy.gov/programs/oilgas/publications/naturalgas_general/rockymtn_final.pdf

Growth in annual dry natural gas production in Colorado, Utah and Wyoming has increased by more than 4 percent per year since 1998 and averaged 9.25 percent over the period. Most recently, from 2005 to 2006, Colorado, Utah, and Wyoming increased their production 5.5, 14.1, and 5.4 percent, respectively, with no significant seasonality effect (Figure 1).[4] Assuming that dry natural gas production continues to increase at a consistent 4-percent rate, these States will produce an average of 8.95 Bcf/d in 2007 and 9.31 Bcf/d 2008, which would account for roughly 18 percent of total U.S. dry natural gas production in those years.

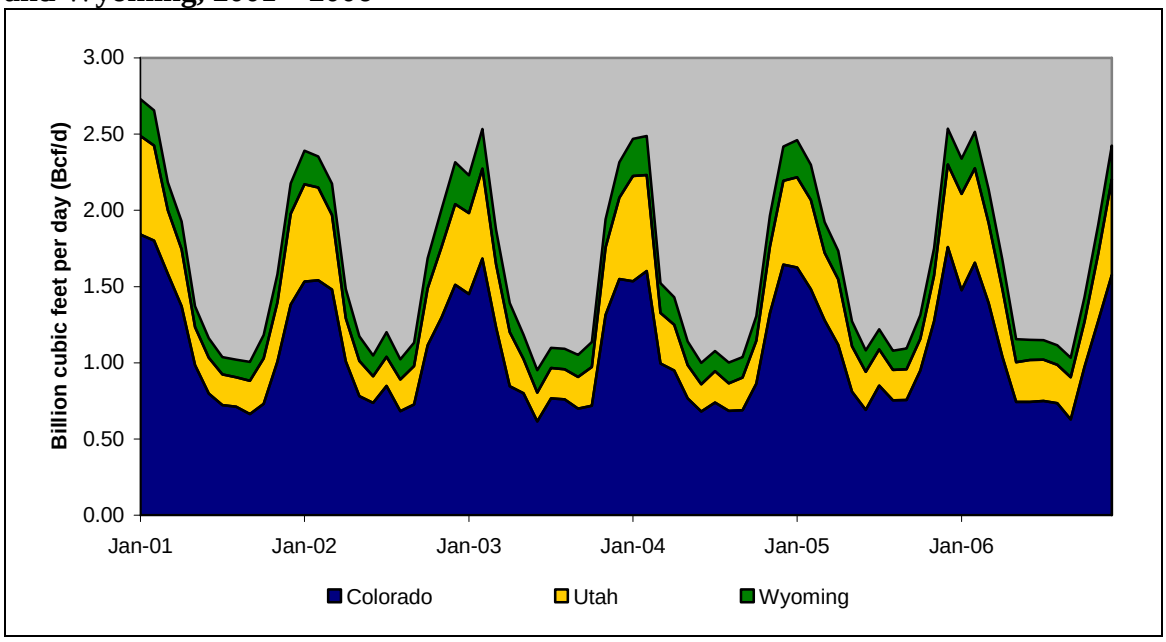
Consumption

Total natural gas volumes delivered to consumers in Colorado, Utah, and Wyoming were 0.61 Tcf (average 1.66 Bcf/d) in 2006, only slightly above the volume consumed in 2001.[5] Natural gas consumption in the Rockies is highly seasonal, with consumption reaching a peak during the winter months when natural gas is used to meet heating demand.

[4] Energy Information Administration, *Crude Oil, Natural Gas, and Natural Gas Liquids Reserves Annual Report*, Table 8 (December 1999 and December 2006). http://www.eia.doe.gov/oil_gas/natural_gas/data_publications/crude_oil_natural_gas_reserves/reserves_historical.html

[5] Energy Information Administration, *Natural Gas Monthly*. http://www.eia.doe.gov/oil_gas/natural_gas/data_publications/natural_gas_monthly/ngm.html

Figure 2. Total Natural Gas Volumes Delivered to Consumers: Colorado, Utah, and Wyoming, 2001 – 2006



Note: Data for Colorado and Wyoming in April 2006 were not available and are estimated based on the previous 5-year average change from March to May.
Source: Energy Information Administration, *Natural Gas Monthly*.

Underground Storage

Some of the natural gas production in the Rockies is injected into underground storage facilities for use during the winter months. Underground natural gas storage capacity in Colorado, Utah, and Wyoming is estimated to total 140 Bcf in 2005 (Table 1).[6]

Table 1. Rocky Mountain Region: Underground Natural Gas Storage, 2005

	Sites	Working Natural Gas Storage (Bcf)	Daily Withdrawal Capability (Bcf)
Colorado	8	42	1.088
Utah	3	52	0.527
Wyoming	8	46	0.302
Total	**19**	**140**	**1.917**

Source: Energy Information Administration, *U.S. Underground Natural Gas Storage Developments: 1998-2005*, October 2006 (Washington, DC). Table 1, pg. 3.
http://www.eia.doe.gov/pub/oil_gas/natural_gas/feature_articles/2006/ngstorage/ngstorage.pdf

[6] Energy Information Administration, *U.S. Underground Natural Gas Storage Developments: 1998-2005*, October 2006 (Washington, DC). Table 1, pg. 3.
http://www.eia.doe.gov/pub/oil_gas/natural_gas/feature_articles/2006/ngstorage/ngstorage.pdf

Almost all of the storage capacity within Colorado, Utah, and Wyoming (97 percent) is located in depleted reservoirs, which are characterized as low-injection and low-deliverability facilities (compared to salt-cavern storage), mainly due to the relatively low porosity of these types of geologic formations.[7] For example, in 2005 Colorado maintained eight storage sites with 42 Bcf of working gas capacity in depleted reservoirs that had a daily withdrawal capacity of 1.088 Bcf.[8] By comparison, Louisiana operated six salt-cavern storage fields with the same working gas capacity (42 Bcf), but with daily withdrawal capacity of 2.853 Bcf.[9] Due to the low deliverability associated with depleted reservoir storage fields, these facilities are primarily used for load balancing on the region's pipeline infrastructure.[10]

Between 1998 and 2005, deliverability of the Central Region's[11] storage capacity increased only 1.1 percent, and total working storage capacity within the region increased only 1.4 percent.[12] By comparison, the Northeast[13] and Southeast[14] Regions increased deliverability from storage by 18 percent and 35 percent, respectively, over this same time period. The only new capacity currently under construction in the region is Chevron's Windy Hill Natural Gas Storage Project. Located in Colorado and expected to begin operations in 2008, Windy Hill will

[7] Energy Information Administration, *U.S. Underground Natural Gas Storage Developments: 1998-2005*, October 2006 (Washington, DC). Table 1, pg. 3. http://www.eia.doe.gov/pub/oil_gas/natural_gas/feature_articles/2006/ngstorage/ngstorage.pdf

[8] Energy Information Administration, *U.S. Underground Natural Gas Storage Developments: 1998-2005*, October 2006 (Washington, DC). Table 1, pg. 3. http://www.eia.doe.gov/pub/oil_gas/natural_gas/feature_articles/2006/ngstorage/ngstorage.pdf

[9] Energy Information Administration, *U.S. Underground Natural Gas Storage Developments: 1998-2005*, October 2006 (Washington, DC). Table 1, pg. 3. http://www.eia.doe.gov/pub/oil_gas/natural_gas/feature_articles/2006/ngstorage/ngstorage.pdf

[10] Energy Information Administration, *The Value of Underground Storage in Today's Natural Gas Industry*, March 1995 (Washington, DC). Pg. 33. http://www.eia.doe.gov/pub/oil_gas/natural_gas/analysis_publications/value_underground_storage/pdf/059195.pdf

[11] Colorado, Iowa, Kansas, Missouri, Montana, Nebraska, North Dakota, South Dakota, Utah, and Wyoming.

[12] Energy Information Administration, *U.S. Underground Natural Gas Storage Developments: 1998-2005*, October 2006 (Washington, DC). Table 1, pg. 3. http://www.eia.doe.gov/pub/oil_gas/natural_gas/feature_articles/2006/ngstorage/ngstorage.pdf

[13] Connecticut, Delaware, Massachusetts, Maryland, Maine, New Hampshire, New Jersey, New York, Pennsylvania, Rhode Island, Virginia, Vermont, West Virginia.

[14] Alabama, Florida, Georgia, Kentucky, Mississippi, North Carolina, South Carolina, Tennessee.

add about 3 Bcf (0.5 percent) of storage capacity and roughly 0.40 Bcf/d (6.6 percent) of deliverability in the Central Region.[15]

Pipeline Infrastructure

At present, the Kern River Gas Transmission Company pipeline is the only major interstate natural gas system that begins in the Rockies and transports natural gas to another region (Table 2). The pipeline originates in southwestern Wyoming and travels through Utah and Nevada before terminating in southern California. In total, the Kern River System runs a distance of 1,680 miles and has capacity of 1.8 Bcf/d.[16]

Table 2. Export Capacity on the Largest Interstate Natural Gas Pipelines Originating in Rocky Mountain States, 2005

Name	Primary Supply Region	Market Served	System Capacity (MMcf/d)	System Mileage
Colorado Interstate Gas Co.	Central, Southwest	Central, Southwest	3,000	3,996
Southern Star Central Pipeline Co.	Central	Central	2,451	5,788
Questar Pipeline Co.	Central	Central	2,192	1,745
Wyoming Interstate Gas Co.	Central	Central	1,997	585
Kern River Gas Transmission Co.	Central	Western	1,833	1,680
Total			**11,473**	**13,794**

Source: Energy Information Administration, Natural Gas Division, Gas Transportation Information System, Natural Gas Pipeline Projects database
Note: Central Region: Colorado, Iowa, Kansas, Missouri, Montana, Nebraska, North Dakota, South Dakota, Utah, and Wyoming.
Southwest Region: Arkansas, Louisiana, New Mexico, Oklahoma, Texas.
Western Region: Arizona, California, Idaho, Nevada, Oregon, Washington.

Natural gas can also be exported from the region through interconnections with interstate pipelines that pass through the region. Several large pipelines that originate in the Southwest Region (Texas and Oklahoma) and transport natural

[15] Energy Information Administration, *U.S. Underground Natural Gas Storage Developments: 1998-2005*, October 2006 (Washington, DC). Table 1, pg. 3.
http://www.eia.doe.gov/pub/oil_gas/natural_gas/feature_articles/2006/ngstorage/ngstorage.pdf
[16] Energy Information Administration, *About U.S. Natural Gas Pipelines – Transporting Natural Gas*, June 2006 (Washington, DC).
http://www.eia.doe.gov/pub/oil_gas/natural_gas/analysis_publications/ngpipeline/central.html#imports

gas to the Midwest provide interconnections for pipelines that originate in the Rockies. Most of these interconnections are located in the eastern parts of Nebraska, Kansas, and Missouri. The three largest pipelines that pass through these areas are operated by the Natural Gas Pipeline Company of America (4.5 Bcf/d of capacity), the Panhandle Eastern Pipeline Company (2.8 Bcf/d), and the Northern Natural Gas Pipeline Company (2.2 Bcf/d).[17] While these three major interstate natural gas pipeline systems technically contribute to the overall capacity that carries natural gas from the Rockies to the Midwest Region, the actual natural gas flows are limited by the natural gas pipeline capacity that is available on the several separate natural gas pipelines that begin in the Rockies and connect with these larger systems.

Before 2004, the Trailblazer Pipeline Company, which receives natural gas from the Wyoming Interstate Gas Company and makes use of interconnections operated by the Natural Gas Pipeline Company of America and the Northern Natural Gas Company, provided the primary link from natural gas production facilities in Colorado and Wyoming to the Midwest Region. With 0.95 Bcf/d of capacity, the Trailblazer system transports natural gas to eastern Nebraska from northeastern Colorado's Cheyenne Hub.[18] In 2004, however, the Cheyenne Plains Gas Pipeline Company added another major pipeline with significant flows from the Rocky Mountains to the east (Cheyenne, WY, to Greensburg, KS). The first phase of the Cheyenne-Plains project included 0.56 Bcf/d of new pipeline capacity, while the second phase added 0.17 Bcf/d to the system in 2005 to boost total transportation capacity to 0.73 Bcf/d.[19]

Pipeline capacity carrying natural gas volumes from Colorado, Utah, and Wyoming was 8.49 Bcf/d in 2006, of which 1.70 Bcf/d represented bi-directional capability (Figure 3 and Appendix A). The natural gas pipeline export capacity from the Rockies increased slightly more than 40 percent from 2001 to 2006.

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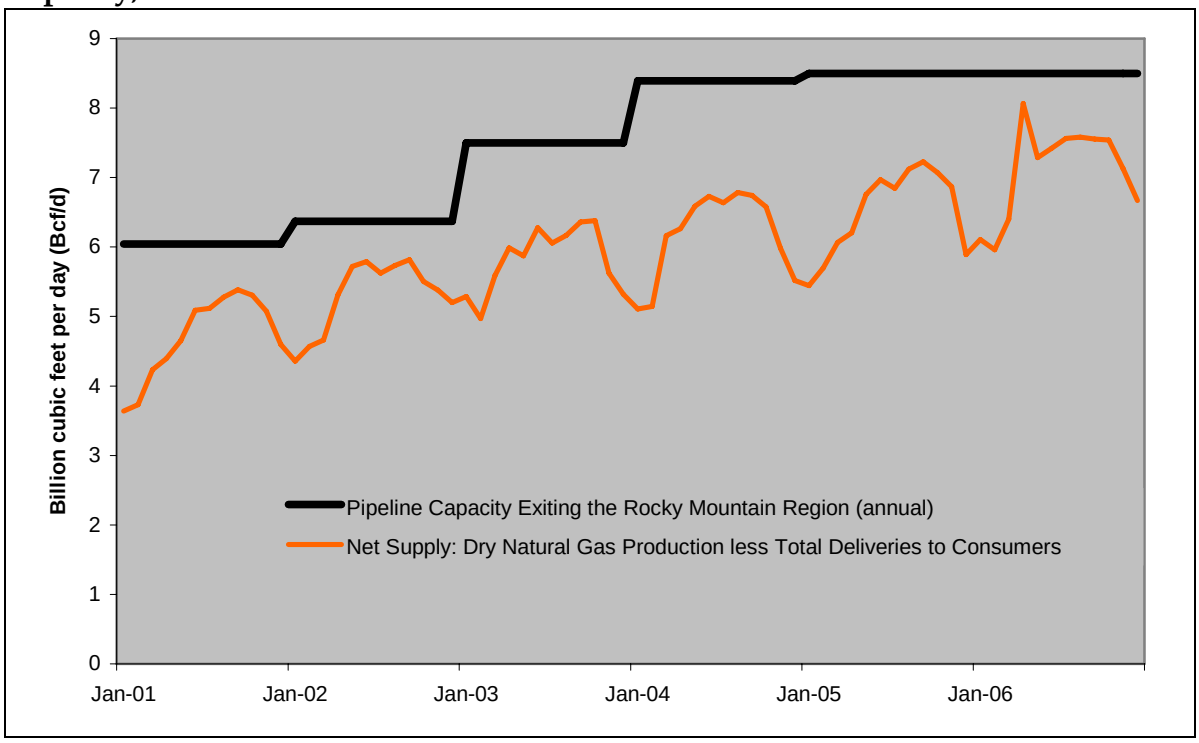
[17] Energy Information Administration, *About U.S. Natural Gas Pipelines – Transporting Natural Gas*, June 2006 (Washington, DC). http://www.eia.doe.gov/pub/oil_gas/natural_gas/analysis_publications/ngpipeline/central.html#imports

[18] Energy Information Administration, *About U.S. Natural Gas Pipelines – Transporting Natural Gas*, June 2006 (Washington, DC). http://www.eia.doe.gov/pub/oil_gas/natural_gas/analysis_publications/ngpipeline/central.html#imports

[19] Cheyenne Plains Gas Pipeline Company. http://www.elpaso.com/cheyenne/

However, average usage rates can be fairly low on interstate pipelines in the Rockies and throughout the Central Region due to large differences in seasonal flow levels—high winter utilization to meet heating demand is generally offset by relatively low summer utilization. For example, the Kern River and the Trailblazer Pipelines often operate at relatively high rates, recording average utilization of 94.3 and 89.1 percent, respectively, in 2005. On the other hand, Kinder Morgan's Pony Express and the Cheyenne Plains Pipelines averaged 62 percent and 65.6 percent utilization, respectively, over that same period.[20]

Figure 3. Rocky Mountains: Net Natural Gas Supply and Pipeline Takeaway Capacity, 2001-2006



Source: Energy Information Administration, *Natural Gas Monthly*.
Note: Rocky Mountain States include Colorado, Utah, and Wyoming.

Finally, enhancements to the natural gas pipeline infrastructure in the Rockies accounted for roughly 26 percent of the additional pipeline capacity added in the United States during 2006, though none of these projects increased the region's

[20] Energy Information Administration, Gas Transportation Information System, Natural Gas Pipeline Projects database.

interstate outflow capacity.[21] In fact, there have been no major additions to the interstate natural gas pipeline system in the Rockies since 2004.

New Pipeline Infrastructure

Significant efforts are currently underway to expand pipeline capacity from the Rocky Mountains eastward (Appendix B). When completed, the planned Rockies Express (REX) pipeline system will be able to carry up to 1.5 Bcf/d of natural gas from Rio Blanco County, CO, to Audrain County, MO. From there, the REX will gain an additional 0.3 Bcf/d of capacity, bringing the total to 1.8 Bcf/d. From its point of origin in Colorado to its point of termination in Monroe County, OH, the REX will cover a distance of 1,678 miles.[22] While the initial 191-mile section connecting the Meeker (CO) Hub to the Wamsutter (WY) Hub was completed and approved for service in February 2006, the final 638-mile section running from Audrain County, MO to the Clarington (OH) Hub is not scheduled to start up until the middle of 2009. The intermediate phase of the project, a 713-mile section of pipe connecting the Cheyenne (WY) Hub to Audrain County, MO was given final approval by the Federal Energy Regulatory Commission (FERC) on April 19, 2007 and is currently on schedule to begin operation in January 2008.[23]

In addition to the REX, several other projects are being planned and constructed in the Rockies (Appendix B). Most recently, Questar Pipeline and Enterprise Products Partners announced plans to construct a new 7-mile, 2.5 Bcf/d natural gas pipeline from the Piceance Basin to Enterprise's natural gas processing facility near Meeker, CO.[24] If completed, the White River Hub will provide interconnections to at least six other pipelines: Questar Pipeline, REX, TransColorado Gas Transmission, Wyoming Interstate Company, Colorado

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[21] Energy Information Administration, *Natural Gas Year-In-Review 2006*, March 2007 (Washington, DC).
http://www.eia.doe.gov/pub/oil_gas/natural_gas/feature_articles/2007/ngyir2006/ngyir2006.pdf

[22] Kinder Morgan: Rockies Express Pipeline LLC.
http://www.kindermorgan.com/business/gas_pipelines/rockies_express/

[23] Kinder Morgan – Rockies Express Pipeline LLC. Planned Interconnect Capacities at the Cheyenne Hub (January 2007).
http://www.kindermorgan.com/business/gas_pipelines/rockies_express/RE_Planned_Interconnect_Capacities_Cheyenne.pdf

[24] "Firms plan header to link six Rockies pipelines." *Platts Gas Daily* August 28, 2007.

Interstate Gas, and Northwest Pipeline.[25] Already, Questar has dedicated 0.5 Bcf/d of firm capacity to the new pipeline with Enterprise adding 1.5 Bcf/d. While no FERC filings have been made for the project investors expect the White River Hub to be operational by the late fall of 2008. Different from the REX, the White River Hub would not add to the export capacity for natural gas produced in the Rockies. However, construction of White River would imply that natural gas export capacity must increase beyond what will exist once the REX is complete.

Prices

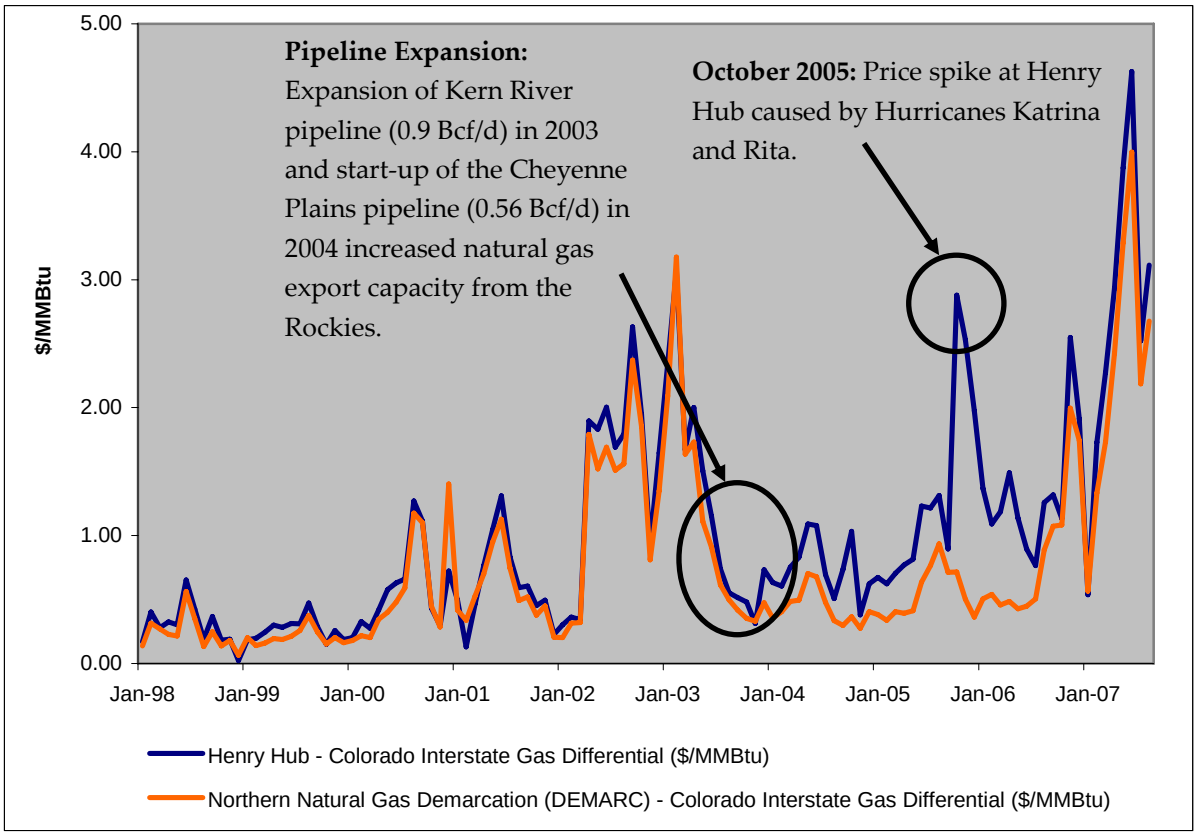
Spot prices in the Rocky Mountain States reported at the Colorado Interstate Gas (CIG) Pipeline first exhibited large differentials to the Northern Natural Gas Demarcation (DEMARC) point in Kansas and the Henry Hub in Louisiana during the latter part of 2002 and the early part of 2003 (Figure 4). These differentials between neighboring regional spot market benchmarks declined and markets converged after the completion of pipeline expansions (notably Kern River and Cheyenne Plains) increased natural gas export capacity by about 2 Bcf/d from the Rockies. From the period beginning in late 2003 to mid-2006, with the exception of the Henry Hub price spike caused by the 2005 hurricane disruptions, Rockies spot price differentials to the DEMARC and the Henry Hub remained relatively low.

Over the last 12 months, however, these differentials have again increased. For example, *Gas Daily* reported that the June 4, 2007 spot price of natural gas on the CIG Pipeline dropped to a low of $0.15 per million Btu (MMBtu)[26] (averaging $0.78 per MMBtu for the day).[27] On the same day the Henry Hub spot price averaged $7.73 per MMBtu and the DEMARC spot price averaged $7.21 per MMBtu.[28] Again on August 28, the spot price on the Kern River Pipeline near Opal, WY, dropped to a low of $0.20 per MMBtu (averaging $0.63 per MMBtu for the day) when the Henry Hub spot price averaged $5.34 per MMBtu and DEMARC averaged $5.07 per MMBtu.[29] Finally, on September 4 the CIG spot price once more dipped to $0.15 per MMBtu (averaging $0.51 per MMBtu for the

[25] *Gas Daily* August 28, 2007.
[26] 1.031 MMBtu = 1 thousand cubic feet (Mcf)
[27] *Gas Daily* June 5, 2007.
[28] *Gas Daily* June 5, 2007.
[29] *Gas Daily* August 28, 2007.

day) while the Henry Hub spot price averaged $5.30 per MMBtu and DEMARC averaged $5.15 per MMBtu.[30] Each of these price collapses were attributed to pipeline maintenance, which reduced available capacity, and mild weather, which reduced local demand.

Figure 4. Monthly Average Natural Gas Spot Price Differentials



Source: Reuters.

While these spot prices represent the incremental change in the price of natural gas being traded, it is important to note that they may not accurately represent the average natural gas price that producers receive due to the large volume of natural gas that is transported under contract, particularly in the Rockies. As production has continued to expand in the Rockies, however, the prevalence of these large spot price declines and increased price differentials between regional spot markets have exposed a lack of pipeline export capacity at the margin.

[30] *Gas Daily* September 5, 2007.

EIA's *Annual Energy Outlook 2007* (*AEO2007*) projects natural gas production in the Rocky Mountain region[31] will increase nearly 19 percent from 2004 to 2010.[32] Yet despite expectations of increased natural gas production, at present the Cheyenne Hub, WY, to Audrain County, MO, phase of the REX (1.5 Bcf/d) is the only new pipeline scheduled to expand transportation service out of the Rockies in the near future, increasing the total regional take-away capacity to around 10 Bcf/d by 2008.[33] The addition of new transportation capacity will provide some near-term relief for natural gas producers who recently faced large spot price declines. However, historical data indicate that these pipelines rarely operate at full capacity throughout the course of the year, and potentially cause unplanned variations in total export capacity from the region. As a result, the region's spot market may experience continued vulnerability to transmission constraints and seasonal demand fluctuations until more pipeline and/or storage capacity can be built, especially if natural gas production increases even more rapidly than recent projections suggest.

[31] The Rocky Mountain Region includes Arizona, Colorado, Idaho, Nevada, Utah, Wyoming, Montana, and a portion of New Mexico. (http://www.eia.doe.gov/oiaf/aeo/supplement/supmap.pdf)

[32] Energy Information Administration. *Supplemental Tables to the Annual Energy Outlook 2007: Petroleum, Natural Gas, Coal, Macroeconomic, and Import (Table 104)*, February 2007 (Washington, DC). http://www.eia.doe.gov/oiaf/aeo/supplement/pdf/sup_ogc.pdf

[33] http://www.kindermorgan.com/business/gas_pipelines/rockies_express/

Appendix A.

Table A1. Natural Gas Pipeline Capacity from Colorado

Pipeline	State From	State To	Capacity as of end of 2006 (MMcf/d)	Average Utilization in 2005 (%)
Colorado Interstate Gas*	CO	KS	294	16.7%
Colorado Interstate Gas*	CO	KS	140	22.9%
Cheyenne Plains Pipeline	CO	KS	730	65.6%
KM Interstate Gas Co.	CO	KS	20	54.3%
Southern Star Central Gas PL Co	CO	KS	216	78.9%
Total	**CO**	**KS**	**1,230**	**60.3%**
KM Interstate Gas Co.*	CO	NE	5	62.0%
KM Interstate Gas Co.	CO	NE	5	62.0%
KM Interstate Gas Co.	CO	NE	30	62.0%
KM Interstate Gas Co.	CO	NE	255	62.0%
KM Interstate Gas Co.	CO	NE	182	62.0%
Trailblazer Pipeline Co.	CO	NE	945	89.1%
Total	**CO**	**NE**	**1,422**	**80.0%**
El Paso Nat Gas Co	CO	NM	790	88.4%
Raton Gas Transmissions Co	CO	NM	10	34.4%
Transcolorado Gas Trans Co	CO	NM	692	73.6%
Transwestern Pipeline Co	CO	NM	705	73.1%
Total	**CO**	**NM**	**2,197**	**78.6%**
Colorado Interstate Gas*	CO	OK	381	100%
Total	**CO**	**OK**	**381**	**100%**
Total Pipeline Capacity Leaving Colorado			**5,225**	**76.3%**

*Indicates bi-directional flow capability.

Source: Energy Information Administration, Gas Transportation Information System, Natural Gas Pipeline Projects database.

Table A2. Natural Gas Pipeline Capacity from Utah

Pipeline		State From	State To	Capacity as of end of 2006 (MMcf/d)	Average Utilization in 2005 (%)
Kern River Gas Trans Co		UT	NV	1,800	94.3%
	Total	**UT**	**NV**	**1,800**	**94.3%**
Northwest Pipeline Co*		UT	ID	609	77.4%
	Total	**UT**	**ID**	**609**	**77.4%**
Total Pipeline Capacity Leaving Utah				**2,409**	**93.2%**

*Indicates bi-directional flow capability.

Source: Energy Information Administration, Gas Transportation Information System, Natural Gas Pipeline Projects database.

Table A3. Natural Gas Pipeline Capacity from Wyoming

Pipeline		State From	State To	Capacity as of end of 2006 (MMcf/d)	Average Utilization in 2005 (%)
Colorado Interstate Gas		WY	MT	60	-
Northwestern Energy Co		WY	MT	2	-
Shoshone Pipeline Co		WY	MT	14	-
Williston Basin I P L Co*		WY	MT	76	24.4%
Williston Basin I P L Co*		WY	MT	160	24.4%
Williston Basin I P L Co*		WY	MT	27	24.4%
Williston Basin I P L Co*		WY	MT	80	24.4%
Williston Basin I P L Co*		WY	MT	38	24.4%
	Total	**WY**	**MT**	**456**	**20.4%**
KM Interstate Gas Co.		WY	NE	120	56.8%
KM Interstate Gas Co.		WY	NE	255	38.0%
	Total	**WY**	**NE**	**375**	**44.0%**
Williston Basin I P L Co*		WY	SD	27	-
	Total	**WY**	**SD**	**27**	**-**
Total Pipeline Capacity Leaving Wyoming				**858**	**28.3%**

*Indicates bi-directional flow capability.

Source: Energy Information Administration, Gas Transportation Information System, Natural Gas Pipeline Projects database.

Appendix B.

Table B1. Future Natural Gas Pipeline Capacity in Colorado, Utah and Wyoming

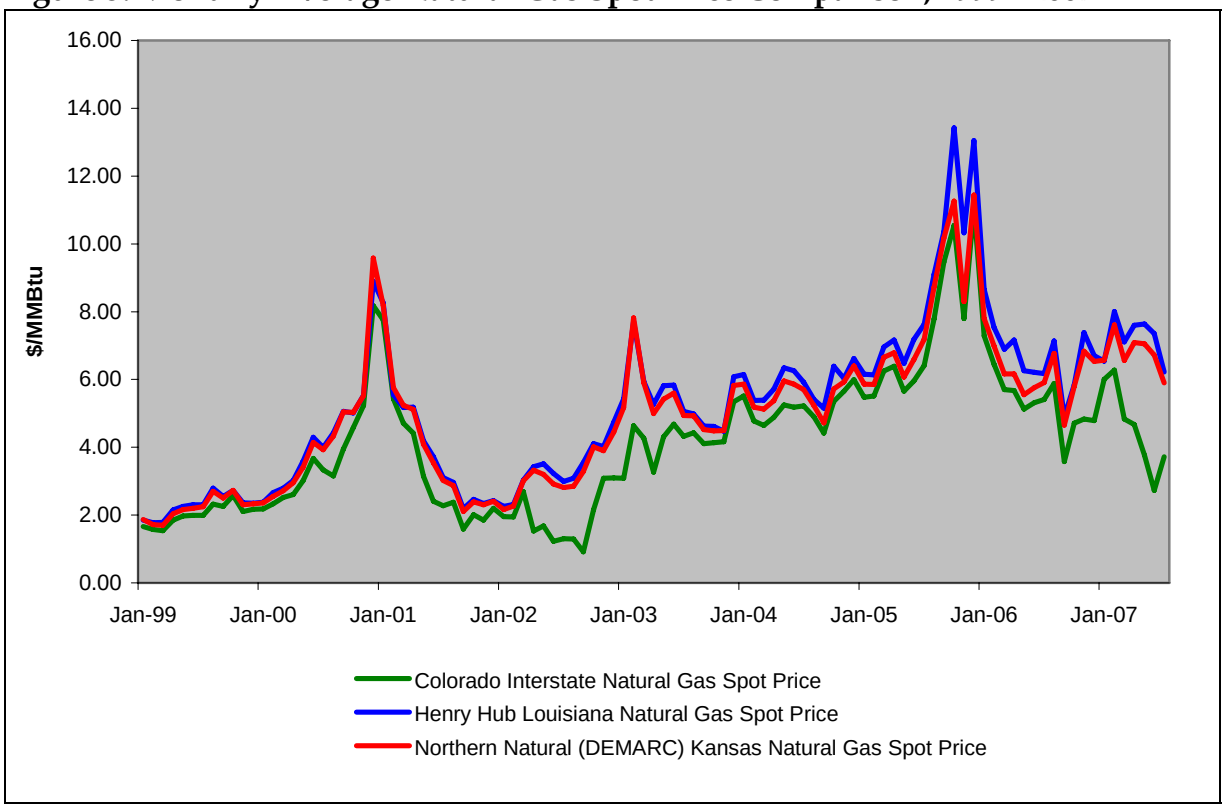
Project	State From	State To	Year of Service	Status	Type of Project	Added Capacity (MMcf/d)
Cheyenne Plains Supply Lateral	CO	CO	2006*	Complete	Lateral	48.3
NWPL Parachute Expansion	CO	CO	2007*	Complete	Lateral	450
Wamsutter Expansion Project	WY	WY	2007	Approved	Com./Lat.	750
Questar Southern System Expansion (Goshen)	UT	CO	2007	Construc.	Loop/Com./ Lat.	175
CIG Raton Basin 2007 Expansion	CO	OK	2007	Construc.	Loop/Com.	29
REX Processing Plant Lateral	WY	WY	2007	Applied	Lateral	150
Lower Valley Energy Project	WY	WY	2007	Applied	New Pipe	5.81
Fort Union Gathering 2007 Expansion	WY	WY	2007	Approved	Gath.	240
Jonah Phase V (2) Expansion	WY	WY	2007	Approved	Comp.	650
KMP Rockies Express (REX – West)	CO	MO	2008	Approved	New Pipe	1500
TransColorado Blanco-to-Meeker Expansion	CO	CO	2008	Approved	Comp.	250
WIG Kanda Lateral	UT	WY	2008	Approved	Lateral	406
Cheyenne Plains Kirk Compressor Station	CO	KS	2008	Applied	Comp.	70
CIG High Plains Expansion	CO	CO	2008	Applied	New lines	900
WIG Medicine Bow 08 Expansion	WY	CO	2008	Applied	Comp.	330
Fort Union Gathering 2008 Expansion	WY	WY	2008	Approved	Gath.	409

* Indicates service already underway.

Source: Energy Information Administration, Gas Transportation Information System, Natural Gas Pipeline Projects database.

Appendix C.

Figure 5. Monthly Average Natural Gas Spot Price Comparison, 1999 - 2007



Source: Reuters.