

NATURAL GAS WEEK[®]

COPYRIGHT © 2021 ENERGY INTELLIGENCE GROUP. ALL RIGHTS RESERVED. UNAUTHORIZED ACCESS OR ELECTRONIC FORWARDING, EVEN FOR INTERNAL USE, IS PROHIBITED.

CONTENTS

2	WEEKLY SPOT PRICES
3	WINTER COULD BRING DOUBLE-DIGIT PRICES
4	EIA SEES GAS PRICES PEAKING NEXT YEAR
5	FEDS' GOALS WOULD SLASH GAS-FIRED POWER
6	EXXON JOINS MOVEMENT TOWARD CLEANER GAS
6	GAS INDUSTRY PUSHES BACK ON METHANE FEE
7-8	DATA ROUNDUP

PIPELINES

Ruby Pipeline Woes Worsen, Could Spell 2022 Bankruptcy

Declining hydro supplies are raising the call for natural gas to produce power in the Pacific Northwest. But that's not reviving the fortunes of Ruby Pipeline, whose problems have grown so exponentially worse this year that a probable 2022 bankruptcy looms.

The problems plaguing Ruby — designed a decade ago to be a major carrier of Rockies gas to growing US Northwest markets — stem largely from the rising dominance of Western Canadian supplies flowing into that region.

Last month, contracts accounting for roughly 0.9 billion cubic feet per day of firm capacity on the 1.4 Bcf/d capacity Ruby pipeline rolled off, leaving the long-haul system in dire financial straits, analyst Kendrick Rhea with East Daley Capital Advisors told Energy Intelligence.

None of the 10-year contracts were renewed, though two short-term contracts were picked up, he said. As a result, utility Pacific Gas & Electricity remains the sole firm shipper with roughly 35% of capacity on the line.

The steep transport cost of that gas averaging 68¢ per thousand cubic feet could keep the pipe solvent until the contracts time out in 2026. But Ruby will likely succumb long before that, Rhea said.

Why? Long-term senior notes are coming due in 2022 that need to be renegotiated with debt holders and kicked down the road.

“As the debt rating on this pipeline gets worse — and it has honestly been getting worse slower than it should have — this pipeline will not be able to make its debt payments. So, you are in bankruptcy risk for Ruby unless they can hold a shipper captive,” he said.

Ratings Agencies Pile On

All three key ratings agencies — Fitch, Moody's and S&P Global — downgraded Ruby in February and March in anticipation of 65% of Ruby's contracted capacity rolling off at the end of July.

“Post 2021-cliff, and for the next several years, Fitch expects new contracts to provide immaterial profits for Ruby. capacity,” Fitch explained in posting its March action, adding that its owners have shown no interest in infusing equity into the pipeline and “may choose to walk away from the asset.”

Kinder Morgan and Pembina, which both own a 50% share in Ruby, have already signaled their resignation by starting to write down the asset as early as 2019 (NGW Feb. 3'20). Kinder Morgan told Energy Intelligence it had no comment on its plans for the pipeline.

>> continued on page 4

KEY WEEKLY SPOT PRICES*

Flow Dates: 9/8-9/13

	\$/MMBtu	Chg.	High	Low
Henry Hub	4.88	0.30	5.07	4.64
Transco Z6 - NY	4.21	0.59	4.38	4.05
Algonquin	4.41	0.48	4.75	4.19
Eastern Gas South	4.09	0.47	4.23	3.85
Chicago Citygate	4.73	0.29	4.83	4.45
NNG Ventura	4.60	0.25	4.70	4.25
Waha Hub	4.65	0.30	4.75	4.35
Katy Hub	4.85	0.34	4.98	4.65
SoCal Border	8.69	3.21	27.00	4.85
NW Rockies	4.87	0.47	5.30	4.45
NW Sumas	4.99	0.47	5.25	4.80
AECO	3.02	0.34	3.18	2.51

>> [*Full table on page 2](#)

Data contained in the table above and elsewhere in this publication may only be used as expressly authorized in a valid license agreement with Energy Intelligence. To see the terms and conditions governing your current use, please [Click here](#). For questions about use of NGW data in commercial transactions or company-wide derivative work, please contact customerservice@energyintel.com.

MARKET VIEW

Severe Winter Could Portend Double-Digit Gas Prices

After maintaining altitude above \$5 per million Btu on Wednesday and Thursday — a level not seen for a prompt month contract since 2014 — October futures backed down Friday, falling 9.3¢ to \$4.938 per million Btu. But consolidation ahead of the weekend doesn't negate the long-term bullish trend that could rattle the market this winter, analysts say.

"Near-term the market has gotten top heavy," a meteorologist who specializes in energy analysis told Energy Intelligence. "If September stays warm, October Gas will probably range trade between \$4.75 and \$5.25."

But this in no way infers the \$1.30-plus rally since late July is done. "I'm still looking for much higher prices during the 2021-22 winter," he added. "Winter is looking very bullish for notably below-average temperatures for central and eastern regions of the US. And the entire northern hemisphere as well, which is very bullish for US LNG demand."

The market may be getting a taste of volatility to come this winter, reminiscent of gas price gyrations often seen before the shale gas boom. A growing number of analysts are now predicting that prices will have to rise into the double digits to curb demand in the event of a severe winter.

That prospect, compounded by concerns about the pace of storage builds heading into the heating season, could continue to drive the market higher through the remainder of the shoulder season.

"The tightening of the balance seen in August ... has added to the existing winter storage concerns, further increasing the winter risk premium priced in the market," Goldman Sachs analyst Samantha Dart said last week, reiterating her view that Henry Hub futures might have to climb into a \$5-\$6/MMBtu range before gas will be backed out of the generation stack by more expensive grades of coal (NGW Sep.6'21).

"Anything close to (or colder than) a full standard-deviation from average would likely trigger a price spike to cause demand destruction with gas above \$10/MMBtu," Dart said. "Henry Hub would need to reach a \$15/MMBtu level to shut the US LNG export arb." But average winter temperatures might take oxygen from the market, Dart added. "We believe the market can balance at \$3.65/MMBtu."

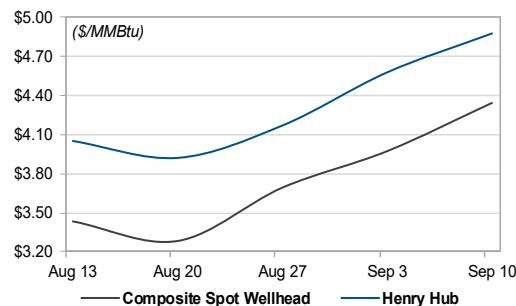
Although arguably bearish, Thursday's higher-than-expected 52 billion cubic foot injection failed to arrest market momentum as traders gave more weight to growing inventory deficits to historical levels. The October contract settled at the week's high of \$5.031/MMBtu Thursday as inventories reached 2,923 Bcf, a 235 Bcf deficit

to the five-year average and a 592 Bcf deficit to the year-ago level.

"Given the precarious storage situation and lethargic production response thus far this year, it's no wonder that the market is supercharged and primed to pounce on even the slightest bullish indicator," RBN analyst Sheetal Nasta said in a report last week. "At this late stage in the injection season and with heating demand around the corner, it certainly seems like [Tuesday's] price action above \$5/MMBtu was just the tip of the iceberg. The recent price spikes highlight the potential for high — even double-digit — prices at times this winter, given the right combination of extreme weather and production freeze-offs." Indeed, the risk of being caught short of gas this winter is ultimately fueling the perennial fall rally, which isn't that surprising.

"A big short position in natural gas had to be covered as the reality of the loss of production from the Gulf of Mexico continues to add up and will drive our storage levels even lower ahead of the key winter heating season," Price Futures analyst Phil Flynn said. Around 1.7 Bcf/d of Gulf gas production remained shut-in Friday — a level that barely budgeted last week.

AVERAGE CASH PRICES



SoCal Basis Blowout

Meanwhile, constraints on the El Paso Natural Gas Pipeline, a key artery for delivering supply to Southern California, caused market havoc in the days following the Labor Day weekend.

Amid a regional heat advisory, the pipeline declared a strained operating condition (SOC) on Wednesday, warning that linepack, or gas pressurizing the system, had fallen below 7.4 Bcf, prompting a 5% imbalance tolerance.

EP South Mainline prices surged to \$28.98/MMBtu in Wednesday trading, while its target market, the SoCal Citygate, jumped to \$19.78/MMBtu. Prices for EP South Mainline for Tuesday and Thursday flow were \$12.92/MMBtu and \$12.94/MMBtu, respectively, up from \$5.94/MMBtu over the holiday weekend.

The issues compounded the fallout from an Aug. 15 rupture on the pipeline's Line 2000 segment that had already led El Paso to reduce capacity into SoCal Gas' system by 479 million cubic feet per day. Flows will remain limited on the South Mainline through the end of September, although El Paso lifted the SOC notice for Friday's flow.

WTI crude futures ended the week on a bullish note, rising \$1.58 Friday to \$69.72/bbl.

Everett Wheeler, Washington, and Tom Haywood, Houston

Ruby >> *continued from page 1*

In event of a bankruptcy, the 680-mile pipeline from the Opal, Wyoming, hub to Malin, Oregon built for \$3.5 billion in 2011 — will be owned by the debt holders who would likely sell it at a deep discount to a third party.

Challenge Filling Capacity

The key problem is Ruby shippers have struggled for years to profitably fill contracted capacity and there's little reason for shippers to up volumes now.

The average flows on Ruby through the first eight months of this year are actually down 17% year-over-year and down 28% compared to 2019 levels. The average utilization of Ruby has been just 38.6% so far in 2021, Rhea said.

Ruby isn't alone. Northwest Pipeline, which carries Rockies supplies to the markets in Washington, Oregon and Idaho, has so far seen a 21% decline in gas flows year over year and is down 25% compared to 2019.

"The key price spread between Opal and Malin has not been consistently high enough to ramp up flows on the two major pipes that feed Rockies supply into Northern California and the Pacific Northwest," Rhea explained.

There was a hefty spread in August, when Malin averaged 33¢ higher than Opal for the month, according to Energy Intelligence price data. But that spread coincided with the expiration of legacy Ruby contracts that did not renew. Nonetheless, he noted that during that August window Ruby flows never went above 50% utilization.

The Malin-Opal spread has since returned to its usual 5¢ or less status quo reflected in Opal's 3¢ discount to Malin for all of 2020.

Gas Use Flat

Another headwind comes from data showing that gas use hasn't actually risen in the three-state region at least through June, although it has shifted, Rhea said. Gas-fired power generation has

increased but the gains have been offset by a loss of residential and commercial demand.

"As a result total natural gas being consumed in California hasn't gone up. It's right in line with [net consumption] for the last three years," he said. "And the same appears to be true for Oregon and Washington State."

Both proximity and price ensure Canada will garner all the Pacific Northwest gas market share it can handle and the Rockies is left to supply the rest. However, when Ruby was conceived in 2008, Rockies gas was relatively cheap, having run an average discount to Malin of \$1.80/MMBtu the previous year.

Rockies producers desperate to develop egress to markets also backed the Rockies Express Pipeline, which was built around the same time. And the strategy worked, raising the value of Rockies supply but making it less competitive in the Pacific Northwest.

"For a long time, maybe a decade they made good money, but when it came time for recontracting it's just not worth it anymore," Rhea said. "That spread has gone away partly because they built these pipelines. ... As a result Ruby's value is very marginal now."

Tom Haywood, Houston

PRICES

EIA: Gas Prices to Retreat in 2022 as Producers Ramp Up

Spot US natural gas prices will peak in the first quarter of 2022 as producers boost production in response to the recent surge that sent the futures contract over \$5 per million Btu, the US Energy Information Administration (EIA) predicted last week.

Even so, the latest government forecast represents a significant increase in the price outlook through 2022. According to its latest *Short-Term Energy Outlook*, the EIA now expects Henry Hub spot prices will average \$3.63 per million Btu in 2021, up 21¢ from the prior forecast, before declining to \$3.47/MMBtu in 2022, up 39¢ from the previous outlook.

On a quarterly basis, the EIA increased its third-quarter and fourth-quarter price outlooks by 29¢ and 54¢, respectively, to \$4.00/MMBtu, and raised its first-quarter 2022 price outlook by 74¢ to \$4.12/MMBtu. For the remainder of 2022, it expects prices to average \$3.25/MMBtu, up 28¢ from the prior outlook.

Hot weather, a disruption to more than 90% of federal offshore gas production in the Gulf of Mexico from Hurricane Ida, and concerns

RUBY PIPELINE



Source: Energy Intelligence

about below-average storage inventories heading into the winter heating season drove intraday trading for the prompt-month Henry Hub futures contract over \$5/MMBtu on Wednesday (p3). The EIA acknowledged near-term market sentiment was a major driver of its higher price outlook for the rest of this year, with the latest forecast “largely [reflecting] a higher starting point.”

On the storage front, the EIA estimates that inventories ended August 2021 at about 2.9 trillion cubic feet, which is 7% lower than the five-year average for this time of year. “Injections into storage this summer have been below the previous five-year average, largely as a result of hot weather and high exports occurring amid relatively flat natural gas production,” it said. “We forecast that inventories will end the 2021 injection season (end of October) at almost 3.6 Tcf, which would be 5% below the five-year average.”

Meanwhile, higher prices should bring more supply to the market. The EIA expects dry gas production will remain relatively flat in 2021, averaging just 92.18 billion cubic feet per day, before climbing 3.5% in 2022 to average 95.4 Bcf/d, a 0.6% increase from the prior forecast. Significant production growth will kick in during the second half of 2022, reaching an average of 97.59 Bcf/d in the fourth quarter of that year, the agency projects.

At the same time, the EIA expects US gas consumption will remain relatively flat, climbing from 82.54 Bcf/d in 2021 to 82.6 Bcf/d in 2022. The 2021 projection represents a slight increase from the prior outlook, while that for 2022 represents a 1.4% decline.

Meanwhile, the EIA US net exports will average 11.09 Bcf/d in 2021 before climbing 12% to 12.42 Bcf/d in 2022, with those projections 0.5% and 0.1% above the previous forecast.

Everett Wheeler, Washington

FUEL COMPETITION

Feds' Carbon Goals Would All But Eliminate Gas-Fired Power

The Biden administration floated a dramatic study last week that projects a scenario where deep grid decarbonization could lead to solar capacity expanding to 40% of the US power sector while natural gas' share dwindles to near zero by 2035.

The study includes a 2050 target that forecasts solar accounting for a possible 45% annual grid output, or roughly 3,000 gigawatts of solar installation in the transportation, building and industrial sectors, underscoring the administration's calls for massive renewable deployment over the next three decades.

Politically, the Department of Energy (DOE) study released last week underpins the Biden administration's stated target of reaching

100% carbon-free electricity by 2035. But hitting the targets outlined in the DOE study would involve the US quadrupling its yearly solar capacity additions, underscoring the need for many of the clean energy incentives underpinning Democrats' \$3.5 trillion spending plan (NGW Jul.19'21).

Under a decarbonization scenario in which the US deployed 1,000 GW of solar power by 2035, the DOE sees virtually zero coal or gas plants contributing to the electricity mix, instead forecasting that wind would account for 36% and the remainder made up of nuclear, hydroelectric and a marginal amount of biopower and geothermal.

“The study illuminates the fact that solar, our cheapest and fastest-growing source of clean energy, could produce enough electricity to power all of the homes in the US by 2035 and employ as many as 1.5 million people in the process,” US Energy Secretary Jennifer Granholm said.

The DOE study seems largely aimed at bolstering the administration's infrastructure and climate agenda, as laid out in Democrats' reconciliation blueprints and the bipartisan infrastructure package still awaiting full congressional approval.

The US power sector has a long way to go to reach the ambitious targets the department is flagging. In 2020, natural gas made up roughly 33% of the nation's electricity generation mix, and the power sector accounted for about 38% of total US gas consumption, according to DOE's Energy Information Administration. Conversely, solar capacity is currently at 76 GW, making up just 3% of the electricity mix now, meaning the US would need to add an average of 30 GW of solar capacity per year between now and 2025 and about 60 GW between 2025-30.

The DOE report flags technologies that increase grid flexibility, such as storage, advanced inverters, and microgrids in addition to an ambitious expansion of transmission capacity to better facilitate deployment of renewables, a priority of Democrats on the Federal Energy Regulatory Commission.

And Democrats have already outlined a number of elements in their planned spending package that could help increase solar growth, including a clean electricity payment program aimed at incentivizing utilities to boost their wind and solar.

The US House of Representatives' Democratic leadership last week unveiled a \$150 billion plan for doing so, showing a clear divergence with the Senate which has so far seemed poised to back a technology-neutral payment program that leaves room for gas.

Additionally, the budget plan is expected to include bids for a handful of clean energy tax incentives in one form or another that could further boost wind and solar deployment, while taking aim at tax breaks long prized by natural gas producers.

Bridget DiCosmo, Washington

CORPORATE STRATEGY

Exxon Jumps Onboard Cleaner Natural Gas Express

Exxon Mobil — long a target of environmentalists' wrath — has entered a contract with nonprofit MiQ to certify some of its Permian Basin gas output, making it the first supermajor to jump on the responsibly sourced gas (RSG) bandwagon.

Meanwhile, Seneca Resources, the E&P arm of National Fuel Gas, has signed an agreement with Project Canary under which Seneca will seek a RSG certification for about 300 million cubic feet per day of the company's Appalachian production.

Exxon is targeting 200 MMcf/d of gas produced at its Poker Lake development in New Mexico to get the RSG designation by the fourth quarter. The gas represents about 7% of Exxon's total US gas output.

The gas will be graded by MiQ, an independent not-for-profit partnership between Systemiq, a self-described global sustainability consultancy, and RMI, formerly the nonprofit Rocky Mountain Institute.

MiQ is the same company hired by EQT, the largest US gas producer, as it takes steps to get environmental, social and governance (ESG) certification for 4 billion cubic feet per day of gas produced from more than 200 well pads (NGW Jul.5'21). Project Canary is also participating in the pilot projects now under way.

Seneca's volumes account for nearly a third of its total production; the company plans to install continuous emissions monitoring devices at three well pads. The certification process involves Project Canary's analyzing more than 600 operational and ESG data points on a per-well basis.

Methane monitoring is also central to the Exxon project, which is seen as stemming from growing pressure on the company to quickly improve its environmental performance after three dissident directors focused on cleaning up Exxon's carbon footprint were elected to its board after an activist campaign. Exxon ranks in the bottom quartile among its integrated oil and gas peers on environmental issues, according to Bloomberg Intelligence's ESG scores.

Gas certification could be a means to address that growing need, which is shared by E&Ps across North America. MiQ says its mission aims "to bring about a rapid reduction in methane emissions in the oil and gas sector." Its certification system grades gas from A to F depending on its methane intensity or how much leaks into the atmosphere as a percentage of total gas produced.

A key part of both MiQ's and Project Canary's processes is continuous monitoring of targeted infrastructure to check for fugitive

methane emissions. Methane is about 80 times more potent than carbon dioxide over its first two decades in the atmosphere.

Tom Haywood, Houston

POLICY

Gas Industry Pushes Back Hard Against Methane Fee

Gas and oil companies, environmental activists and other stakeholders are solidifying the battle lines around methane policies as Congress weighs a methane fee and the Biden administration readies tighter standards for the oil and natural gas industry.

Methane emissions and especially flaring have long been contentious issues, but forthcoming federal considerations are intensifying the policy fight, with the oil industry doubling down on touting its voluntary emission reduction efforts.

American Petroleum Institute (API) President Mike Sommers, speaking to reporters Thursday, said the Democratic Senate proposal to impose a methane fee on oil and gas operations amounts to a tax on production rather than emissions (NGW Aug.16'21).

"It's not an efficient or effective way to reduce emissions," Sommers said, adding that the API continues to back "cost-effective regulations combined" with voluntary programs like the industry-led Environmental Partnership, which includes Chevron, BP, APA (formerly Apache), ConocoPhillips, Enbridge, Exxon Mobil and other leading oil and gas companies.

The API issued a report last week saying the partnership achieved a 50% decrease in flaring volumes in 2020 compared to 2019 as well as a reduction in gas flaring intensity from 3.04% in 2019 to 1.48% in 2020.

Earlier this week, the API and a coalition of oil and gas trade associations issued a letter to the leadership of the Senate Environment & Public Works Committee urging them to stand against the methane fee proposal. "If the objective is to reduce methane emissions, direct regulation of methane is the best method to implement such a government policy and do so in an equitable manner that is tied to actual emissions," the letter read.

That argument is in and of itself a change in tone from 2016, when oil and gas interests lobbied against the direct regulation of methane emissions from new wells and other onsite sources by the Environmental Protection Agency (EPA)

Bridget DiCosmo, Washington

NATURAL GAS WEEK DATA ROUNDUP

NATURAL GAS FUTURES - Trading Dates: Sep 6-Sep 10

New York Mercantile Exchange (NYMEX) Henry Hub

	Monday		Tuesday		Wednesday		Thursday		Friday		Week's Low-High	Open Interest
	Sep 6	Vol.	Sep 7	Vol.	Sep 8	Vol.	Sep 9	Vol.	Sep 10	Vol.		
Oct '21	—	—	4.568	163,663	4.914	244,742	5.031	234,848	4.938	—	4.557-5.058	196,825
Nov '21	—	—	4.615	57,208	4.962	96,449	5.072	111,773	4.973	—	4.608-5.095	224,230
Dec '21	—	—	4.704	22,847	5.046	47,882	5.158	41,781	5.067	—	4.697-5.184	91,390
Jan '22	—	—	4.764	36,219	5.103	66,274	5.216	50,913	5.129	—	4.757-5.245	154,346
Feb '22	—	—	4.669	19,677	4.985	34,398	5.102	26,713	5.028	—	4.661-5.134	58,640
Mar '22	—	—	4.324	30,486	4.609	46,273	4.724	30,626	4.680	—	4.300-4.763	117,776
Apr '22	—	—	3.608	25,383	3.761	37,762	3.836	26,454	3.854	—	3.570-3.872	117,166
May '22	—	—	3.522	13,550	3.641	25,896	3.717	16,340	3.742	—	3.466-3.752	114,069
Jun '22	—	—	3.551	4,896	3.667	7,148	3.744	5,316	3.770	—	3.493-3.778	38,876
Jul '22	—	—	3.584	2,515	3.698	4,037	3.775	3,608	3.802	—	3.528-3.811	29,394
Aug '22	—	—	3.591	3,160	3.706	3,465	3.783	2,491	3.809	—	3.533-3.818	32,309
Sep '22	—	—	3.577	2,658	3.691	4,243	3.768	3,155	3.794	—	3.519-3.803	35,029
Oct '22	—	—	3.604	3,240	3.717	10,279	3.795	6,268	3.822	—	3.549-3.831	86,344
12 Month Strip	—	—	4.090	—	4.315	—	4.411	—	4.382	—	—	—
2022 Strip	—	—	3.854	—	4.022	—	4.108	—	4.110	—	—	—
Total Volume	—	—	—	390,170	—	642,948	—	574,238	—	—	—	—

GAS PRICE REPORT

(\$/MMBtu) The Week of	9/6/2021	APPA-LACHIA	CALIFORNIA		LOUISIANA		MID-CONT	MID-WEST	NEW ENGLAND	NEW MEXICO	ROCKIES	SOUTH-EAST	TEXAS		West	
			North	South	Gulf Coast Offshore	Gulf Coast Onshore	North						Central Onshore	Gulf Coast Offshore		
Delivered to Pipeline	This Week	4.20	5.03	8.69	4.82	4.89	4.73	4.63	4.72	4.27	4.78	4.87	4.96	4.78	4.82	4.63
	Bid Week	3.53	4.33	4.25	3.94	4.32	4.12	4.02	4.19	3.55	3.79	4.09	4.41	4.21	—	3.70
Delivered to Utility	This Week	4.28	6.57	11.61	—	5.00	4.87	4.88	4.73	4.38	4.93	5.20	5.43	4.93	—	4.71
	Bid Week	3.62	5.35	6.79	—	4.47	4.26	4.13	4.22	3.72	3.94	4.42	4.78	4.36	—	3.78
Interstate Wellhead	This Week	4.09	—	—	4.75	4.82	4.66	4.53	—	—	4.61	4.75	4.81	4.70	4.75	4.56
	Bid Week	3.42	—	—	3.87	4.25	4.05	3.92	—	—	3.62	3.97	4.26	4.13	—	3.63
Intrastate Wellhead	This Week	—	—	8.58	4.75	4.82	4.65	4.51	—	—	—	4.72	—	4.72	4.76	4.56
	Bid Week	—	—	4.23	3.87	4.25	4.04	3.90	—	—	—	3.94	—	4.15	—	3.63

INTRASTATE WEEKLY SPOT PRICES - Trade Dates 9/7-9/10

Price Point	\$/MMBtu	Chg.	High	Low	Avg. Daily Vol.	Avg. Daily Deals	Sep Bid Week
Oklahoma Intras	4.52	0.03	4.74	4.45	2,300	1	—
West Texas Intras	—	—	—	—	—	—	—

PRICE OUTLOOK

	Composite Wellhead	Delivered to Pipeline	12-Month Strip Nymex
Sep 13, 2021	4.34	7.08	4.38
2021 Outlook	5.35	4.62	—

CANADIAN PRICE REPORT

(\$US/MMBtu and \$Can/MMBtu)	ALBERTA		BRITISH COLUMBIA		MANITOBA	ONTARIO		
	AECO Hub	Empress Border	Total Province	Kingsgate Border	NW Sumas Border	Emerson Border	Dawn Hub Niagara	
September 10, 2021								
Delivered to Pipeline (US\$)	3.02	3.55	4.99	—	4.99	4.23	4.69	4.38
Delivered to Pipeline (C\$)	3.82	4.49	6.31	—	6.31	5.35	5.92	5.54
Wellhead (US\$)	—	—	4.85	—	—	—	—	—
Wellhead (C\$)	—	—	6.14	—	—	—	—	—
Aug 2021 Avg.								
Delivered to Pipeline (US\$)	2.44	3.06	3.82	3.27	3.83	3.58	3.89	3.84
Delivered to Pipeline (C\$)	3.07	3.85	4.80	4.12	4.82	4.52	4.90	4.84
Wellhead (US\$)	—	—	3.68	—	—	—	—	—
Wellhead (C\$)	—	—	4.63	—	—	—	—	—
2020 Avg.								
Delivered to Pipeline (US\$)	1.60	1.60	2.17	1.90	2.21	1.85	1.88	1.67
Delivered to Pipeline (C\$)	2.14	2.14	2.89	2.54	2.94	2.48	2.51	2.24
Wellhead (US\$)	—	—	2.03	—	—	—	—	—
Wellhead (C\$)	—	—	2.71	—	—	—	—	—

Note: Monetary conversions are done weekly. All prices represent volume-weighted averages for the most recent Monday-Sunday trading week.

NATURAL GAS WEEK DATA ROUNDUP

NORTH AMERICAN WEEKLY GAS STORAGE

(Billion Cubic Feet)								
Region	Week Ending Sep 3	Week Ending Aug 27	% Full	1 Week Chg.	Year Ago	1 Yr Chg.	5 Yr Avg.	5 Yr Chg.
US								
East	703	678	63.9	25	803	(100)	760	(57)
Midwest	842	812	68.8	30	949	(107)	865	(23)
Mountain	191	190	40.5	1	215	(24)	198	(7)
Pacific	243	243	58.1	-	307	(64)	288	(45)
South Central	943	948	60.5	(5)	1,240	(297)	1,046	(103)
Total Lower 48	2,923	2,871	61.2	52	3,515	(592)	3,158	(235)
Canada								
East	222	214	78.6	8	232	(10)	216	6
West	419	409	85.7	11	443	(23)	407	12
Total Canada	641	622	83.1	18	674	(34)	623	17
Lower 48 & Canada								
Total North America	3,564	3,493	64.3	70	4,189	(626)	3,781	(217)

Sources: US-EIA. Canada-RBN Energy. Values in Bcf unless otherwise noted.

COMPARATIVE FUEL PRICES

(Cash Market) Sep 10, 2021

Natural Gas	\$/MMBtu	Comparative Fuel	Fuel Price	MMBtu equivalent
Appalachia				
App Pool Dlvld (util)	4.15	McCloskey CSX Coal	\$64.00/ton	2.66
East Coast				
New York City Gate	4.38	Heating Oil No. 2*	196.66¢/gal	14.18
		Residual 0.30%	\$84.78/bbl	13.48
		Residual 1.00%	\$74.00/bbl	11.77
Gulf Coast				
Texas Central, Onshore	4.78	Heating Oil No. 2*	186.41¢/gal	13.44
		Residual 0.70%	\$75.38/bbl	11.99
LA Gulf Coast, Onshore	4.89	Residual 3.00%	\$64.13/bbl	10.20
		WTI Cushing	\$68.98/bbl	11.89

Notes: (1) Residual=Residual Fuel Oil, priced exclusive of taxes; (2) WTI=West Texas Intermediate crude oil; (3) % = % of sulfur content. *Average sulfur content = 0.2%-0.5%. Sources: Gas: Natural Gas Week; all prices volume-weighted. Oil: The weekly average of The Oil Daily's cash price postings.

SPOT ELECTRICITY TRADING

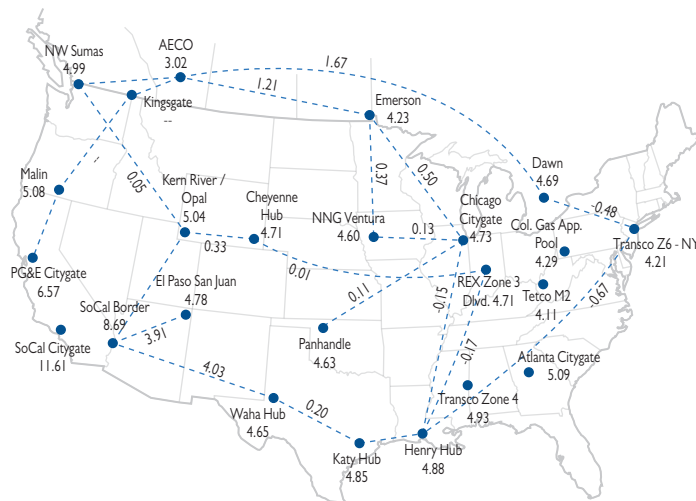
Trading Dates: Sep 7-Sep 9, 2021

POINT	Avg. Price This Week	Avg. Price Last Week	Change	Year Ago	Month Ago
COB	\$189.83	\$61.38	\$128.46	\$30.94	\$100.86
ERCOT	\$60.33	\$52.75	\$7.59	\$20.48	\$39.53
Mid-Columbia	\$168.89	\$58.16	\$110.73	\$30.44	\$101.97
NEPOOL	\$46.83	\$39.25	\$7.58	\$29.94	\$73.05
Palo Verde	\$189.58	\$54.78	\$134.80	\$35.20	\$71.45
PJM-West	\$40.33	\$36.98	\$3.35	\$23.81	\$38.80

Notes: (1) Prices in \$/MWh. (2) Prices are for next day peak delivery. Sources: Energy Intelligence and wire reports.

PRICES AND DIFFERENTIALS FOR MAJOR HUBS AND SELECTED CITY GATES

Sep 10, 2021 – (US\$/MMBtu, Volume-Weighted)



Selected Daily Differentials

Differential	Sep 07	Sep 08	Sep 09	Sep 10
NY-HH	-0.62	-0.40	-0.80	-0.69
Chicago-HH	-0.19	0.02	-0.20	-0.21
CHIC-AECO	1.85	1.79	1.65	1.70
PG&E-AECO	3.46	3.69	3.42	3.54

BAKER HUGHES RIG COUNT

Week Ended Sep 10, 2021

Region	Current Week	Previous Week	Year Ago
Total US	503	497	254
Land	497	495	239
Inland Waters	0	0	0
Offshore	6	2	15
Gulf of Mexico	4	0	15
Total Canada	143	152	52

US Rigs Exploring for

Oil	401	394	180
Gas	101	102	71
Unspecified	1	1	3

US Gas Rig Count

