



# RIVER TRANSPORT NEWS

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## Q3 2021 Coal Burn Surged While Barge Deliveries Lagged

While coal consumption by the U.S. power generating sector during the third quarter of 2021 surged to a two-year high, barged shipments of coal during the quarter lagged considerably. According to a detailed analysis of data collected by the U.S. Department of Energy (DOE), the nation's coal-fired power plants located along the inland river system received a total of 14.9 million tons of coal by barge during the third quarter of 2021. These shipments were down 8.0 percent relative to the comparable year-ago period. Shipments also were down 12.4 percent relative to the previous quarter, when barge-served power plants received a total of 17.0 million tons of barge-delivered coal (see Table 1, page 2).

The sequential and year-over-year decline in barged coal shipments to domestic generators was certainly not due to any lack of demand. Coal burn at power plants capable of receiving coal by barge surged to 24.9 million tons from 21.5 million tons burned one year earlier. Coal burn also increased sequentially from the 18.6 million tons of coal burned during the second quarter of 2021. Coal consumption typically is muted during the second quarter of the calendar year due to seasonal weather-related factors.

The decline in barge shipments to domestic generators likely reflects a lack of supply of both coal and barge capacity. Concerning coal supply, while total U.S. coal production during the third quarter of 2021 increased to 148.3 million tons from 142.8 million tons

produced during the previous quarter, all of this increase came from supply regions in the western U.S., especially Wyoming's Powder River Basin. U.S. coal production east of the Mississippi River, meanwhile, declined sequentially, falling to 54.2 million tons during the third quarter from 58.7 million tons produced during the previous quarter. During this period, coal production in the Illinois Basin declined from 18.5 million tons to 16.9 million tons, while coal production in Northern Appalachia declined from 23.3 million tons to 20.6 million tons. Both of these regions are major supply sources to the domestic barge-served power generating sector.

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**Table 1.  
Salient Coal Demand Statistics**

	2019 Q3	2019 Q4	2020 Q1	2020 Q2	2020 Q3	2020 Q4	2021 Q1	2021 Q2	2021 Q3	Q3 YOY Percent Change
<b>Barge-Served Power Plants</b>										
Coal Burn (Millions of Tons)	23.7	16.6	15.1	14.2	21.5	17.1	20.6	18.6	24.9	15.8
Coal Receipts – All Modes (Millions of Tons)	23.3	20.1	18.0	14.6	17.8	19.1	15.6	18.7	16.8	-5.6
<b>Barged Coal Receipts (Millions of Tons)</b>	<b>21.0</b>	<b>18.7</b>	<b>15.9</b>	<b>12.8</b>	<b>16.2</b>	<b>17.7</b>	<b>14.1</b>	<b>17.0</b>	<b>14.9</b>	<b>-8.0</b>
<b>National Totals</b>										
Coal-fired Generation (Millions MW-Hours)	280.5	214.9	171.9	152.5	249.5	199.9	231.7	205.2	282.4	13.2
Coal Burn (Millions of tons)	158.2	122.9	100.8	89.6	141.7	114.8	130.8	116.4	156.7	10.6
Coal Receipts – All Modes (Millions of Tons)	147.9	135.4	114.6	91.8	115.9	113.0	104.3	112.3	123.5	6.5

Even as coal production was declining, a growing percentage of this coal was moving to the overseas export market via both Gulf Coast and East Coast ports, exacerbating the coal supply tightness facing the barge served generating sector.

The disparities in regional coal production trends are reflected in a comparison of national coal generation statistics with the barge-served segment. Coal burn at the nation’s power plants during the third quarter of 2021 also was up sharply relative to both prior quarter and year-ago periods, with burn volumes during the most recently reported quarter rising to 156.7 million tons. Coal burn one year earlier was just 141.7 million tons while coal burn during the second quarter (which typically is seasonally low) totaled just 116.4 million tons.

Coal shipments to the nation’s power plants, however, managed to increase to 123.5 million tons from 115.9 million tons shipped one year earlier. This increase no doubt was

aided by a substantial sequential and year-over-year increases in coal production from Wyoming’s Powder River Basin.

### **Natural Gas Prices Remain Elevated**

Several of the developments that had helped drive domestic barge coal demand earlier in 2021 remained intact during the third quarter. In particular, total U.S. electricity demand continued to increase in 2021 from depressed COVID-19 related shutdown levels which prevailed in 2020. Overall utility scale generation increased by 2.2 percent during the third quarter of 2021 from the comparable year-ago period (see Table 2).

In addition, the average price of natural gas paid by the power generating sector surged by 90.8 percent on a year-over-year basis. According to DOE data, the cost of natural gas delivered to the U.S. power generating sector during the most recent quarter averaged \$4.37/million BTUs. One year earlier, delivered natural gas costs averaged \$2.29/million BTUs. Due largely to this

**Table 2.**  
**Salient U.S. Utility Scale Electricity**  
**Generation Statistics**

	Q3 21	Q3 20	Percent Change
<b>Generation</b>			
<b>(Millions of MW-Hours)</b>			
Coal	282.4	249.3	13.3
Natural Gas	480.3	495.8	-3.1
Nuclear	202.8	204.1	-0.6
Hydro	61.0	68.7	-11.2
Solar*	34.7	27.7	25.3
Wind	77.0	69.1	11.4
Other, net	28.5	26.4	8.0
<b>Total</b>	<b>1,166.7</b>	<b>1,141.1</b>	<b>2.2</b>
<b>Avg. Delivered Fuel Cost</b>			
<b>(\$/MMBtu)</b>			
Natural Gas	4.37	2.29	90.8
Coal	2.03	1.92	5.7

\* Utility scale generation only.

increase in natural gas prices, natural gas-fired generation declined 3.1 percent on a year-over-year basis. Delivered coal prices were considerably more stable, though these prices also are edging higher with the average delivered cost of coal rising from \$1.92/million BTUs to \$2.03/million BTUs on a year-over-year basis. Consequently, national coal-fired generation increased by 13.3 percent over the same period.

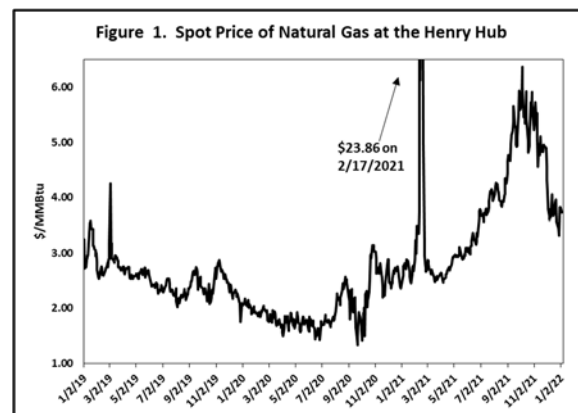
The fossil fuel based electric generating sector, however, continues to face continued market share incursions from renewable sources. Utility-scale solar generation increased by 25.3 percent on a year-over-year basis, while wind generation was up 11.4 percent over the same period.

### Positive Short Term Outlook

The short term outlook for coal shipments to the domestic power generating sector remains positive. In particular, the huge disparity between the third quarter coal burn of 24.9 million tons and total coal receipts (by

all modes) of 16.8 million tons at barge-served power plants suggests that excess power plant stockpiles have been depleted. Consequently, barge demand should increase not only to meet the higher burn rates, but also to potentially replenish the depleted power plant stockpiles.

Natural gas price dynamics, at least during the fourth quarter of 2021, also was positive for the coal-fired generating sector. Natural gas prices during the quarter were extremely volatile with the Henry Hub spot price rising to an average level of \$4.81/million BTUs from the third quarter average of \$4.35/million BTUs (see Figure 1). Henry Hub spot natural gas prices have fallen significantly from their recent peaks, with values hovering around \$3.80/million BTUs as *RTN* went to press. These price levels, however, are still approximately \$1.00/million BTUs higher than they were at this same period last year.



These market dynamics appear to be sufficiently strong to permit American Commercial Barge Lines (ACBL) to reopen its Western Coal Terminal.

The news for the barged coal sector, however, is not all good. Two barge-served power plants are still scheduled to permanently close during the first half of this year. GenOn Power's Cheswick generating

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station is scheduled to shut down on April 1, 2022. The plant, with 527 MW of generating capacity, is located at milepost 16 of the Allegheny River. All coal used at the plant is delivered by barge. Through the first nine months of 2021, barged deliveries to Cheswick totaled approximately 316,000 tons. The plant's coal burn over this period, meanwhile, totaled approximately 541,000 tons.

In addition, Vistra Energy's Zimmer plant is expected to be permanently idled on May 31, 2022 after Vistra accelerated the plant's

shutdown schedule last summer (see *RTN* 7/26/2021, p.1). The Zimmer plant originally was scheduled to be idled in 2027. The Zimmer plant consists of a single 1,320 MW generating unit. The plant, which is located near Moscow, OH at milepost 443.2 of the Ohio River, receives all of its coal requirements by barge. Through the first nine months of 2021, coal shipments to the Zimmer plant totaled 1.261 million tons. The plant's coal burn over this period, meanwhile, totaled 1.062 million tons according to the DOE data.♣