United States Court of Appeals
FOR THE DISTRICT OF COLUMBIA CIRCUIT

Argued March 10, 2025 Decided September 30, 2025

No. 24-1076

ANTERO RESOURCES CORPORATION AND MU MARKETING LLC,
PETITIONERS

v.

FEDERAL ENERGY REGULATORY COMMISSION,
RESPONDENT

NATIONAL FUEL GAS DISTRIBUTION CORPORATION AND TENNESSEE GAS PIPELINE COMPANY, L.L.C.,
INTERVENORS

On Petition for Review of an Order of the Federal Energy Regulatory Commission

Charlotte H. Taylor argued the cause for petitioners. With her on the briefs was *James E. Olson*.

Angela X. Gao, Attorney, Federal Energy Regulatory Commission, argued the cause for respondent. With her on the brief were *Matthew R. Christiansen*, General Counsel, at the time the brief was filed, and *Robert H. Solomon*, Solicitor.

Paul Korman argued the cause for intervenors in support of respondent. With him on the brief were *Michael Diamond* and *Christopher J. Barr*.

Before: MILLETT and RAO, *Circuit Judges*, and ROGERS, *Senior Circuit Judge*.

Opinion for the Court filed by *Circuit Judge* RAO.

RAO, *Circuit Judge*: To secure additional pipeline capacity for its natural gas, Antero Resources contracted with Tennessee Gas Pipeline Company for an expansion project. In this petition, Antero challenges the fuel rates it must pay to move its gas through the post-expansion pipeline. Moving natural gas through a pipeline is an energy intensive process, and the cost increases exponentially as more gas flows through the system. Under the tariff approved by the Federal Energy Regulatory Commission, Antero is always treated as if its gas were the last, and therefore marginally most expensive, to be shipped in the pipeline. The other shippers are charged the average cost of all non-Antero shipments. As a practical matter, this allocation has resulted in Antero paying two to three times the fuel rate of other shippers on the same pipeline.

We hold that FERC's order approving this two-tier fuel rate is arbitrary and capricious. The tariff requires Antero to always pay the highest marginal fuel rate, irrespective of whether the expansion capacity is being used. This results in fuel rates for Antero that are substantially disconnected from the actual costs of shipping Antero's gas. The rates are not just and reasonable because they violate cost causation, and the Commission has failed to justify its departure from this fundamental principle. We therefore grant Antero's petition for review and vacate the Commission's order.

I.

Tennessee Gas operates an 11,800-mile network of natural gas pipelines spanning most of the eastern United States. One of Tennessee Gas's clients is Antero, an independent natural gas producer in the Marcellus Shale, a rich gas field in the Appalachian Basin. This petition concerns Antero's challenge to the fuel rates Tennessee Gas charges for transporting gas on the Broad Run Pathway, a segment of its pipeline system.

A.

In the early 2010s, a surge in natural gas production in the Marcellus created transportation bottlenecks. Antero wanted guaranteed—or "firm"—pipeline capacity to ensure it could reliably transport its gas to markets on the Gulf Coast, but sufficient firm capacity was not available on existing pipelines. To secure this capacity, Antero and Tennessee Gas agreed to the Broad Run Expansion Project, which would add 200,000 dekatherms per day of new capacity. As the sole shipper for whom the project was to be built, Antero executed a 15-year precedent agreement for all the newly created firm capacity. In exchange, Antero agreed to pay for the construction of the new facilities as well as any applicable "tariff fuel and electric power cost charges."

The Project expanded capacity by adding new compressor stations along the existing pipeline. Compressors create pressure differentials that move natural gas through pipelines. Powering these compressors requires substantial energy. The relationship between the amount of gas transported through a pipeline and the amount of fuel required to run the compressors is exponential, not linear. As more gas is transported through a fixed-diameter pipe, exponentially more energy—and thus more fuel—is required to move successive units of gas.

Tennessee Gas recoups these energy expenses through "fuel rates" paid by shippers. These rates are expressed as a percentage of a shipper's gas that is required to power the compressors. Because the "fuel curve" is exponential, the marginal cost of shipping gas increases as more gas enters the pipeline. The "last" unit of gas to flow is always the most energy intensive and therefore the most expensive to ship.

B.

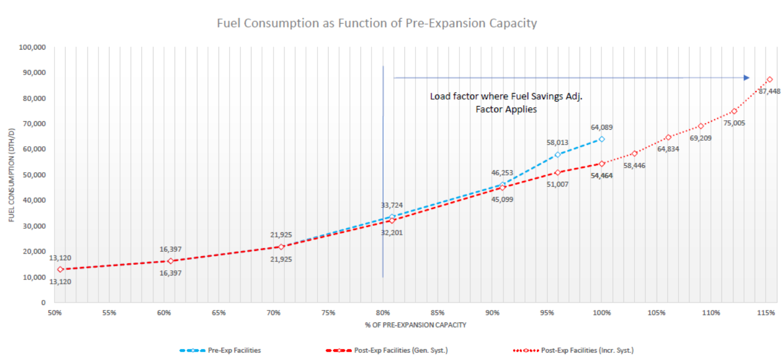
Under the Natural Gas Act, a pipeline operator like Tennessee Gas must secure a certificate of public convenience and necessity from FERC before constructing new facilities. Natural Gas Act, Pub. L. No. 75-688, § 7(c), 52 Stat. 821, 825 (1938) (codified as amended at 15 U.S.C. § 717f(c)). In its 2015 certificate application for the Expansion Project, Tennessee Gas distinguished between construction costs and operational costs. Antero is paying, and does not here challenge, the charges proposed by Tennessee Gas to cover the cost of building the new compressors. For the ongoing fuel costs required to operate the new compressors, however, Tennessee Gas initially proposed to "roll in" any fuel costs from running the new compressors, spreading the expense across all shippers on its system. Tennessee Gas explained that the new compressors would be operated on an integrated basis with existing facilities, which would allow Tennessee Gas "to optimize fuel efficiency for all shippers."

The Commission approved the construction of the Project but rejected the proposal for rolled-in fuel rates. In a 1999 Policy Statement, the Commission had announced a shift away from rolled-in rates, explaining that its primary goal was to prevent existing customers from subsidizing the construction costs of new projects. *Certification of New Interstate Natural Gas Pipeline Facilities*, 88 FERC ¶ 61,227, 61,745–46 (Sept.

15, 1999) ("1999 Policy Statement"), *clarified*, 90 FERC ¶ 61,128 (Feb. 9, 2000), *further clarified*, 92 FERC ¶ 61,094 (July 28, 2000). This "no-subsidy" policy was intended to foster competition between pipelines and prevent the "overbuilding of capacity" that can occur when rolled-in rates "mask[] the real cost" of an expansion. 1999 Policy Statement, 88 FERC at 61,745. Applying that policy to Tennessee Gas's proposed fuel rates, FERC found that rolled-in rates could force existing shippers to subsidize an expansion built for Antero's benefit. *See Tennessee Gas Pipeline Co., LLC*, 156 FERC ¶ 61,157, slip decision at ¶ 33 (Sept. 6, 2016). The Commission therefore directed Tennessee Gas to propose incremental fuel rates in future tariff filings to ensure operational costs associated with the new capacity were assigned to Antero.

C.

In its initial 2018 tariff filing under Section 4 of the Natural Gas Act, Tennessee Gas proposed a fuel curve for calculating fuel rates that reflected the exponential nature of fuel costs.



J.A. 342 (depicting results of a 2020 study conducted by Tennessee Gas, comparing the relationship between fuel consumption and throughput for pre-expansion and post-expansion facilities). The curve proposed by Tennessee Gas reflects how fuel costs rise exponentially based on the volume of gas transported through the pipeline. *See id.*; J.A. 1185.

The tariff also proposed a two-tier system of fuel rates. One rate applied to all shippers except Antero. These shippers would pay a fuel rate based on the average cost, across the fuel curve, of shipping their gas. The calculation of Antero's fuel rate, however, would begin at the point on the fuel curve where the fuel rates for the other shippers ended, i.e., Antero would pay the highest marginal rates for shipping its gas. In effect, Antero's gas would be treated as if it were always the last—and therefore most marginally expensive—to move through the pipeline. No party protested, and FERC accepted the tariff.

The consequences of this approach became apparent to Antero only in 2020, when Tennessee Gas filed its annual update to fuel rates.[1] Based on the prior year's data, Antero's pipeline usage had been less than initially projected, whereas other shippers significantly increased their usage. Because Antero was still treated as the "last" shipper on a now-busier pipeline, its fuel rate increased sharply from 4.62 percent to 6.59 percent. The rate for every other shipper, meanwhile, decreased from 2.71 percent to 2.44 percent. Antero protested the new rates and requested a technical conference, but FERC summarily rejected the protest. The Commission found the fuel rates consistent with the two-tier rates in the uncontested 2018

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[1] Tennessee Gas did not propose to change Antero's rate in 2019 because the Expansion Project was placed into service in late 2018 and there was insufficient data available to update the initial 2018 fuel rate estimates.

filing but encouraged Tennessee Gas to work with its shippers to better anticipate demand and estimate fuel rates.

Tennessee Gas and Antero conducted joint studies over the following year. These studies confirmed that the Expansion Project's new compressors largely generated system-wide fuel savings or had no negative impact on costs. *See* J.A. 342 (reproduced *supra*). When the system operated below 80 percent of pre-expansion capacity, marginal fuel costs were unaffected. *See id.* When the system operated between 80 and 100 percent of pre-expansion capacity, the new compressors lowered the marginal fuel cost. *See id.* Only when the system operated beyond 100 percent of pre-expansion capacity did use of the new compressors result in marginal fuel costs above the pre-expansion maximum. *See id.*

In its 2021 tariff filing—the subject of Antero's present challenge—Tennessee Gas incorporated these findings by crediting Antero for some of the savings generated by the expansion and by updating the shape of its fuel curve. *See id.* The tariff, however, continued to assign Antero the last, most expensive flow on the fuel curve. As a result, Antero's fuel rate rose to 7.62 percent, while the rate for all other shippers fell to 2.43 percent.

Antero again protested, arguing that Tennessee Gas's two-tier system of fuel rates was unduly discriminatory and not "just and reasonable" under Section 4. In addition, Antero proposed an alternative methodology under Section 5, which would charge Antero an incremental surcharge only when forecasted throughput exceeds pre-expansion capacity. An administrative law judge upheld the rates under Section 4 and dismissed Antero's alternative proposed rates as moot. The Commission affirmed that decision. *Tennessee Gas Pipeline Co., LLC*, 186 FERC ¶ 61,069, slip decision (Jan. 26, 2024)

("2024 Order"). FERC reasoned that because Antero's need for firm service on the Broad Run Pathway was the "but for" cause of the expansion, Antero should always be responsible for the costs at the top of the fuel curve. *Id.* ¶ 58. It concluded that the challenged fuel rates were "just and reasonable" because Antero's throughput "always places system fuel consumption higher (to the right) on the fuel curve" and assigning Antero the costs at the high end of the curve prevents other "system shippers [from] subsidiz[ing] Antero's fuel use." *Id.* ¶¶ 58–59.

Antero's request for rehearing was deemed denied by operation of law, and this timely petition for review followed. Tennessee Gas and the National Fuel Gas Distribution Corporation intervened on behalf of the Commission. We have jurisdiction under the Natural Gas Act's judicial review provision. *See* 15 U.S.C. § 717r(b).

II.

Under Section 4 of the Natural Gas Act, all rates charged by a pipeline must be "just and reasonable." 15 U.S.C. § 717c(a). For decades, we have recognized that a just and reasonable rate must accord with the principle of "cost causation," meaning that rates charged to a given shipper must generally reflect the costs of shipping its gas. *Gulf South Pipeline Co. v. FERC*, 955 F.3d 1001, 1009 (D.C. Cir. 2020). Properly designed rates should, therefore, "produce revenues from each class of customers which match, as closely as practicable, the costs to serve each class or individual customer." *Id.* (cleaned up). The Commission "may not single out a party for the full cost of a project, or even most of it, when the benefits of the project are diffuse." *Id.* (cleaned up). "While the Commission may rationally emphasize other, competing policies and approve measures that do not best match cost responsibility and causation, cost-causation principles are the default, and we have approved the Commission's departure from traditional cost-causation principles in only limited circumstances." *Id.* (cleaned up).

We review FERC's rate setting under the Administrative Procedure Act and will set aside orders if they are "arbitrary, capricious, an abuse of discretion, or otherwise not in accordance with law." 5 U.S.C. § 706(2)(A). While Congress has conferred substantial discretion on FERC in the context of rate setting, given the important private and public rights at stake, our review requires the agency to offer reasonable explanations for the rates it sets and to "articulate[] … a rational connection between the facts found and the choice made." *FERC v. Elec. Power Supply Ass'n*, 577 U.S. 260, 292 (2016) (cleaned up). "If we are to hold that a given rate is reasonable just because the Commission has said it was reasonable, review becomes a costly, time-consuming pageant of no practical value to anyone." *Gulf South Pipeline*, 955 F.3d at 1013 (quoting *Fed. Power Comm'n v. Hope*, 320 U.S. 591, 645 (1944) (Jackson, J., dissenting)).

With respect to Antero, the rate FERC approved is fundamentally disconnected from the costs Antero imposes on the pipeline system, and FERC provided no reasoned basis for departing from cost causation. The Commission's order is therefore arbitrary and capricious.

A.

The tariff's treatment of Antero is at odds with the principle of cost causation. Instead of assigning costs based on Antero's use of the pipeline system, Tennessee Gas's tariff perpetually treats Antero's gas as the last, most energy-intensive gas to move through the pipeline. This approach violates cost causation because the higher shipping rates assigned to Antero cannot be justified by its status as the expansion shipper.

The operational reality of the Broad Run Pathway demonstrates why the rate applied to Antero is unreasonable. The expansion facilities commissioned by Antero added compressor capacity along the Pathway, but the Pathway remains an integrated pipeline system where all gas is commingled and transported through a single network. The new compressors operate with existing compressors to optimize the shipment of fuel through the Pathway. The amount of fuel required to power the Pathway's compressors is a function of the total volume of gas flowing through the system. As the total volume increases, the system requires exponentially more fuel, which is why the marginal cost for transporting gas increases exponentially as more gas flows through the system. The Tennessee Gas fuel curve reflects this relationship between total volume and marginal fuel costs.

The problem Antero identifies is not with the fuel curve, but with its perpetual placement on the uppermost part of that curve. Antero's gas is always treated as the last, most expensive gas to move through the pipeline, and it is thus charged the highest marginal fuel rate. By contrast, all other shippers pay an average fuel rate based on the total volume of (non-Antero) gas in the pipeline. Because of the exponential nature of fuel costs, the practical reality of this two-tier allocation is that Antero pays a fuel rate substantially higher than the other shippers on the system. In 2020, for instance, Antero paid 6.59 percent compared to 2.44 percent for all other shippers; and in 2021, Antero paid 7.62 percent compared to 2.43 percent for other shippers.

The two-tier system, which requires Antero to always pay the highest marginal rate, is entirely divorced from the costs that Antero imposes on the Pathway. Because every shipper's gas contributes to the total volume of gas being transported, every shipper is responsible for causing an increase in marginal cost. *Cf. Se. Mich. Gas Co. v. FERC*, 133 F.3d 34, 41 (D.C. Cir. 1998) (explaining that when "every shipper is economically marginal, the costs of increased demand may equitably be attributed to every user, regardless when it first contracted with the pipeline"). Although the expansion facilities were prompted by Antero's needs, the marginal cost of shipping gas through the system is impacted not just by Antero but by the volume of gas shipped by many other shippers. All shippers contribute to the marginal costs, and therefore there is no justification for *always* assigning the highest marginal costs to Antero while providing an average cost to all other shippers.

FERC contends that Antero, as the "but for" cause of the Expansion Project, must be responsible for the full scope of costs the Project "make[s] possible," including increased fuel requirements when the system utilizes the new compressors. 2024 Order ¶ 58 (cleaned up); *see* J.A. 585, 954, 1014. The Commission maintains that, in light of these fuel requirements, it is reasonable for Antero to always pay the highest marginal fuel costs.

The Commission's rationale perhaps could justify charging Antero the highest marginal fuel cost when use of the post-expansion capacity actually increases fuel costs above the pre-expansion maximum. The Commission, however, provides no reason why Antero is always assigned the highest marginal fuel costs even when the Broad Run Pathway is operating below pre-expansion capacity and the new compressors either do not affect fuel costs or result in cost savings. As the Commission's Trial Staff acknowledged, throughput on the Pathway has typically remained below the system's pre-expansion capacity. J.A. 980 n.14 ("Tennessee … is operating below capacity…. Based on 2020 operational data, the general system shippers' actual throughput has been approximately equal to 73.1 percent of pre-expansion capacity levels, which is significantly below pre-expansion peak day conditions."). When the system is operating below pre-expansion capacity, the expansion facilities do not generate any additional costs and at times even generate cost savings.

Under the tariff approved by FERC, regardless of whether the expansion capacity is being used, Antero pays the highest marginal fuel costs. The consequences of this are dramatic as a practical matter. The 2021 tariff, which incorporates some fuel savings for Antero, continues to reflect a substantial disparity between Antero's use of the pipeline and the costs it must bear. For instance, the tariff projects that when Antero is responsible for six percent of the gas shipped through the Pathway, it will be required to pay eight percent of total fuel costs.[2] Antero must pay the highest marginal rates, despite the fact that data from 2021 shows average utilization of the Pathway was less than 75 percent of pre-expansion capacity. That is well below the point at which the expansion facilities impose additional fuel costs. *See* J.A. 342 (reproduced *supra*).

The fuel rates Antero is required to pay are wholly disconnected from the actual costs of its use of the pipeline. And except in the very rare circumstance when the Pathway is operating at near-maximum capacity and the expansion facilities increase marginal energy consumption, Antero's rates

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[2] This projection accounts for the new "fuel savings adjustment factor," which was added by Tennessee Gas to credit Antero for the greater efficiency resulting from the Expansion Project and which lowers Antero's share of total fuel costs. Antero thus continues to pay much more than its share of total fuel costs even after the adjustment, whereas other shippers continue to pay less than their share of fuel costs because of the Antero subsidy.

do not reflect the new compressors' largely flat or positive impact on fuel costs. The fact that Antero was the "but for" cause of the expansion facilities cannot justify charging it the highest marginal fuel rate even when the expansion facilities do not increase costs. The rate approved by the Commission fails the fundamental requirement of cost causation, which is that a customer should pay rates that "match, as closely as practicable, the costs to serve" the customer. *Gulf South Pipeline*, 955 F.3d at 1009 (cleaned up).

B.

Having concluded the rates depart from the principle of cost causation, we turn to the Commission's next argument that this departure is nonetheless justified. Departures from cost-causation principles are acceptable "in only limited circumstances," and the Commission must provide a reasoned explanation that warrants an exception. *See Gulf South Pipeline*, 955 F.3d at 1009 (cleaned up). FERC and Tennessee Gas offer three reasons they claim justify always assigning Antero the highest marginal fuel rate: (1) the Commission's anti-subsidy policy; (2) the need to protect the reliance interests of existing shippers; and (3) Antero's choice to contract for firm service. None of these arguments support the substantial departure from cost causation that results from placing Antero perpetually at the top marginal fuel rate.

First, FERC's reliance on its anti-subsidy policy is misplaced. The Commission contends that without the two-tier fuel rates, existing shippers would subsidize Antero's shipping costs. 2024 Order ¶ 59. This argument, however, misapplies the Commission's 1999 Policy Statement. To begin with, that Policy Statement was focused primarily on preventing the subsidization of construction costs for new facilities to avoid distorting pipeline competition and creating incentives to overbuild. *See* 1999 Policy Statement, 88 FERC at 61,745–47. Those concerns are not present here, because Antero is already paying for the construction of the expansion facilities through a separate fee, and there is no unused capacity for which existing shippers must pay.

To be sure, we have recognized that FERC's anti-subsidy policy can in some circumstances be extended to cover the operational costs of expansion projects. *See Transcontinental Gas Pipe Line Corp. v. FERC*, 518 F.3d 916, 919 (D.C. Cir. 2008). *Transcontinental*, however, involved a more precisely calibrated fuel rate that required expansion shippers to pay the same base rate as all other shippers plus a *surcharge* for additional power costs "attributable to the proposed expansion." *Id.* at 921 (cleaned up). Because the surcharge was directly attributable to the expansion capacity, it did not violate the principle of cost causation. *See id.* at 919–21. The surcharge in *Transcontinental* bears no resemblance to the two-tier fuel rates here, which always assign Antero the highest marginal fuel costs, irrespective of whether the expansion facilities are generating additional costs. FERC's anti-subsidy policy suggests that when expansion capacity increases costs, those responsible for the expansion should pay those costs. But the anti-subsidy policy does not justify the Commission's decision to single out Antero for higher charges when expansion capacity is unused and the fuel curve has been *lowered*. On this record, the Commission's departure from cost causation cannot be justified by the anti-subsidy policy.

Second, the Commission maintains that the tariff's rate structure is tailored to protect the reliance interests of existing shippers. *See* 2024 Order ¶ 49. Again relying on the 1999 Policy Statement, the Commission claims the two-tier fuel rates are designed to protect existing shippers from rate increases resulting from expansions built to serve other shippers. But the two-tier rates are not tailored to that limited and specific purpose. Until use of the Pathway rises above the pre-expansion capacity, existing shippers are subject to similar (or lower) marginal fuel rates as before the expansion. The Commission's rationale might support charging Antero the highest marginal fuel rates when use of the expansion capacity imposes higher fuel costs.[3] But the reliance interest rationale cannot support singling out Antero when use of the Pathway remains within the pre-expansion capacity. A shipper who is paying rates "*lower* than the rates to which they should have known they were exposed … cannot show detrimental reliance." *Washington Water Power Co. v. FERC*, 201 F.3d 497, 503 (D.C. Cir. 2000). The Commission has failed to explain why existing shippers would have any reliance interest when use of the Pathway is within the pre-expansion capacity.

In fact, the reliance interest rationale collapses entirely when applied to new shippers. Those who began service after the Expansion Project was completed in 2018 have no pre-expansion expectations to protect; the expanded system is the only one they have ever known. Nonetheless, the two-tier fuel rates treat Antero as the "last" shipper in perpetuity, even relative to shippers who may join the system years later. This grants later-arriving shippers a subsidy at Antero's expense, a result the reliance rationale cannot possibly justify. Whether or not new shippers have joined, the possibility of new shippers (which FERC does not dispute) further lays bare why the tariff is unjust and unreasonable in its perpetual assignment of the highest marginal costs to Antero. Contrary to the Commission's suggestion, Antero preserved this argument in its petition for rehearing.

[3] In its Section 5 proposal, Antero acknowledged that such rates might be reasonable, but we have no occasion in this case to decide whether such an approach would be consistent with cost causation.

Finally, the Commission's argument that Antero must always pay higher fuel rates because it chose firm service, rather than interruptible service, has no purchase. The cost of transporting a unit of gas is a function of pipeline dynamics, not the contractual designation of the service. In this context, the type of service cannot justify the Commission's substantial departure from cost causation.

* * *

The Natural Gas Act's requirement of "just and reasonable" rates is a mandate for rational ratemaking that comports with the principle of cost causation. The Commission departed from that principle by approving two-tier rates that perpetually assign Antero the highest marginal fuel rate. The two-tier rates are disconnected from the costs Antero imposes on Tennessee Gas's pipeline, and they fail to reflect the reality that the expansion facilities for which Antero is responsible often benefit other shippers by reducing system-wide fuel costs. Because the Commission fails to justify its departure from cost causation, the order is arbitrary and capricious and must be set aside.

On remand, the Commission must determine whether to direct Tennessee Gas to file a new tariff under Section 4 or to exercise the Commission's authority under Section 5 to set a just and reasonable rate. Because Tennessee Gas's two-tier fuel rates are not just and reasonable, as Section 4 requires, the Commission may consider Antero's Section 5 proposal for calculating fuel rates. Whether the Commission proceeds through Section 4 or Section 5, it must fulfill its obligation to establish a just and reasonable rate that complies with the cost-causation principle.

For the foregoing reasons, we grant Antero's petition for review, vacate the Commission's order, and remand for further proceedings consistent with this opinion.

So ordered.