

BEFORE THE GEORGIA PUBLIC SERVICE COMMISSION

In Re: Georgia Power Company's)
2023 Fuel Cost Recovery (FCR))
Application)

Docket No. 44902

**DIRECT TESTIMONY
OF
BRENT ALDERFER**

**ON BEHALF OF SIERRA CLUB AND SOUTHERN ALLIANCE FOR CLEAN ENERGY
("SACE")**

April 14, 2023

1 **Q: PLEASE STATE YOUR NAME, POSITION, AND ADDRESS.**

2 **A:** My name is Brent Alderfer. I am a former public service Commissioner, an energy project
3 developer and policy advisor. My address is Meetinghouse Rd, New Hope, Pennsylvania.

4 **Q: ON WHOSE BEHALF ARE YOU TESTIFYING IN THIS CASE?**

5 **A:** Sierra Club and Southern Alliance for Clean Energy (“SACE”).

6 **Q: PLEASE DISCUSS YOUR RELEVANT EXPERIENCE, PROFESSIONAL EXPERTISE,**
7 **AND EDUCATIONAL BACKGROUND.**

8 **A:** I have a law degree from Georgetown University and an electrical engineering degree from
9 Northeastern University.

10 I am cofounder and CEO of a company that developed utility-scale solar generation starting in
11 2010. We developed several gigawatts of utility-scale solar early in the commercialization of solar for
12 utilities across the country, bringing the price down to compete in competitive bidding with other
13 technologies. We developed the Butler Solar project here in Georgia, which was selected by Georgia Power
14 through a competitive bid process and included in its 2015 energy portfolio. The project was purchased in
15 2015 by Southern Power, a subsidiary of Southern Company. By 2021 we had developed several gigawatts
16 of solar projects and built a pipeline of about 10 gigawatts of solar projects under development. At the end
17 of 2021 we sold the solar development company to AES Corporation, a global diversified energy company
18 rapidly expanding renewable energy assets. I have no financial interest in AES or in solar project
19 development.

20 In the decade prior to 2010 we developed utility-scale wind farms. We originated early wind
21 projects with utility green pricing programs in partnership with 15 different utilities as the economics of
22 wind generation in moderate wind regimes improved. As the economics of wind technology continued to
23 improve at scale, we developed larger wind projects and by 2005 had originated about two gigawatts of
24 projects. We sold the wind development company in 2006 to Iberdrola, a Spanish utility and largest owner
25 of renewable energy at the time. I worked for Iberdrola for several years as they entered the U.S. market
26 and built out the pipeline of wind projects in the U.S. They now own eight utilities in the U.S. serving about

1 3 million customers under the name Avangrid. I have no financial interest in Iberdrola, Avangrid or wind
2 development. Prior to wind and solar development, I was a utility Commissioner on the Colorado Public
3 Utility Commission. Prior to that I practiced law in corporate and commercial practice in Denver and
4 Philadelphia. I have attached a copy of my CV to my testimony (BA-Exhibit 1).

5 **Q: HAVE YOU PREVIOUSLY TESTIFIED BEFORE THIS COMMISSION?**

6 **A:** No.

7 **Q: WHAT IS THE FOCUS OF YOUR CURRENT WORK?**

8 **A:** Currently, I am working and advising on projects delivering favorable economics in the transition
9 to reliable, clean energy portfolios. I serve on the board of New Energy Economics, a 501(c)(3) organization
10 offering non-partisan data-driven analysis on energy policy options that result in clean-energy paths to
11 lower utility rates, maintain reliability, and foster economic development for communities and states.

12 **Q: WHAT IS THE PURPOSE OF YOUR TESTIMONY?**

13 **A:** In my testimony, I provide the following:

- 14 ● A review of the drivers of Georgia Power's proposed fuel cost increase, including
15 increasing fuel prices, greater fuel price volatility, and increased reliance on natural gas
16 generation in Georgia Power's portfolio;
- 17 ● Forward planning assumptions based on rising fuel prices and fuel price volatility
18 and their impact on rates and on Georgia Power's ability to make prudent necessary
19 investments in the future;
- 20 ● Tools for the Commission to mitigate and hedge fuel-cost risks;
- 21 ● A summary of the shared economics of adding renewable generation including
22 additional solar generation to the utility portfolio;
- 23 ● Considerations in applying the "just and reasonable" statutory standard to the
24 sudden and extreme fuel-cost increases underlying this and future fuel cases.

25 **Q: WHAT DOCUMENTS DID YOU REVIEW IN PREPARING THIS TESTIMONY?**

26 **A:** I reviewed:

1 (i) The direct testimony of Sarah P. Adams and Adam D. Houston on behalf of Georgia Power
2 Company, and

3 (ii) Section 46-2-26 of the Georgia Code: Restriction as to Utilization of Fuel-Adjustment Tariffs;
4 Procedure for Rate Change by Utility Based Solely on Change in Fuel Costs; Extent of Commission's Power
5 Over Rate Changes; Disclosure Requirements for Utilities Seeking Rate Change

6 **Q: PLEASE SUMMARIZE YOUR FINDINGS AND RECOMMENDATIONS IN THIS CASE.**

7 · Planning assumptions going forward need to assume, prepare for and reduce
8 exposure to higher and more volatile natural gas prices;

9 · High concentrations of natural gas generation in the portfolio multiply the rate
10 shock from increases and swings in fuel prices;

11 · Renewable generation as a fuel-free resource lowers electricity costs and provides
12 an effective long-term hedge against high and volatile fuel prices;

13 · Economics of utility-scale solar allow fuel savings to utility customers on the order
14 of the fuel cost shocks at issue in this case, while at the same time offering investment
15 earning potential for the utility;

16 · Rapid and irreversible structural changes in and exposure to global markets require
17 an update of low fuel-price assumptions and resulting resource decisions as a fundamental
18 underlying element of just and reasonable allocation of fuel costs.

19 **Q: IN GEORGIA, HOW ARE UTILITY FUEL COSTS INCLUDED IN CUSTOMER**
20 **UTILITY BILLS?**

21 **A:** As part of the “Jurisdiction, Powers and Duties Generally” of the Public Service Commission, the
22 Georgia Code provides a procedure for the utility to change customer rates “based solely on change in fuel
23 costs”. O.C.G.A. 46-2-26. The statute requires Commission review under a just and reasonable standard
24 with the burden of proof on the utility to show that an “increased rate, based on fluctuations in fuel costs,
25 is just and reasonable” O.C.G.A. § 46-2-26(d).

1 **Q: IS THIS A COMMON WAY FOR COMMISSIONS TO APPROVE FUEL COST**
2 **RECOVERY?**

3 **A:** Yes, since the late 1970s when swings in fuel prices tied to global oil embargos and global oil
4 demand first appeared many states adopted fuel cost recovery mechanisms to “pass through” fuel price
5 increases directly to customers outside of full utility rate cases that otherwise establish just and reasonable
6 customer rates and utility earnings. Georgia Power recently completed a rate case with new rates taking
7 effect January 1st of this year. This fuel cost recovery case filed so closely upon the recent rate case
8 illustrates the separation of fuel costs from other elements of utility cost of service and the direct impact of
9 fuel costs on customer utility bills.

10 **Q: IN GEORGIA POWER’S STATEMENT ON THE PROPOSED FUEL COST INCREASE,**
11 **THE COMPANY EMPHASIZED THAT IT DOES NOT EARN A PROFIT ON THE FUEL COSTS.**
12 **HOW SHOULD THAT AFFECT THE COMMISSION’S CONSIDERATION IN THIS**
13 **PROCEEDING?**

14 **A:** The utility earns a profit from investments in fuel-burning generation but does not earn
15 profits on fuel purchased for that generation. No party in this case profits from higher fuel costs. The issue
16 of course is who bears the losses.

17 There have been objections over the years from consumer advocates and others to one-hundred
18 percent allocation of fuel risk to customers on grounds of fairness and one-sided risk. Separation of control
19 and risk removes incentives to control fuel costs and mitigate fuel risks. As long as fuel prices stay low, the
20 risk is low and the cost burden less significant and so fuel-cost pass-through mechanisms have received
21 little attention in the recent past. The question for the Commission is what is “just and reasonable” in the
22 allocation of fuel costs when low fuel prices are no longer the norm.

23 Two underlying factors have altered the bargain under fuel-adjustment provisions. First, fuel led
24 by natural gas has entered a period of rapid and extreme price volatility. On its face it is not reasonable to
25 assume that either customers or the utility can absorb fuel-cost changes of this magnitude in their household

1 or business operating budgets, respectively. Unrestrained fuel costs create a no-win situation for the
2 Commission to allocate unreasonably large and unpredictable costs from which no one benefits.

3 The second change in the landscape in the last decade is greatly reduced costs (up to 80 percent
4 reductions) for fuel-free alternatives, including solar, wind, storage and efficiency. Because these resources
5 use no fuel they hedge fuel prices, lowering the fuel-cost burden on customers and the utility. Georgia
6 Power has experience with and referenced those fuel-cost hedging benefits in their testimony. Those
7 benefits are limited currently by the comparatively small levels of renewable energy in the portfolio.

8 A greater share of renewables in the generation portfolio, in addition to lowering and stabilizing
9 rates for customers offers an increased investment opportunity. With no fuel costs, virtually all of the
10 levelized energy cost is capitalized up front, which means a very secure and stable capital investment with
11 commensurate investment opportunities. Under well-established competitive procedures for securing those
12 needed resources at the best price, the utility could potentially capitalize on those investments and earn a
13 profit on them, which as it noted it does not earn on purchasing fuel for the current portfolio.

14 **Q: WITH REGARD TO THE INCREASING BURDEN POSED BY FUEL PRICES, HOW**
15 **SHOULD THE COMMISSION ASSESS THE MAGNITUDE OF CURRENT FUEL GAS PRICE**
16 **SWINGS?**

17 **A:** Fuel prices have risen in multiples above the low-price assumptions used by Georgia Power in
18 previous planning and resource decisions. Georgia Power described the cost increases as “unprecedented”:

19 For electric utilities, like Georgia Power, the impact of elevated fuel prices – particularly the price
20 of natural gas, which more than tripled between 2020 and 2022 – was especially acute, given their
21 reliance on natural gas as a critical fuel resource to generate electricity. In addition to natural gas,
22 commodity prices for coal – another critical fuel resource for electric utilities – reached
23 unprecedented levels, increasing nearly five-fold from 2020 to 2022. (Direct Testimony of Sarah
24 P. Adams and Adam D. Houston On Behalf of Georgia Power Company Docket No. 44902 Page
25 5 of 23.)
26

27 The utility has under-recovered fuel costs of \$2 billion over 2 ½ years and projected the bill could
28 reach \$2.6 billion, due to low fuel-cost assumptions. As I will describe later, these cost increases are actually
29 *not* unprecedented.

Q: WHAT ARE THE IMPACTS OF THESE MUCH HIGHER FUEL COSTS ON CUSTOMERS AND THE UTILITY?

The impact on the utility customers is an electric bill increase as sudden and extreme as the increase in fuel costs. There are few options to mitigate the \$2.6 billion of excess cost. The utility has proposed spreading recovery of the shortfall over the next three years and increasing by \$2 per month relief for seniors to ease the burden. Reducing the immediate customer burden at any level is of course desirable and necessary in the current circumstances, but it doesn't solve the underlying problem. Without a plan to address heavy dependency on natural gas fuel cost overruns will continue to burden customers and crowd out headroom for necessary improvements and investments by the utility going forward.

Q: WITH NATURAL GAS PRICES HAVING COME DOWN CAN THE COMMISSION AND RATEPAYERS ASSUME THESE LARGE FUEL COST SPIKES WON'T HAPPEN AGAIN?

A: No. The risk of increased fuel prices and volatility rises over the next decade. Recent price swings are not the result of short-term supply and demand issues. As Georgia Power accurately summarized in its pre-filed testimony, the price increases and volatility are the result of structural changes in global markets for natural gas, the exposure to which is expanding here in the U.S. We have entered a market where global forces dominate natural gas prices. Here is the curve of natural gas prices over the last 25 years:

Figure 1



1 It is easy to see on this chart that while recent price increases are unprecedented in the last decade,
2 they are not unprecedented overall. The recent swings are actually smaller and just beginning in comparison
3 to the size of price swings and duration of price volatility experienced in the prior decade. The current
4 drivers of natural gas markets are global with larger and less predictable forces. As Georgia Power
5 confirmed in its testimony, geopolitical unrest and increasing absorption of domestic production for global
6 demand with proliferation of Liquid Natural Gas (LNG) terminals in the U.S. now drive natural gas prices.
7 More LNG export terminals are scheduled to come on-line on the East and Gulf Coasts in 2024. Some have
8 described these export terminals as potentially “starved” for natural gas supply. At a minimum each
9 terminal brings competing demand and opens further exposure to global market forces.

10 Continued high price volatility assumed by Georgia Power is consistent with current industry
11 prognoses. A recent article in the commodity trade press summarized prospects of continued natural gas
12 volatility as follows:

13 "I think volatility is here to stay for the foreseeable future," Citi analyst Paul Diamond told *Argus*.
14 "The underlying issues causing that step change in the last 24 months are not going away." If one
15 measures volatility by the number of days an asset moves by more than 7 percent in value, 2022
16 was the most volatile year for natural gas prices since at least the beginning of the shale era. In
17 2022, the price for day-ahead delivery at the US benchmark Henry Hub in Louisiana rose or fell
18 by more than 7 percent on 65 occasions, the most of any year since at least 2009, according to an
19 *Argus* analysis. So far, the Henry Hub has done so 21 times this year. At that rate, 2023 will be
20 more volatile than 2022.¹

21 The dangers posed by future price swings is multiplied by the asymmetric risk of fuel price changes.
22 Given the low fuel-price assumptions in the past, potential savings from downswings in fuel prices are
23 extremely limited, maybe \$1/MMBtu at most since prices stay above zero, whereas there is no cap on
24 increasing prices that rise by several hundred percent to \$14/MMBtu or more as shown on the historical
25 price chart.

26 **Q: WHAT ASSUMPTIONS SHOULD THE COMMISSION USE FOR FORECASTING**
27 **NATURAL GAS PRICES AND PRICE VOLATILITY GOING FORWARD?**

¹ Argus Media. “US Gas Price Volatility Likely To Continue.” [Published](#) on 28 March 2023.

1 **A:** The Commission should use the planning assumptions presented by Georgia Power in this case,
2 which are higher natural gas prices and greater volatility. Georgia Power properly recognized the need
3 going forward “to respond to the type of sudden and extreme fuel price volatility that impacted global fuel
4 markets during the FCR-25 period.” (Direct Testimony at page 4 of 21). The response proposed in this case
5 is a 267% increase (from 15% to 40%) in the amount of future fuel cost increases that would automatically
6 pass through to customers under the Interim Fuel Recovery Mechanism, without advance review by the
7 Commission (Direct Testimony at page 4 and 21).

8 **Q: WHAT DOES THAT MEAN FOR UTILITY CUSTOMERS AND THE UTILITY?**

9 **A:** What it means is more, not less, customer exposure to fuel price increases. It may mean fewer cases
10 like this to review bill increases but expanding the Interim Fuel Recovery Mechanism will allow multiple
11 bill adjustments like this as routine rather than extraordinary events. Planning for more frequent and larger
12 price pass-throughs is consistent with Georgia Power’s assessment of the structural changes to natural gas
13 markets that now determine prices. This is not a one-off event. Georgia Power also pointed out that fuel-
14 price exposure has increased because it has increased natural gas fired generation in its portfolio, which
15 multiplies any given fuel price increase into higher total dollar fuel costs passed on to customers. Whether
16 less Commission review of future fuel-cost pass-throughs is the right response is the underlying issue in
17 this case.

18 **Q: ARE THERE WAYS TO MITIGATE FUEL COSTS AND FUEL COST VOLATILITY TO**
19 **AVOID RATE-SHOCK IN THE FUTURE?**

20 **A:** Yes, Georgia Power referenced it in the direct testimony of Ms. Adams and Mr. Houston. After
21 noting that the dollar per megawatt-hour costs for coal, natural gas, and nuclear generation resources are
22 projected to increase 97%, 82%, and 17%, respectively, the testimony stated that renewable generation
23 lowers the cost of fuel, adding a planned increase in renewable resources:

24 “Generation from renewable resources – which lowers the cost of fuel – is estimated to increase
25 almost 1,150 gigawatt hours (“GWh”) or 41%.” (Direct Testimony of Ms. Adams and Mr. Houston
26 at 15).
27

1 That current planned increase in renewables amounts to about 1.4% of total load.

2 At the average price of \$5.14 per mmbtu projected for FCR-26 test period (Direct Testimony of
3 Ms. Adams and Mr. Houston at 15) the increase in renewable resources proposed by Georgia Power saves
4 about \$140 million over the three-year period proposed for recovery of the fuel cost excess. By comparison,
5 under the same assumptions, adding solar generation equal 10% of total load would save about \$1 billion
6 in fuel costs over three years and additionally thereafter.

7 **Q: THAT LEVEL OF FUEL SAVINGS WOULD CERTAINLY BE WELCOMED BY**
8 **CUSTOMERS. HOW WOULD IT WORK FOR THE UTILITY?**

9 **A:** The economics of solar and other renewables at utility scale are competitive with natural gas and
10 coal fired generation on a levelized-cost-of-energy basis. That means, simply by buying renewable energy
11 under long-term contracts, the utility can lock in energy savings and hedge against future fuel price swings.

12 As mentioned, capital investment in renewable energy generation offers additional benefits for the
13 utility if the Commission allows such investments. With no fuel costs, virtually all of the levelized cost of
14 renewable energy is upfront capital expense, with very low ongoing-operating costs. Twenty-five-year
15 product warranties are standard for solar projects, which now have decades of proven operating history and
16 rock-solid results with no volatility and no surprises. That is a gold standard for capital investment. With
17 no fuel cost, dollars formerly expended on fuel are invested as upfront capital.

18 As an example, based on the numbers in this case, adding another 10% solar would mean about 3.5
19 gigawatts of new solar capacity, which after accounting for tax credits would mean a total capital
20 expenditure approximately the same as the amount sought in recovery in this one fuel case. In addition to
21 bill savings for customers, utility investment in some part of that portfolio would increase utility earnings,
22 strengthening the financial health of the utility, which is always a consideration of the Commission. This
23 has been described as a “steel for fuel” strategy and brings the win-win benefits of renewable energy home
24 to the broadest range of Georgia beneficiaries.

25 There are additional economic development benefits available from investing in renewable energy.
26 Under last year’s Federal amendments, there are significant adders to the applicable tax credits for domestic

1 content and for preferred redevelopment sites in the state. In addition, in the state-on-state competition for
2 U.S. based manufacturing, which has experienced a surge of proposals, sites that cannot offer clean
3 renewable electricity have lost out to competing sites that can. Given that the fundamental economics are
4 favorable, there is no reason not to capitalize on the economic development benefits that come with it.

5 Competitive procurement of renewable generation allows the Commission to assure the most
6 savings for customers and establishes market investment returns should the Commission choose to allow
7 utility investment and profit on additional investment. Other states have effectively used competitive
8 procurement to lower the capital expenditures and in some instances divided a portfolio of projects between
9 utility and independent ownership. Competitive procurement to assure the best price for renewable
10 resources has resulted in favorable and unexpectedly low costs for adding renewable resources to utility
11 portfolios. Georgia Power used competitive bidding to procure solar power in the past and would
12 undoubtedly get vigorous bid competition in further procurement. Competitive procurement and potential
13 utility project ownership are two of the most effective tools the Commission has to secure the new energy
14 economics available to counter increases like the ones faced in this proceeding. Both of those proven
15 approaches should be adopted by the Commission.

16 **Q: YOU MENTIONED THAT FUEL CASES HAVE TRADITIONALLY SIMPLY PASSED**
17 **FUEL COSTS DIRECTLY THROUGH TO CUSTOMERS IN INCREASED RATES. WHAT ELSE**
18 **SHOULD THE COMMISSION DO?**

19 **A:** In fuel cases like this, the Commission is looking to review, manage and allocate fuel price risk.
20 Given the consensus that economic and market circumstances elevate the risk of continued fuel price hikes,
21 determining what is “just and reasonable” will require the Commission to investigate and address the
22 sudden and extreme price increases to date.

23 Georgia Power accurately explained that the current elevated fuel risk derives from the combination
24 of (i) changing global markets, which are accelerating and here to stay, and (ii) increased share of natural
25 gas generation in its portfolio. The market changes are reasonably clear and outside of the control of Georgia
26 Power and the Commission. The concentration of natural gas generation is under the control of Georgia

Power and the Commission and arises from multiple decisions in multiple dockets, including IRPs, rate cases, avoided cost dockets and energy efficiency proceedings. A quick review of the economics of renewable energy as a cost-effective hedge to natural gas market changes in this case shows the need for the Commission to update the resource portfolio economic assumptions as part of a just and reasonable determination.

Q: HOW SHOULD THE COMMISSION DO THAT?

A: The first step is updated fuel price assumptions across all resources and planned resource additions to assure that the Commission has an updated assessment of fuel price impacts. That is a clear first step to assure customers that the Commission is on top of fuel price risks and taking the necessary steps to mitigate fuel risk on their behalf.

The economics compel an update of fuel price assumptions across the generation portfolio (whether previously included in the 2022 IRP or other dockets). The goal is to avoid spending short-term dollars on fuel when those same dollars could deliver greater short- and long-term savings and returns. The rapid market changes leading to this case demonstrate the urgency of getting updated assumptions in place now before next round of fuel price swings.

The second step is to align utility and customer interests in decisions on fuel costs and capital investment. As a starting point the utility might bear a percentage of the fuel-price risks of the current portfolio in return for expanded investment opportunity in a more price-stable future portfolio.

Since there are alternatives that are win-wins for both Georgia Power and its customers, detailing those alternatives is the Commission's next step. The Commission deserves to have the options identified and quantified with current data to avoid more surprises.

Q: PLEASE SUMMARIZE YOUR RECOMMENDATIONS TO THE COMMISSION.

A: In summary, I recommend that the Commission in this proceeding or in a proceeding opened for this purpose:

- Make a finding based on the facts presented in this case and to protect customers from unreasonable fuel-cost increases, that a high-case projection of fuel prices, volatility and

1 risk needs to be included as the base-case assumption in resource decisions and planning
2 going forward;

- 3 • Update fuel-cost assumptions and quantify potential cost savings and investment returns
4 as well as other future and long-term benefits from adding fuel-free renewable generation
5 to the utility portfolio above the levels currently proposed; and
- 6 • Establish a just and reasonable percentage of fuel-price risk in the current portfolio to be
7 borne by the utility in return for expanded investment opportunity in a more price-stable
8 future portfolio.

9
10 **Q: DOES THAT CONCLUDE YOUR TESTIMONY?**

11 **A:** Yes, it does.

R Brent Alderfer

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Professional Summary

Brent Alderfer is a seasoned entrepreneur and renewable energy expert with extensive experience in the development of utility-scale wind and solar energy projects. With a background in electrical engineering and law, he founded Community Energy, Inc., a leading renewable energy firm. Under his leadership, the company became a major player in the renewable energy industry, providing renewable projects and related market services to utilities and businesses across the country. The Company sold its wind energy development business to Iberdrola in 2006 and sold its solar energy development business to AES in 2021.

Education

- Bachelor of Science in Electrical Engineering, Northeastern University
- Law Degree, Georgetown University

Work Experience

- Founder and CEO, Community Energy, Inc.
 - Led the company's growth and expansion into a major player in the renewable energy industry
 - Developed wind and solar projects across the United States
 - Provided renewable energy products and services to utilities and businesses
- Commissioner, Colorado Public Utility Commission (1996-1999)
- Commercial Lawyer, various law firms (1980s-1990s)
 - Represented commercial clients on corporate, finance and regulatory matters

Skills

- Renewable energy project development
- Finance, renewable energy projects
- Policy, regulatory compliance
- Leadership and team management
- Strategic planning and business development

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Accomplishments

- Ernst & Young Entrepreneur of the Year Award
- Sustainable Energy Fund, Pennsylvania, Lifetime Achievement Award
- Member of various industry and environmental organizations

Interests, Organizations

- New Energy Economics
- MEDA, International Development
- Philanthropy and community involvement
- Farming
- Outdoor, skiing, running, hiking