Gas-Fired Power Plants for Data Centers Will Raise Bills for Georgians

Prepared by : Commissioner Peter Hubbard - October 2026

Executive Summary:

Georgia Power has pledged[i] that "Residential customers **are not subsidizing** data center growth" (their emphasis). Georgia Power also requested in 2025 to build 10,000 MW of new gas-fired power plants and battery storage, primarily to serve data centers. This includes combined-cycle gas turbine (CCGT) units that run on fossil methane gas. Because CCGTs require both pipeline and fuel, they are significantly more expensive to operate over the life of the plant compared to solar, battery storage, and other options available today. These CCGT units will directly and materially increase the cost to produce electricity in Georgia and add to climate-changing carbon emissions that also have a cost. Instead, Georgia should build more solar power and battery storage to lower the cost of electricity.

This analysis compared a cost-optimized portfolio with a portfolio that forces 3,625 MW of new CCGT units into Georgia for the years 2030-2050. The only difference between portfolios is the CCGT units. When modeled over the study period, the portfolio with CCGT capacity saw net costs increase by $8 billion across the region modeled (SERTP) compared to the cost-optimized portfolio. While increased costs can be offset partially with electricity sales outside of the state, the high cost of CCGTs is concentrated in Georgia where net costs are nearly 4x larger than the regional net cost increase.

Now compare the $8 billion net cost increase to the future promise, as pledged by Georgia Power, of $15 in downward pressure on average monthly bills for three years (2029-2031), which totals $1.35 billion. On an NPV basis, the system-wide cost of building fossil gas CCGTs rather than solar and storage is 3x more on a system level (and up to 10x more in Georgia) than the benefit pledged by Georgia Power. In other words, the promise of future benefit is much smaller than the costs being incurred today to build new CCGT power plants for data centers in Georgia.

The Bottom Line: Building fossil gas power for data centers instead of clean power will increase the cost of electricity for everyone in Georgia.

Key Results:

1. Higher System Cost. Forcing CCGT capacity into Georgia raises the cost of serving system load by $8 billion in the years 2030–2050 over the region. On an NPV basis, this additional cost is $4.1 billion or more than 3x the pledged benefit of $1.25 billion from three years of $15 lower monthly bills. While neighboring utilities can buy some of the resulting surplus energy from this forced capacity, helping to offset higher system cost, the cost of the CCGTs is much higher in Georgia ($29 billion). This aligns with PSC Staff estimates that the full 10,000 MW would add $50-60 billion in total costs over a similar study period.

2. More CO_2 Emissions. Forcing the CCGT capacity into Georgia raises regional CO_2 emissions by an average of 2 million metric tons each year from 2030 to 2050, or 42 million metric tons in total. Emissions actually increase more in Georgia (on average 4 million metric tons per year), but are offset as displaced generation shifts across state lines. In 2040, the forced CCGT portfolio emits 5.8 million metric tons more of CO_2 in Georgia than the cost-optimized portfolio. If a modest $30/ton cost of carbon is included, the price tag rises a further $1 billion over the time period.

3. Cost-Optimized Capacity = More Solar and Storage. This analysis forced 3,625 MW of new fossil-gas fired CCGT capacity into Georgia by 2031, where it remains for the study period (2030-2050). A cost-optimized portfolio built without that requirement would instead carry, on average, 1,850 MW more solar power and 800 MW more battery storage, along with 2,100 MW more simple-cycle combustion turbines (CT). CTs are still gas-fired but would operate much less frequently than CCGT units. The CTs could be replaced with more battery storage and solar, but at higher cost.

4. Results are Robust to Reliability. The ReEDS model is coupled with the Probabilistic Resource Adequacy Suite (PRAS) to ensure system reliability, measured as Expected Unserved Energy (EUE) under one part per million of annual load. In both scenarios, the worst year reached 0.15 parts per million EUE, one-seventh of the allowable level. Stressful days (high load, low solar) are identified by PRAS and dispatched by ReEDS during its capacity expansion and dispatch optimization for each modeled year. Modeled stress days were increased beyond the default for SERTP, to ensure robust reliability results.

Conclusion:

New fossil gas-fired power plants for data centers will increase the cost of electricity in Georgia compared to lower-cost solar power, battery storage, and other options. Georgia Power's pledge to put $15 of downward pressure on monthly bills for just three years is much smaller than the additional costs of building expensive fossil gas-fired combined cycle power plants.

Assumptions and Benchmarks:

This analysis assumes the overnight build capital expenditure for Georgia Power for a combined cycle gas turbine is between $1,700/kW (EPC contractor-build) and $2,400/kW (self-build). New CCGT units also incur a fixed O&M cost of $2,000/MW-week (incl. pipeline costs) and a variable O&M cost of $2/MWh, plus delivered fuel costs that begin at $4/MMBtu in 2030 and rise to $9 by 2050. The CCGT heat rate is 6,700 Btu/kWh.

As a benchmark, the northern Indiana utility NIPSCO uses $3,500/kW for the build cost of a CCGT in its 2026 IRP (p58 Oct.2026)[ii]. Accordingly, this analysis is conservative; costs could be higher.

Description of the Regional Energy Deployment System (ReEDS):

Modeling was performed with the ReEDS[iii] capacity expansion model, the flagship capacity planning model for the power sector, using a forked GitHub repository labeled branch GA_IRP[iv]. Except for custom CCGT inputs, the latest default ReEDS inputs were used.

Results reflect two scenarios defined in cases_georgia.csv: (1) SERTP_gpc, the cost-optimized counterfactual, and (2) SERTP_gpc_force, which forces 3,625 MW of new combined-cycle capacity into Georgia. The two scenarios are identical in all respects except the forced-capacity requirement.

The analysis used a modified version of ReEDS branched from the public repository (ReEDS-Model/ReEDS) at commit 62f6381, dated June 23, 2026. Four sets of modifications were made. (1) First, a new constraint (eq_newcapforce) was added to require a minimum level of cumulative new capacity investment by technology, state and year; this is the mechanism used to force Georgia Power's planned combined-cycle additions into the model. When the associated switch is disabled, the constraint is inactive and model behavior is identical to public ReEDS. (2) Second, Georgia Power's reported capital cost, fixed O&M and heat rate for new combined cycle capacity replaced the default NREL ATB 2024 values, phased in from 2026 to 2029. (3) Third, a one-line defect in the public code's representative-period clustering was corrected; it prevented clustering at the balancing-area level in subset-region runs. (4) Fourth, reporting templates were added to produce Georgia-, Southern Company- and SERTP-level results, shown in the accompanying .html file. No existing model equation, cost assumption or default switch value were otherwise altered: all changes to the model's GAMS source are additions (61 lines added, none removed), and the clustering fix is the only line of existing model code modified.

Output Files:

ReEDS 2026 report_graphs.html

ReEDS_2026_report_ with_conclusions.xlsx

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[i] https://www.georgiapower.com/about/customer-pledge/data-centers.html
[ii] https://www.nipsco.com/docs/librariesprovider11/rates-and-tariffs/irp/meetings/irp_public_advisory_meeting_2_10-20-26.pdf
[iii] https://www.nlr.gov/analysis/reeds/
[iv] https://github.com/Georgia-CES/ReEDS/tree/GA_IRP