



Institute *for*
Policy Integrity

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Executive Secretary
Georgia Public Service Commission
244 Washington St., SW
Atlanta, GA 30334-5701

RE: Docket No. 42,310, Georgia Power Company's 2019 Integrated Resource Plan—Need to Clearly Quantify and Monetize Greenhouse Gas Emissions in Integrated Resources Plans

The Institute for Policy Integrity (“Policy Integrity”) respectfully submits these comments encouraging the Public Service Commission (“PSC” or “Commission”) to require Georgia Power Company (“Georgia Power”) to clearly quantify and monetize the greenhouse gas emissions of plan alternatives under its Integrated Resource Plan (“IRP”) process for 2019 and in future plans.

Policy Integrity is a non-partisan think tank dedicated to improving the quality of government decisionmaking through advocacy and scholarship in the fields of administrative law, economics, and public policy.¹ Policy Integrity regularly engages with state utilities commissions on energy policy and regulations, and has written dozens of reports and articles analyzing how to optimally design electricity policy from an economic perspective.

Upon its review of Georgia Power’s recent IRP submission, as well as in future IRP proceedings, the Commission should require electric utilities to more transparently quantify the greenhouse gas emissions of plan alternatives, and to monetize the associated climate damages using the Social Cost of Greenhouse Gas metrics. Such analysis is necessary to allow the Commission to rationally identify the most efficient plan option that advances social welfare for Georgia, and to allow Georgians to better understand the expected effects of the portfolios chosen.

¹ Policy Integrity is based at New York University School of Law; no part of these comments purports to present the views, if any, of New York University or its School of Law.

Georgia PSC's Requirements for Utilities to Account for Environmental Impacts in IRPs²

Under Georgia Code § 46-3A-2, the PSC must make a finding that each electric utility resource plan “adequately demonstrates the economic, environmental, and other benefits to the state and to customers of the utility.”³ The PSC has indicated in its regulations implementing this statute that IRPs “should be based on current Commission policy concerning minimizing customer bills, minimizing overall rates and maximizing net societal benefit.”⁴

The regulations further instruct that for IRPs, “[e]xternalities should be quantified and expressed in monetary terms where possible.”⁵ Moreover, the IRP regulations specify that the “environmental impacts of air pollutant emissions from power plants” are indirect costs that utilities are to quantify and monetize to the extent possible in their IRPs.⁶

The most effective way to determine which policy “maximiz[es] net societal benefit,”⁷ as Commission regulations require, is to evaluate all of the significant costs and benefits of the proposal to the public using a comprehensive cost-benefit analysis in a societal cost test. Moreover, the regulations explicitly recognize the importance of evaluating externalities like pollution—both quantifying the expected impact and monetizing the costs of the expected harm.⁸ The regulations therefore require utilities to assess the monetary costs of pollution, such as greenhouse gases, in their IRPs.

Monetization, as required by Commission regulations, ensures that environmental effects will be treated on par with the other costs and benefits of electricity resource planning decisions. When all costs and benefits are translated into the common metric of money, the tradeoffs inherent in policy choices become apparent, and decisionmakers can more readily and more transparently compare society’s preferences for competing priorities.⁹

Georgia Power's IRP Analysis Should Include the Cost of Damages from Carbon Emissions

Despite the PSC regulations’ clear instructions to consider and monetize externalities in the IRP analysis, Georgia Power has declined to do so. Georgia Power notes that the “Avoided Environmental Costs Component” of its Framework for Determining the Costs and Benefits of Renewable Resources in Georgia “does not include any proxy for presumed societal

² Note also that the arguments presented in these comments on the need to clearly quantify emissions and monetize damages apply as well to emissions of other pollutants besides greenhouse gases, including, for example, particulate matter. See Policy Integrity’s report on *Valuing Pollution Reductions* for more information on how states can monetize local air pollutant reductions in their energy resource planning. JEFFREY SHRADER ET AL., INST. FOR POL’Y INTEGRITY, VALUING POLLUTION REDUCTIONS: HOW TO MONETIZE GREENHOUSE GAS AND LOCAL AIR POLLUTANT REDUCTIONS FROM DISTRIBUTED ENERGY RESOURCES (2018), available at https://policyintegrity.org/files/publications/Valuing_Pollution_Reductions.pdf.

³ GA. CODE ANN. § 46-3A-2.

⁴ GA. COMP. R. & REGS. § 515-3-4-.05.

⁵ GA. COMP. R. & REGS. § 515-3-4-.02(21).

⁶ GA. COMP. R. & REGS. § 515-3-4-.02(24).

⁷ See GA. COMP. R. & REGS. § 515-3-4-.05.

⁸ See GA. COMP. R. & REGS. § 515-3-4-.02(21).

⁹ For more details on why monetization of environmental effects is vital for reasoned decisionmaking, see, e.g., Peter Howard & Denise Grab, Testimony to New Jersey Legislature (Apr. 25, 2019), available at https://policyintegrity.org/documents/NJ_Legislature_SCC_Testimony.pdf.

environmental costs or benefits or anticipated environmental legislation or regulation.”¹⁰ The utility elaborates on its reasoning for not considering these externalities in the analysis, asserting that

[t]here are a number of components that stakeholders in the solar industry have proposed to be included in cost-benefit analyses for renewables related to purported benefits that are unknown, speculative, or not readily quantifiable. Such externalities include presumed benefits such as non-compliance related environmental benefits, anticipated future (as yet undefined) environmental compliance costs, health benefits, economic development benefits, the value of civic engagement and awareness of renewable energy, the long-term societal value of renewables, and the like. These purported benefits do not accrue to Southern Company and thus cannot be passed along to customers.¹¹

Both of these arguments that Georgia Power presents for not monetizing carbon dioxide emissions are spurious.

The utility argues that because environmental, health, and economic development benefits “do not accrue to Southern Company” and “cannot be passed along to customers,” these benefits should not be included in the cost-benefit analysis. Of course, the entire point of a societal cost test, as specified by regulation,¹² is to consider the effects of a utility’s decisions on society as a whole, not just on the company. Other tests exist to assess expected effects on the utility (e.g., the program administrator cost test) and on ratepayers (e.g., the rate impact measure test).¹³ The utility can conduct a variety of such tests, and the Commission can decide how much weight to put on the results of each test when reviewing a proposed IRP. If, however, the utility unilaterally decides to exclude a key effect from the societal cost test, it deprives the Commission and the public of that information and skews the results of the analysis.

The utility further asserts that the benefits of greenhouse gas reductions are “unknown, speculative, or not readily quantifiable.”¹⁴ In fact, there is a well-developed, peer-reviewed, and consensus-driven metric of the cost of the harm from each ton of carbon dioxide emissions readily available for use in policy decisions. The Interagency Working Group on

¹⁰ Georgia Power, A Framework for Determining the Costs and Benefits of Renewable Resources in Georgia at 10 (Jan. 1, 2019).

¹¹ *Id.* at 30.

¹² See GA. COMP. R. & REGS. § 515-3-4-.02(38) (“An analytical test which identifies resources that provide net benefits considering economic, environmental and social factors. A resource option is cost-effective under the societal cost test when present value life cycle benefits exceed present value life cycle costs, evaluated at the utility discount rate. Total benefits equal the total avoided costs multiplied by the energy/capacity supplied by the resource option, plus any resource-specific benefits not otherwise reflected in the total avoided cost. Total costs equal the total installed cost of the resource option plus its operating costs plus any monetized and non-monetized costs attributable to the option.”).

¹³ Georgia Power, 2019 Integrated Resource Plan at 7-40, Docket No. 42310 (Jan. 31, 2019).

¹⁴ Furthermore, from the perspective of economic analysis, uncertainty around the precise value of benefits to use would actually result in a higher value of the social cost of greenhouse gases, not a lower value. See Institute for Policy Integrity et al., Comments on Quantifying and Monetizing Greenhouse Gas Emissions in the Safer Affordable Fuel-Efficient Vehicles Proposed Rule and Preliminary Regulatory Impact Analysis 24 (Oct. 26, 2018), *available at* https://policyintegrity.org/documents/Emissions_Standards_PRIASCC_Comments_Oct2018.pdf.

the Social Cost of Carbon (“IWG”) undertook a multi-year, transparent process using the best available peer-reviewed science and economics to develop estimates of the climate damages caused by each additional ton of emissions. The IWG’s estimates were most recently updated in 2016,¹⁵ and those 2016 estimates are widely recognized as the best available estimate of the marginal cost of damage from emissions. The IWG’s methodology and estimates have been endorsed by the National Academies of Science, the U.S. Government Accountability Office, federal courts, and countless scientific and economic experts.¹⁶

A number of states have also recognized the value in using the IWG’s estimates and have begun using those values to measure the harms from carbon dioxide emissions in IRP proceedings. For example, in August 2018, the Nevada Public Utilities Commission updated its IRP regulations to require utilities to “calculate[e] the present worth of societal costs for each alternative plan” by “estimat[ing] the level of environmental costs resulting from carbon dioxide emissions for that year and the social cost of carbon,” using the “best available science and economics,” such as the IWG estimates.¹⁷ Similarly, in May 2018, the Washington State Utilities and Transportation Commission’s approval letters for three Integrated Resource Plans recommended that the utilities use the Interagency Working Group estimates of the social cost of carbon in future IRPs,¹⁸ and the state just enacted a law requiring the use of the social cost of carbon in utility resource planning.¹⁹ In March 2017 the Colorado Public Utility Commission required Xcel Energy to use the social cost of carbon in a sensitivity analysis for its Electric Resource Plan,²⁰ and the state legislature just passed a bill requiring the utility commission and utilities to evaluate “the cost of carbon dioxide emissions” in resource planning.²¹

For more details on how these and other states—including California, Illinois, Maine, Minnesota, New Jersey, and New York—have used the social cost of carbon in various electricity policy contexts, and for a guide on how other states can apply the social cost of greenhouse gases to their proceedings, see Policy Integrity’s report on *Opportunities for Valuing Climate Impacts in U.S. State Electricity Policy*²² and <https://costofcarbon.org>.

¹⁵ Interagency Working Group on the Social Cost of Greenhouse Gases, Technical Support Document: Technical Update of the Social Cost of Carbon for Regulatory Impact Analysis under Executive Order 12866 (2016), *available at*

https://obamawhitehouse.archives.gov/sites/default/files/omb/inforeg/scc_tsd_final_clean_8_26_16.pdf.

¹⁶ See, e.g., Richard L. Revesz et al., *Best Cost Estimate of Greenhouse Gases*, 357 SCIENCE 655 (2017).

¹⁷ Nev. Pub. Util. Comm’n, Investigation and Rulemaking to Implement Senate Bill 65 of 2017, Docket No. 17-07020 (Aug. 5, 2018), http://pucweb1.state.nv.us/PDF/AxImages/DOCKETS_2015_THRU_PRESENT/2017-7/32153.pdf (recommending the use of the “best available” estimates from the Interagency Working Group on Social Cost of Greenhouse Gases issued in August 2016).

¹⁸ Wash. Util. & Transp. Comm’n, Press Release, Energy Regulators Want Closer Look at Utilities’ Coal Plant Costs (May 7, 2018), <https://www.utc.wa.gov/aboutUs/Lists/News/DispForm.aspx?ID=527>.

¹⁹ Wash. Sen. Bill. 5116 (signed by Gov. Inslee on May 7, 2019).

²⁰ <https://costofcarbon.org/states/entry/colorado-puc-requires-utility-to-use-scc-in-electric-resource-plan>

²¹ Colo. Sen. Bill 19-236 (passed May 3, 2019).

²² DENISE A. GRAB ET AL., INST. FOR POL’Y INTEGRITY, OPPORTUNITIES FOR VALUING CLIMATE IMPACTS IN U.S. STATE ELECTRICITY POLICY (2019), *available at*

https://policyintegrity.org/files/publications/Valuing_Climate_Impacts.pdf.

In short, contrary to Georgia Power’s assertions, there exists a well-developed, expert-validated, readily available estimate of the expected monetary damages from carbon dioxide emissions: the IWG’s estimates. Multiple other state utility commissions have instructed their utilities to incorporate the IWG’s estimates in their IRP analyses. Given the PSC’s statutory and regulatory mandates to monetize environmental externalities in IRPs to the extent possible, Georgia should similarly require its utilities to apply the IWG’s Social Cost of Carbon estimates in their IRPs.

Georgia Power did conduct a sensitivity analysis looking at how future carbon dioxide regulation compliance prices might affect the forecast. In particular, the utility “used three CO₂ price paths in developing the IRP, representing \$0 carbon, \$10 carbon and \$20 carbon views.”²³ However, this analysis is insufficient, as even the highest carbon dioxide price modeled by the company is substantially lower than the conservative estimates calculated by the IWG.²⁴ While the Company’s models price carbon between \$0 and \$20 per ton, the IWG’s central estimate of the social cost of carbon is \$50 per ton (in 2018\$) and goes up to \$70 per ton (in 2018\$) by the end of the IRP review period in 2038. The IWG also calculated a “high-impact” estimate of the social cost of carbon, to reflect that many uncertain damages are omitted from the central estimate. The high-impact estimate of the social cost of carbon for year 2038 emissions is \$214 per ton (in 2018\$)—over ten times the highest carbon price that Georgia Power’s model applies.

By pricing the carbon dioxide effects so low, the values fall far short of reflecting the full social welfare losses from climate change. Even this sensitivity analysis fails to fully account for the expected harms that each additional ton of carbon dioxide will contribute to global temperature changes and, consequently, flooding, agricultural losses, human health effects, and more. From reviewing the IRP and its supporting documentation, regulators and the public will not be able to understand the full scope of impacts from Georgia Power’s different proposed resource mixes.

In order to help the PSC and Georgians better assess the utility’s proposals, IRPs should clearly quantify the greenhouse gas emissions in each year under plan alternatives, and then should monetize the associated climate damages.²⁵ Georgia’s societal cost test requires the quantification and, where possible, monetization of environmental effects in the IRP process. The Social Cost of Carbon is a readily available tool that the PSC can and should apply in implementing its regulations. Without such information, the Commission cannot determine whether the IRP “adequately demonstrates the economic, environmental, and other benefits to the state and to customers of the utility”²⁶ and

²³ Georgia Power Company, Response to Data Request No. STF- JKA-1-8 at 2, Docket No. 42310 (Mar. 8, 2019).

²⁴ The social cost of greenhouse gas metrics try to capture as many climate damage categories as possible, from flooding to agriculture productivity to temperature-related changes in the demand for cooling and heating. Nevertheless, some significant categories of damages, like the risk of catastrophic climate outcomes, cannot currently be accurately modeled. Therefore, though the Interagency Working Group’s most recent 2016 analysis produced the best available estimates of the Social Cost of Carbon, that analysis is widely recognized as a conservative underestimate of climate damages. See Richard L. Revesz et al., *Improve Economic Models of Climate Change*, 508 NATURE 173 (2014).

²⁵ As it stands now, with all of the values redacted, the public cannot obtain even the quantification of projected emissions without becoming a party to the proceeding.

²⁶ GA. CODE ANN. § 46-3A-2.

“maximiz[es] net societal benefit,”²⁷ as required by statute and regulation. Moreover, without information on the cost of carbon emissions made easily accessible in the IRP, Georgians cannot understand the climate consequences of the resource portfolios chosen. For both this IRP proceeding and in future IRP proceedings, the Commission should require utilities to quantify and monetize greenhouse gas emissions, using the best available science and economics, currently the IWG working group’s 2016 estimates of the Social Cost of Carbon.

Sincerely,

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²⁷ GA. COMP. R. & REGS. § 515-3-4-.05.