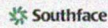


Georgia IRP - Introduction & Overview

October 2021

Workshop Series

Oct. 13 Georgia Power IRP--Introduction & Overview
Nov. 17 Renewable Energy in the IRP
Dec. 8 Climate & Environmental Implications of the IRP
Jan. 12 Energy Efficiency in the IRP
Feb. 9 Reliability, the Reserve Margin & Seasonal Planning
Mar. 9 Energy Equity & Transmission Planning
All trainings are Wednesdays via Zoom from 3:30 - 5:00p



1. Introduction

The sponsors designed this overview as a companion guide for the first of the 2022 Integrated Resource Plan (IRP) training and roundtable discussion series, entitled “Georgia Power IRP – Introduction and Overview.”



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2. Electric Utilities in Georgia

Types of Electric Utilities in Georgia

There are 94 retail electric utilities in Georgia. These 94 utilities fall into three ownership types - investor-owned, electric membership cooperatives and electric cities (municipals).

- **Investor-owned** – There is one investor-owned electric utility in Georgia today - Georgia Power
 - **What:** Georgia Power is a subsidiary of the Southern Company. Other subsidiary companies of Southern Company include Gulf Power, Alabama Power, Mississippi Power, Southern Gas, Southern Power and thirteen other companies.¹

¹ See Southern Company's *Our family of companies* (2016), available at <https://www.southerncompany.com/our-companies.html>.

- **History:** In various incarnations, Georgia Power has operated in Georgia since the advent of electric service in the late 19th century. Savannah Electric Company was another electricity IOU in Georgia, but it merged with Georgia Power in 2006.
- **Sources of power:** Georgia Power owns and operates a diverse portfolio of electrical generating units and generates most of the electricity it sells, though Georgia Power also purchases power from independent power producers under long-term power purchase agreements.
- **Electric Membership Cooperative** – There are 41 electric membership cooperatives (EMC) in Georgia.²
 - **What:** EMCs are customer-owned local corporations governed by boards of directors elected by each EMC’s members.
 - **History:** EMCs came into being in the 1930s with the creation of the Rural Electrification Administration (1935) and the passage of the Rural Electrification Act (1936) and the Electric Cooperative Corporation Act (1937).
 - **Sources of power:** Thirty-eight of Georgia’s 41 EMCs are members of Oglethorpe Power (see below) and buy a portion of their power from Oglethorpe Power. Three of Georgia’s 41 EMCs purchase power from the Tennessee Valley Authority (Blue Ridge Mountain EMC, North Georgia EMC, and Tri-State EMC). These three EMCs serve customers in north Georgia.
 - Oglethorpe Power meets approximately 2/3’s of its member power requirements.³
 - Some individual EMCs also contract with the Southeastern Power Administration and independent power producers for power supply.
- **Electric Cities (“Munis”)** – There are 51 cities and 1 county that operate their own electric utilities in Georgia.
 - **What:** Cities and counties across America provide both general governmental services, such as public safety, judiciary, public works, etc., and distinct business-like services, such as water, sewer, solid waste, or electricity. The operations of the municipal electric utility are governed by the city council or county commission.
 - These utilities typically operate as “enterprise funds,” a type of proprietary fund within the financial structure of the local government, which is used to account for the income and expenditures of the “business” function, like electric service.
 - **History:** City electric utilities, including ones in Georgia, have been in operation since the early days of electrification.
 - **Sources of power:** Forty-nine of Georgia’s 52 “municipal” utilities participate in the Municipal Electric Authority of Georgia (MEAG).
 - The city of Hampton buys from one of the state’s EMCs, the city of Chickamauga buys from the Tennessee Valley Authority and Dalton Utilities owns its own generation assets.
 - Crisp County participates in MEAG, but also owns its own generation assets.

² This does not include Haywood EMC, headquartered in Waynesville, NC. Haywood serves a small slice of northern Rabun County in Georgia.

³ See *Oglethorpe Form 10-K: For the fiscal year ended December 31, 2017*, at 1 and 16 (Mar. 29, 2018), available at <http://opc.com/wp-content/uploads/2018/03/10K-123117.pdf>.

Figures 4 and 5 provide a relative sense of size of these utility types, both in terms of total retail sales, in megawatt-hours, and number of residential and commercial customers.

Figure 1. Total Retail Electricity Sales (MWh) by Utility Type Georgia, 2020⁴

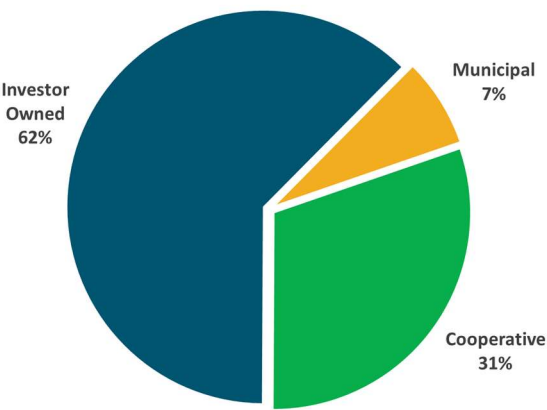
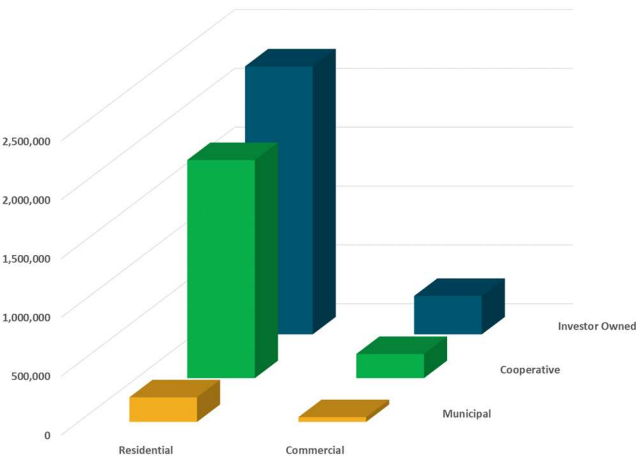


Figure 2. Residential and Commercial Customers by Utility Type Georgia, 2020⁵



Electric Utility Service Areas - The Georgia Territorial Act

In 1973, the Georgia General Assembly adopted the Georgia Territorial Electric Service Act, establishing assigned territories for Georgia utilities. Within their assigned territories, Georgia utilities have the responsibility and the privilege to serve all residential, small business and existing large commercial and industrial customers. The purpose of the Territorial Act was to avoid duplication of electric lines and assure efficient and orderly electric service in the state.⁶ The Act also preserved limited retail competition for large loads.

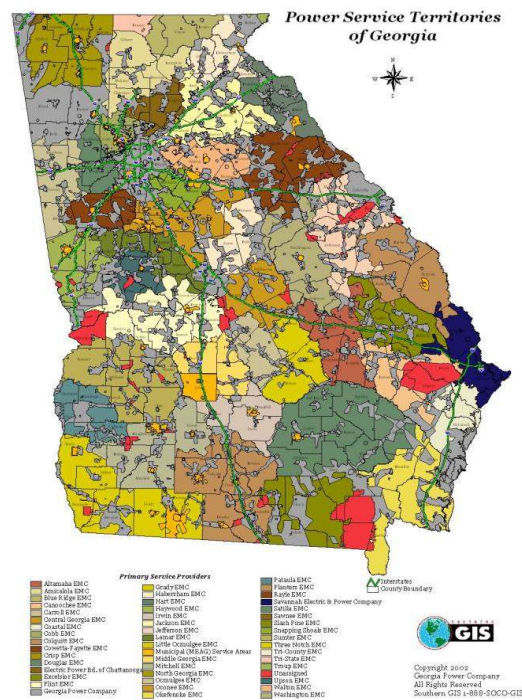
⁴ U.S. Energy Information Administration. (2021). Form EIA-861M (formerly EIA-826) detailed data: Sales and Revenue Aggregated (26 Aug 2021), available at https://www.eia.gov/electricity/data/eia861m/xls/sales_revenue.xlsx.

⁵ Ibid.

⁶ See O.C.G.A. § 46-3-2. Legislative findings and declaration of policy (1973), available through Georgia General Assembly or Georgia Secretary of State websites.

Under the Territorial Act, every geographic area within the state was either assigned to an electric supplier or declared unassigned as to any electric supplier by the Commission. Customers with connected loads of less than 900kW (about the size of a modern grocery store) must take electricity from the franchised supplier. However, if any customer with a load of 900kW or more locates within the corridors of an electric supplier’s lines, that customer may have a choice of suppliers. Once a customer chooses a supplier, the Territorial Act provides that the chosen electric supplier has the exclusive right to serve that customer for the life of the premises.⁷

Figure 3. Electric Service Territories in Georgia



Source: GEFA Georgia Energy Review, 2005

3. Energy Regulation in Georgia

What is the Georgia Public Service Commission (PSC) and What Does It Do?⁸

The Georgia PSC regulates investor-owned electricity, natural gas, and telecommunications utilities (IOUs). The Georgia Public Service Commission has exclusive power to decide what are fair and reasonable rates for services under its authority. It must balance Georgia citizens' need for reliable services and reasonable rates with the need for utilities to earn a reasonable return on investment.

Whether or not the PSC regulates a utility is determined by the type of service the utility provides and by the utility's ownership structure. The PSC regulates the rates charged and the services provided by most intrastate, investor-owned telecommunications, natural gas and electric utilities operating in Georgia and pipeline safety regulations. The Commission does not set rates for municipally owned electric and gas utilities or electric

⁷ See Georgia Public Service Commission's *Staff Report on Electric Industry Restructuring* at 24, Dkt. 7313 (Jan. 1998), available at <http://www.psc.state.ga.us/electricindust/Final%20Draft%2012398.pdf>.

⁸ See Georgia Public Service Commission's *What is the Commission's Role and Responsibility?* and *What Is Regulated by the PSC?* (2021), available at <https://psc.ga.gov/about-the-psc/>.

membership corporations (EMCs). However, municipally owned electric companies and EMCs must come before the Commission on some matters such as financing and the resolution of territorial disputes. The Commission also must solve territorial disputes for municipally owned gas companies as well as ensure the safety of all natural gas pipelines in the state. The three main kinds of utilities regulated by the PSC are electric, gas, and telecommunications.

Electric

- Investor-owned electric power companies (1)
- Electric membership corporations (42) (Territory and financing only)
- Municipally owned electric power companies (52) (Territory only)

Gas

- Investor-owned natural gas companies (1)
- Liquefied Natural Gas Plants (5) (Safety only)
- Master meter operators (131) (Safety only)
- Municipally owned natural gas companies (84) (Safety and territory only)

Telecommunications

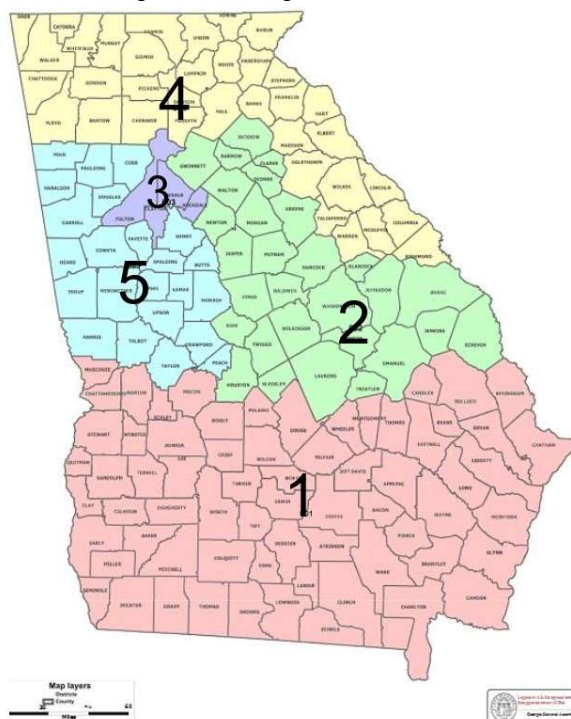
- Alternate operator service providers (160)
- Automatic dialing and announcement devices (115)
- Pay Phone Service Providers (603)
- Institutional telephone service providers (38)
- Interexchange carriers (78)
- Resellers (600)
- Telephone companies (34)
- Telephone service observing equipment users (338)
- Competitive Local Exchange Carriers (221)

PSC Commissioners

There are five PSC Commissioners. The Commissioners are elected statewide for six-year terms, but they must live within the district they represent (see map). The chair is elected by the Commission for a two-year term with the opportunity to be re-elected for an additional two-year term. The current PSC Commissioner are (in order by district):

- **Jason Shaw** represents District 1. He is from Lakeland, GA (Lanier Co.). He has served on the Commission since 2019.
- **Tim Echols** (Vice-Chairman) represents District 2. He is from the Jefferson / Hoschton area (Jackson Co.). He has served on the Commission since 2010.
- **Fitz Johnson** represents District 3. Commissioner Johnson recently moved to Fulton Co. The Governor appointed him to the Commission in July 2021 (to fill a vacancy) and he will stand for election in 2022 for the remaining two years in current term.
- **Lauren “Bubba” MacDonald** represents District 4. He is from the Clarkesville area (Habersham Co.). He has served on the Commission since 2008 (he previously served on the Commission from 1998-2002).
- **Tricia Pridemore** (Chair) represents District 5. She is from Marietta, GA (Cobb Co.). She has served on the Commission since 2018.

Figure 4. Georgia PSC Districts



Regulation of Electric Membership Cooperatives and Municipal Electric Utilities

As mentioned above, the Georgia Public Service Commission exercises limited regulatory oversight over the state's electric membership cooperatives (EMCs) and municipal electric utilities (electric cities or munis). Some of these oversight responsibilities include approving financing for EMCs, requiring the filing of current electric tariffs for all utilities and resolving territorial disputes among all utilities.

EMCs are customer-owned local corporations governed by boards of directors elected by each EMC's membership. The operations of the municipal electric utility are governed by the city council or county commission. These entities are, respectively, responsible for setting rates, conducting long-range planning, and ensuring reliability requirements are met.

Role of the Federal Energy Regulatory Commission (FERC) in Georgia

The Federal Energy Regulatory Commission (FERC) has limited regulatory authority over energy generation, transmission, and sales in Georgia. The Federal Power Act (1935) gave the federal government jurisdiction over *interstate* electricity transmission and wholesale electricity sales ("sales for resale" done under PPAs) and left regulation of electricity generation for direct sale, distribution of electricity and retail sale of electricity to state jurisdiction. FERC is also responsible for adjudication of issues arising under other federal acts, such as the Public Utility Regulatory Policies Act of 1978 (PURPA), which expanded the realm of electricity generation.

4. What is the Integrated Resource Plan (IRP)?

The Georgia Integrated Resource Planning Act⁹

In the simplest terms, the Georgia IRP is a twenty-year plan. This planning requirement started with passage of the Integrated Resource Planning Act of 1991 (O.C.G.A. § 46-3A-1), which requires that all electric utilities whose rates are fixed by the Georgia Public Service Commission (i.e., Georgia Power Company) submit an Integrated Resource Plan (IRP) at least every three years. The IRP must contain the utility's electric demand and energy forecast for its service territory for at least a 20-year period and describe the utility's program for meeting these forecasted requirements in an economical and reliable manner. To fulfill this requirement, the utility projects what plants it will decommission and when, the size and type of plants it will build and when (or what agreements it needs to execute to purchase the requisite power from someone else and when it will enter those contracts), and how the implementation of demand-side management (energy efficiency, direct load control and demand response) programs could help lessen the forecasted load. The purpose of this certification process is to ensure that energy requirements are met, and customers receive safe and reliable electric service.

Background on the Act¹⁰

The IRP Act grew from the difficulties inherent in the Public Service Commission's ex post facto reviews of generating plants, such as their review of Georgia Power Company's construction of the original Plant Vogtle units (1 and 2). Prior to enactment of the IRP Act, the Public Service Commission ("the Commission" or PSC) did not review a utility's management decisions pertaining to the need, planning, and construction of expensive electric generating facilities until the utility applied for financing approval or filed for recovery of these costs in rate case proceedings after the plants were partially or fully built. If planning or construction management decisions were found to be imprudent or if the facility was deemed unnecessary in the rate proceedings, the Commission could disallow recovery of certain costs.

The IRP Act gave the Commission the authority to modify, reject or approve a plan for meeting future energy demands prior to any commitment regarding construction of the facility, contracting for purchase power or the implementation of a demand-side resource. This certification process helps to ensure the energy is needed, gives the utility more certainty in recovery of expenditures, and ensures the selected resource provides the best value to customers, taking into consideration cost and reliability.

History of Georgia Power IRPs

The Georgia PSC has reviewed and approved ten Georgia Power IRPs since passage of the IRP Act in 1991. Appendix A provides brief overview of these dockets.

Anatomy of an IRP Filing

Using the 2019 IRP filing as a guide, we can sketch out a basic outline of Georgia Power's typical modern IRP filing. The materials can be filed in multiple dockets, depending on the issues involved. Typically, the filing has at least two dockets – the main IRP and the demand-side management plan. The IRP typically includes a main document and three technical appendix volumes" that contain various s:

⁹ Excerpted from the Georgia Energy Review 2005.

¹⁰ Excerpted from the Georgia Energy Review 2005.

- **Integrated Resource Plan (Docket 42310)**
 - Main Doc
 - Technical Appendix Volume 1
 - Reserve Margin Study
 - Budget 2019 Load & Energy Forecast
 - Scenario Fuel Forecast
 - Generation Technology Data Book
 - Selected Supporting Information
 - Env. Compliance Cost Recovery
 - Coal Combustion Residuals Asset Retirement Obligations
 - Capacity Upgrades at Goat Rock
 - Investment in the Hydro Fleet
 - Offer Wholesale Gen. To Retail Fleet
 - Scherer Unit 3 Wholesale Block Depreciation
 - Battery Energy Storage Projects
 - Technical Appendix Volume 2
 - 2019 IRP Plan and Reference Tables
 - DSM Program Documentation
 - DSM Case Summary Data
 - Technical Reference Manual or TRM
 - Long Term Rate Impacts
 - Resource Mix Study
 - Financial Review
 - Unit Retirement Study
 - Environmental Compliance Strategy
 - Renewable Cost Benefit Framework
 - Technical Appendix Volume 3
 - Transmission Plan
- **2019 Amended DSM Management Plan (Docket 42311)**
 - 2019 DSM Application Docket No 42311
 - 2019 DSM Program Plans
 - 2019 DSM Program Planner Summary

5. How Does the IRP Process Work?

Sequence of Events in the Docket

The review and deliberation of the IRP is a six-month proceeding before the PSC that includes the following steps:

- **Utility Filing:** the process kicks off in earnest with the filing of the IRP with Georgia Power Company's filing of its IRP at the end of January.

- **Discovery / Data Requests:** the Georgia Public Service Commission’s Public Interest Advocacy Staff (see “Role of the PSC Staff”) have discovery rights in proceedings before the Georgia PSC. Often starting before the utility’s filing and lasting throughout the three years covered by the docket, the Georgia PSC staff submit data requests. Georgia Power must respond within 21 days of the requests and may file its response as “public disclosure” or “trade secret.”
- **Three Rounds of Hearings:** The proceedings involve three sets of hearings (note: all witnesses pre-file testimony prior to their respective hearing):
 - Company Case: Georgia Power seats witnesses that present the Company’s direct case. After the Company’s witnesses present, the PSC Staff¹¹ and any intervenor that so chooses conduct cross-examination of the Company’s witnesses.
 - PSC Staff & Intervenors’ Cases: PSC Staff and any intervenor that chooses to sponsor witnesses present their cases. The Company, the PSC Staff (not for their own witnesses), and any intervenor that so wishes conduct cross-examination of these witnesses.
 - Company Rebuttal: Georgia Power witnesses present rebuttal testimony. Just like round one, after the witnesses present their rebuttal testimony, the PSC Staff and any intervenor that so chooses conduct cross-examination of the Company’s witnesses.
- **Final Briefs:** After hearings are done, all intervenors that choose to do so, submit a final brief.
- **Stipulation Negotiations:** Typically, the Company, PSC Advocacy Staff and intervenors enter stipulation negotiations to reach a negotiated settlement proposal for the Commission’s consideration. This process can start at any point during the proceeding, but often begins in earnest after the second round of hearings.
- **PSC Staff Recommendation:** At a regularly scheduled Energy Committee meeting, PSC Advisory Staff presents its recommendation to the Commissioners.
- **Final Order:** At a specially called Administrative Session, the PSC issues its final order.

The Role of the PSC Staff

For the IRP (as for other complex cases before the Commission), the PSC Staff divides itself into two groups: the Public Interest Advocacy Staff (“Advocacy Staff”) and the Commissioner Advisory Staff (“Advisory Staff”). The Advocacy Staff are party to the case, the Advisory Staff are not.

More specifically, the Advocacy Staff are responsible for performing an independent evaluation of the filed case from the standpoint of promoting the public interest and just and reasonable rates, and for advocating for that position. The Advocacy Staff presents witnesses, conducts cross-examination, and may negotiate settlements with other parties. The Advisory Staff acts as a technical advisor to the Commissioners and makes its recommendation to the Commission based exclusively on its independent evaluation of the facts contained in the record.

The Role of Trade Secret Data in the Proceeding

Georgia Power considers portion of its IRP filing and elements of its responses to staff data requests to contain trade secret information. In that case, Georgia Power files separate copies of the relevant information. Only the Georgia PSC staff and those parties to the case that sign non-disclosure agreements with Georgia Power’s legal counsel are permitted access to trade secret information. All such information must be destroyed within a specified number of days after the final order.

¹¹ The role of PSC Staff, and the distinction between PSC Advocacy Staff vs. PSC Advisory Staff, is discussed further on page 3.

Ex Parte Communications

The Georgia Public Service Commission adopted rules in 2007 to govern ex parte communications. Ex parte communication is a communication by one party with a Commissioner about a case without the other parties to the case having the opportunity to respond and without members of the public being able to know what was said. The current rules forbid Commissioners and their staff from communicating privately with any parties after the evidentiary hearings conclude.

6. Expert Witnesses & Testimony

The Georgia Public Service Commission proceedings are quasi-legal proceeding that look like court proceedings in many respects, though they are governed by less rigorous rules and customs. One element of the quasi-legal format is that complex dockets require pre-filing of expert testimony. The hearings consist of the presentation of this pre-filed testimony by the testifying witnesses, who are then cross examined by the representatives of other parties to that case. Tables 2 and 3 in Appendix B provide details about expert witness testimony in recent IRPs.

7. Estimated 2022 IRP Schedule

The dates listed are estimated dates based on prior IRP schedules.

- January 31 The Company files its 2022 IRP
- March 25 The Company files its direct testimony
- April 13-15 First set of hearings held (Company direct case)
- April 29 PSC Advocacy Staff and Intervenors file direct testimony
- May 16 – 18 Second set of hearings held (PSC Advocacy Staff & Intervenors' cases)
- June 3 The Company files rebuttal testimony
- June 14 – 15 Third and final set of hearings held (Company rebuttal)
- June 27 All parties submit final briefs
- July 12 PSC Advisory Staff presents its recommendation at Energy Committee
- July 17 PSC makes final ruling

Figure 5. Estimated Timeline for 2022 IRP



8. Who Typically Gets Involved in the Georgia Power IRP Process?

The Georgia Power Company and the PSC Advocacy Staff are automatically parties to the case. All other parties must file an application for leave to intervene within 30 days following the first published notice of the

proceeding. Within its application, the intervenor must describe its unique interest in the case and describe its intent with respect to filing direct testimony (by when and on what subject). Once an application has been accepted by the Commission, that intervenor is considered a party to the case and will receive directly all documents filed under the docket.

The list of parties in recent IRPs included the following organizations:

- Georgia Public Service Commission Public Interest Advocacy Staff
- Georgia Power Company
- Association for Fairness in Ratemaking
- Clean Line Energy Partners
- Commercial Group
- Emory University
- Georgia Association of Manufacturers
- Georgia Distributed Energy Group
- Georgia Industrial Group
- Georgia Interfaith Power & Light
- Georgia Large Scale Solar Association
- Georgia Solar Energy Assoc.
- Georgia Solar Energy Industries Assoc.
- Georgia State Building and Construction Trades
- Georgia Watch
- MZC Foundation d/b/a The Ray
- Partnership for Southern Equity
- Resource Supply Management
- Sierra Club
- Southern Alliance for Clean Energy
- Southface Energy Institute
- Southern Renewable Energy Association
- Vote Solar

9. What Are the Ways to Get Involved in the IRP?

Different stakeholders engage in the IRP process in different ways. The bullets below describe a range of ways that stakeholders have gotten involved in past Georgia Power IRPs.

1. ***Making Public Comment*** – At the outset of the first two rounds of hearings (see Sec 5), the Georgia PSC takes public comment. Those wishing to make public comment must sign up to do so with the PSC staff. The PSC typically allows each commenter to speak before the Commission for 3-5 minutes. Commissioners have taken the position that the public comment process is reserved for non-parties.
2. ***Meeting with Commissioners*** – Commissioners are popularly-elected constitution officers. Anyone can contact Commissioners and request a meeting. One-on-one meetings can be a good opportunity to make Commissioners aware of specific issues of concern. Intervenors in dockets must abide by the ex-parte communication rules (See Sec. 5)
3. ***Letter Writing*** – Organizations have organized letter writing campaigns in the past to communicate positions to PSC Commissioners.
4. ***Hosting Public Rallies at the Proceedings*** – Organizations have organized public rallies near the Georgia PSC building on hearing days to communicate positions to docket participants and the media.
5. ***Intervening in Docket*** – Becoming a formal party to the IRP requires a stakeholder to file a petition for leave to intervene, which specifies the party's interests in the case. While a petition for leave to intervene can be rejected and/or challenged by other parties, they rarely are. The subsequent level of effort by a party to the case can range. The three sub-bullets below describe three hypothetical levels of intervention.

- a. **Low:** intervene in the proceeding to receive and track filings. The participant can elect whether to attend hearings.
- b. **Medium:** intervene in the proceeding, actively review all expert witness testimony, attend all hearings, cross-examine witnesses, file necessary briefs, and participate in any settlement negotiations.
- c. **High:** enlist expert witness(es), file expert testimony, put expert witness(es) up for cross-examination, and conduct all activities outlined in Medium scenario.

Estimated timing of intervention tasks / workload in any IRP year

Review IRP filing	February & March
Review data requests and responses	February - May
Review Company's pre-filed testimony	March & April
Prepare cross-examination questions for Company's direct case	April
Prepare direct testimony	January – April
Review pre-filed testimony of other intervenors	End of April – mid-May
Prepare cross-examination questions for other intervenors' direct cases	May (first 2 weeks)
Review Company's rebuttal testimony	June (first two weeks)
Prepare cross-examination questions for Company's rebuttal case	June (first two weeks)
Prepare final brief	June
Participate in stipulation negotiations (if applicable)	June – early July (can be earlier)

10. Issues We Anticipate in 2022 IRP

Renewable Energy

Since about 2011, Georgia Power has added solar resources to its portfolio mix by acquiring solar resources under long-term contract (competitive procurement of PPAs). Appendix C provides background on Georgia Power's recent solar procurement programs.

1. 2019 IRP Solar Procurement
 - a. How did the program perform?
 - b. Were all MW of capacity procured?
 - c. Did the DG procurement succeed?
 - d. Did the Customer Site Program succeed?
 - e. Did the biomass carve-out succeed?
2. CRSP Results
 - a. Was the subscription program a success?
 - b. Did the 1,000 MW of CRSP get subscribed?
 - c. Should it be continued and, if so, should it be modified?
3. Solar Procurement Program 2023-2025
 - a. What will be the overall procurement program size/ MW target?
 - i. What are respective allocations to utility-scale and DG?

- b. Will customer subscription program continue?
 - c. Will the Customer-Sited Program continue?
 - d. Will there be a biomass carve-out?
 - e. Renewable Energy Additional Sum – what is it and is it set appropriately?
- 4. Value of Solar
 - a. RCB Framework
 - i. What will be the Support Capacity Production Costs that will be deducted from standard QF compensation, as discussed in the Avoided Cost docket (4822)?
 - b. Capacity Worth Factor Table (CWFT) / Incremental Capacity Equivalence
 - i. Should the winter reserve margin analysis be incorporated in the CWFT?
 - c. What are the results of the analysis of the **capacity value of solar** & other renewable technologies required in the Avoided Cost docket (4822)?
 - d. What is Georgia Power's proposal to study **Locational Pricing** following 2022 IRP as required in the Avoided Cost docket (4822)?
- 5. Other
 - a. Simple Solar
 - i. What is the status of Simple Solar Program?
 - ii. What is the pricing for the Simple Solar Program?
 - b. Low-Income Solar Access and Community Solar
 - i. What is the status of Georgia Power's Community Solar program?
 - ii. How can the Community Solar Program be approved?
 - iii. How can we expand low-income access to solar energy?
 - c. SEEM Study - the avoided cost docket stipulation requires that within six months of approval of the Southeast Energy Exchange Market ("SEEM") by the Federal Energy Regulatory Commission ("FERC"), the Company will file a report identifying what, if any, effects SEEM is expected to have on the calculation of avoided costs in Georgia.
 - i. Will FERC have approved SEEM by this time? Will GPC include this in the IRP?
 - d. Enhanced Demand Response Program for Industrial Customers – what were the results of the discussion of an enhanced DR program for industrial customers that would allow the Company to better accommodate variable energy resources on the system?

Demand Side Management (a.k.a. Energy Efficiency)

In developing the IRP, Georgia Power must consider the value of deploying energy efficiency (referred to as demand-side management or DSM) resources in meeting its forecasted load requirements. In requiring the utility to evaluate DSM programs for meeting its forecasted load, the IRP Act permits energy efficiency to compete with building new conventional power plants as a cost-effective way to meet future demand. Figure 5 in Appendix D provides a graphic description of Georgia Power's past DSM investment.

- 6. Georgia Power DSM Base Case
 - a. What programs are in and what programs are not?
 - b. Does the Base Case strike the right "balance" between economic efficiency and customer equity (TRC benefit vs RIM impact)?
- 7. Alternative DSM cases
 - a. Advocates' Case

- b. Aggressive Case
- 8. DSM Portfolio Performance
 - a. How does Georgia Power's DSM performance compare to other utilities?
- 9. Should the DSM WG continue?
- 10. The of DSM Additional Sum –is it set appropriately?

Climate / Environment / Coal Ash / Water Resource Impacts

- 11. Georgia Power Environmental Compliance Strategy
 - a. What are the big issues in the ECS?
 - b. What is the status and projected cost of the Coal Combustion Residuals plan?
 - i. Including a review of the results from semi-annual CCR filings (as mandated in 2019 IRP)
- 12. Climate goals
 - a. What is Georgia Power's projected carbon emissions?
 - b. How does the 2022 IRP support Southern Company's carbon goals?
 - c. Are carbon regulations or is carbon pricing on the horizon?
- 13. Potential Federal Rules and Requirements
 - a. What new mandates might we see come out of the Biden Administration?
- 14. Other
 - a. What are the environmental justice concerns with, or issues embedded in the IRP?
 - b. Does Georgia Power's 2022 IRP have any water resource or water wars implications?

Reliability, Seasonal Planning, and the Reserve Margin

- 15. Load and Energy Forecast
 - a. Is the load forecast reasonable?
- 16. What is the proposed Target Reserve Margin (TRM)?
 - a. What is the summer TRM?
 - b. Will the GA PSC approve a winter TRM?
 - c. What are the cost implications of summer and/or winter TRM?
- 17. What are the impacts of adopting Winter TRM / seasonal reliability planning?
 - a. What is the impact on renewable resources within the planning framework?
 - b. Can DSM help with winter peak / winter reliability?
 - c. How do Georgia Power's current rates ameliorate or exacerbate winter peak?
- 18. Reliability Metrics
 - a. Discussion of calculation and use of reliability metrics, such as Loss of Load Expectation (LOLE), Economic Optimum Reserve Margin, etc.

Transmission Planning

- 19. 10-Year Transmission Plan
 - i) Is the plan realistic?
 - ii) What are cost implications of transmission plan?
 - (1) Review of recent T&D investments
 - iii) Does the transmission plan consider non-wires alternatives?

- iv) What are implications of other resource planning decisions (unit retirements, renewable energy additions, etc.) for transmission planning?

Unit Retirements / New Capacity Additions

- 20. Does the IRP identify a capacity need over the planning horizon?
- 21. What units are proposed for retirement?
 - a. Are the older coal units economical?
 - i. What's status of Bowen 1 & 2?
 - ii. What about Scherer 1-3 and Wansley 1-2?
- 22. Scherer 4
 - a. Florida Power & Light and Jacksonville have indicated their intent to terminate PPA for Scherer Unit 4, effective 12/31/2021. What is the future of this unit?
- 23. What is the status of procurements approved in 2019 IRP?
- 24. What is the status of the hydro fleet update approved in 2019 IRP?

Energy Storage & Microgrids

- 25. Battery Energy Storage Systems (BESS) projects approved in 2019
 - a. What is status of energy storage demonstration projects and BESS?
- 26. Update on Leaf Battery Pilot (as mandated in 2019 IRP)
- 27. What is status of microgrid research?
 - a. What is the status of Smart Neighborhoods pilot?

Table 1. Appendix A – IRP Dockets to Date & DSM Approvals

IRP Year	Docket # <i>(order date)</i>	Program Years	DSM Approvals
1992	4131	1993-1995	
1995	5601	1996-1998	
1998	8709	1999-2001	
2001	13305 <i>(7/17/01)</i>	2002-2004	Reauthorized air conditioning direct load control program ¹² . Did not approve any new DSM programs (GPSC, 2001). Approved: \$1M per year of weatherization funding by Georgia Power (\$800k for GEFA and \$200k for Resource Service Ministries (RSM)) and \$100k per year of weatherization funding by Savannah Electric or SEPCO ¹³ (GPSC, 2001; GPC, 2004)
2004	17687 <i>(7/14/04)</i>	2005-2007	Created DSM Working Group with mandate to develop DSM plan by 2/15/05. Approved \$2 million for education and the continuation of the Power Credit Program. Increased weatherization funding by GPC to \$1.3M per year and an increase in weatherization funding by SEPCO to \$130,000 (GPSC, 2004, at 23; GPC, 2007, at 38). On May 25, 2005, the PSC approved four pilot DSM programs recommended by DSM Working Group (GPSC, 2005)
2007	24505 <i>(7/13/07)</i>	2008-2010	Approved: five pilot DSM programs (four residential and one commercial); the collection of the additional sum ¹⁴ on SF Power Credit program; an industrial DSM exemption; and a proposed DSM rider for approval in 2007 rate case. Increased GPC annual funding for weatherization to \$2M per year, including \$1.75 for GEFA / WAP and \$250k for RSM/HW (GPSC, 2007, at 14; GPC, 2010, at 5-8)
2010	31081 & 31082 <i>(7/13/10)</i>	2011-2013	Approved: seven certified DSM programs (five residential, two commercial); residential and commercial audit programs; expansion of Single-family Power Credit Program to Multifamily units; and new definition of additional sum. Approved \$2M per year for weatherization ¹⁵ , including: GEFA / WAP - \$1.75M, RSM/HW - \$250k (GPC, Jan 2013, at 5-62)
2013	36498 & 36499 <i>(7/17/13)</i>	2014-2016	Approved: nine certified DSM programs (six residential and three commercial); and new definition of additional sum (GPSC, Jul 2013). Approved \$2M per year for weatherization (approved 9/27/13 pursuant to separately filed low-income weatherization program plan required in the IRP order) ¹⁶ including GEFA / WAP - \$1.75M and RSM/HW - \$250k (GPSC, Sep 2013, at 1)
2016	40161 & 40162 <i>(7/19/16)</i>	2017-2019	Approved 12 certified DSM programs (seven residential and five commercial), including new income qualified EASP Program (uncertified) with three parts (GPSC, 2017, at 1, 5): Single-family via contractor (\$750k/year); Single-family via HopeWorks (\$250k/year); and Multifamily via contractor (\$1M/year). Dedicated \$500,000 multifamily affordable housing (MFAH) “carve out” in Home Energy Improvement Program (GPSC, 2016 at 35 in stipulation)
2019	42310 & 42311 <i>(7/16/19)</i>	2020-2022	Approved 11 certified DSM programs (six residential and five commercial), including new income qualified HEEAP Program (certified). Also approved income qualified Tariff Based Financing Program Pilot for 500 customers, an increase in HopeWorks budget to \$400k per year; and the continuation of \$500,000 MFAH “carve out” in Home Energy Improvement Program.

¹² The program approved would later become the Power Credit program. Power Credit is an air conditioning, direct load control program in which the utility attaches a radio-controlled device to participants’ central air conditioning units that allows the utility to curtail electricity use by those units during times of peak demand.

¹³ Savannah Electric Power Company (SEPCO) merged with Georgia Power in July 2006.

¹⁴ The additional sum is a performance incentive to compensate Georgia Power for entering long-term power purchase agreements (PPAs) and/or for deploying certified demand-side resources.

¹⁵ Neither the final order nor the stipulation in this docket mentioned weatherization funding. This detail comes from 2013 IRP main document.

¹⁶ GPC and GEFA reached an impasse in 2015 which prevented them from executing a contract for GPC support of the WAP in 2016. At the time, the WAP/GEFA share of GPC weatherization spending was \$1.75M. GPC developed alternate methods to spend those funds in 2016.

Table 2. Appendix B – Georgia Power Expert Witnesses in 2016 & 2019 IRP Cases

Year (Dkt.)	Witness	Job/Role	Focus of Testimony
2019 (42310)	Jeffrey Grubb	Director of Resource Planning for GPC	Present & seek approval of IRP, certification/decertification of specific units, and approval of DSM plan, including certification/decertification of DSM programs. (Panel Testimony)
	Narin Smith	Director of Market Planning for GPC	
	Jeffrey Weathers	Manager of Resource Planning for SCS	
	Mark Berry	VP Environmental for GPC	Support the Company's Environmental Compliance Strategy as part of IRP, including coal ash plan and activities. (Panel Testimony)
	Aaron Mitchell	General Manager for Environmental Affairs for GPC	
2016 (40161)	Jeffrey Burleson	VP for System Planning for SCS	Present & seek approval of IRP, and certification/decertification of specific units. (Panel Testimony)
	Alison Chiok	Director of Resource Policy and Planning for GPC	
	Larry Legg	Manager of Market Planning for GPC	
	Larry Monroe	Senior VP & Chief Environmental Officer for SCS	
	Larry Legg	Manager of Market Planning for GPC	Present & seek approval of DSM plan, including certification/decertification of DSM programs.

Table 3. Appendix B – PSC Staff and Intervenor Expert Witnesses – 2019 IRP

Year (Dkt.)	On Behalf Of	Witness	Employer / Prof. Affiliation	Focus of Testimony
2019 (42310)	Commercial Group	Steve Chriss	Walmart	CRSP program
	Concerned Ratepayers of GA	Steven Prenovitz	CRG	Overall IRP
	Emory University	Edward Borer	Princeton Univ	Support Emory effort to install microgrid
		Joan Kowal	Emory Univ	
	GA Center for Energy Solutions	Peter Hubbard	GA Center for Energy Solutions	Several aspects of IRP
	Georgia Distributed Generation Group	Dr Ben Johnson	Ben Johnson Assoc	Solar programs
		Ryan Sanders	Beltline Energy	
	GA Interfaith Power & Light (GIPL) and Partnership for Southern Equity (PSE)	James Wilson	Wilson Energy Economics	Load forecast and reserve margin study
	GIPL, PSE, Vote Solar & Southface	Dr. William Cox	Greenlink Group	Energy efficiency and solar
	GA Large Scale Solar Association	Arne Olson	Energy & Environmental Economics	Large-scale solar program and Renewable Cost Benefit Framework
	GA Solar Energy Association & GA Solar Energy Industries Association	Casey Busch	Alternative Energy SE	Solar procurement programs
		Steve Chiarello	Inman Solar	
		Georgia Mori	SolAmerica	
		Thatcher Young	Velo Solar	Calculation of GPC avoided cost & RCB Framework
		Dr. William Cox	Greenlink	
	GA Watch	Karl Rabago	Rabago Energy	Residential low-income DSM program(s)
		Charles Harak	National Consumer Law Center	
	GA Public Service Commission Public Advocacy Staff	Lindsay Robbins	NRDC	DSM and solar programs, including RCB and CRSP program
		Jamie Barber	GA PSC	
		Richard Spellman	Richard Spellman	
		John Kaduk	GA PSC	
		John Athas	Daymark Energy Advisors	
		John Hutts	GDS Associates	Load forecast
		John Chiles	GDS Associates	Transmission plan
		Tom Newsome	GA PSC	Overall IRP
		Philip Hayet	Kennedy & Assoc	
		Steven Baron	Kennedy & Assoc	
		Ralph Smith	Larkin & Assoc	Accounting / ratemaking issues
		Robert Trokey	GA PSC	DSM Plan
		Jamie Barber	GA PSC	
		Richard Spellman	Richard Spellman	
		Nick Cooper	GA PSC	Several aspects of IRP
	Southern Alliance for Clean Energy (SACE)	John Wilson	SACE	
		Bryan Jacobs	SACE	DSM Plan
		Forest Bradley Wright	SACE	
		Brendan Kirby	Independent consultant	Reserve margin study & cost effectiveness of renewables
		Theresa Perry	Independent consultant	CRSP
		Mark Detsky	Dietze and Davis	All-source procurement
	Sierra Club	Rachel Wilson	Synapse Energy Economics	Several aspects of IRP
	Southern Renewable Energy Association	Michael Goggin	Grid Strategies	All-source procurement
		Joshua Rhodes	Vibrant Clean Energy	Renewables procurement in overall procurement plan

Renewable Energy in the IRP: Background

Since about 2011, Georgia Power has added solar resources to its portfolio mix by acquiring solar resources under long-term contract (competitive procurement of PPAs). There have been four tranches of competitive renewable procurement programs:

- **Advanced Solar Initiative (ASI)**
 - In 2012, Georgia Power initiated its Advanced Solar Initiative (ASI) to procure up to 210 MW of renewable resources through a combination of Utility Scale and Distributed Generation (DG) Request For Proposals (RFPs) and application processes.
- **Advanced Solar Initiative – Prime (ASI-Prime) – 2013 IRP**
 - The Commission approved the ASI Prime program in Georgia Power's 2013 IRP.
 - It built off the success of the ASI Program
 - ASI Prime sought to add an additional 525 MW of renewable resources.
- **Renewable Energy Development Initiative (REDI) – 2016 IRP**
 - The REDI Program was approved in the 2016 IRP
 - REDI aims to add up to 1200 MW of additional renewable resources to Georgia Power's resource mix (1,050 MW Utility Scale, 150 MW DG) by 2021.
- **2019 IRP and the Customer Renewable Supply Procurement (CRSP)**
 - In the 2019 IRP, the Georgia PSC directed the Company to procure 2,210 MW of new renewable capacity
 - 1,000 MW will be for all retail customers
 - 1,000 MW will be for the Customer Renewable Supply Procurement (CRSP) program
 - GPC will procure 210 MW of Distributed Generation solar - 160 MW will be competitively bid and 50 MW will be customer sited DG purchased at avoided cost
 - Customer Renewable Supply Procurement
 - As part of the Company's 2019 Integrated Resource Plan (IRP), the Georgia Public Service Commission (GPSC) authorized Georgia Power to procure 1,000 megawatts (MW) of renewable resources through power purchase agreements (PPA) for subscription by commercial and/or industrial (C&I) customers, including municipalities, universities, schools, and hospitals, through the CRSP program.
 - Participating customers may purchase a monthly subscription in exchange for receiving hourly credits on their bill based on the production of a portfolio of renewable facilities procured by Georgia Power to supply the CRSP Program (CRSP Portfolios).
 - Georgia Power will retire the Renewable Energy Credits (RECs) on behalf of participating customers generated by the CRSP Portfolio.
 - The program has two segments:
 - 600 MW - available for subscription for our existing C&I customers with an aggregated load of at least 3 MW (CRSP-1 tariff)
 - 400 MW - available for subscription for existing or new C&I customers with incremental new load additions of at least 15 MW (CRSP-NL-1 tariff)

As described above, the bulk of the procured solar capacity is from so-called utility- or large-scale solar, but the utility's procurement programs also include distributed generation / on-site generation. Until the advent of CRSP in the 2019 IRP, these procurements have acquired solar energy for all customers.

Figure 6. Appendix D – History of Georgia Power DSM Investment 2002 - 2019

