

Balancing Increasing Power Demand with Clean Electric Supply

Enabling Near-Term AI Datacenter Growth

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Key Points

1 Rapid Power Demand Growth Emerging:

1. Datacenter load growing since 2020:
 - Streaming/video
 - E-commerce
 - 5G
 - AI
2. Other emerging drivers:
 - Resilient economy,
 - On-shoring industry,
 - Electrification (fleets/cars/homes)
3. Massive AI investments since ChatGPT release in Nov. 2022 accelerate demand for new, large connections.

2 Land Rush and Clean Energy Challenges:

1. Race to secure land, power, and supply chains for point loads of 100MW to 5GW.
2. Clean energy options today involve transmission, renewables, 4-6 hour batteries, natural gas, existing nuclear/hydro, and geothermal.
3. 100% carbon-Free Energy (CFE) and 24/7 CFE requirements further limit location choices.

3 Opportunities Today:

1. Utility-Datacenter Collaboration to:
 - Increase grid flexibility
 - Leverage datacenter backup generation
 - Create win-win solutions for ramp up of load
 - Address grid stability issues exacerbated by large loads
2. Transmission Grid Enhancing Technologies (GETs) to accelerate connection.

4 Accelerating Tomorrow's Solutions:

1. Advanced Reactors, Long-duration Energy Storage, and carbon capture and storage to meet data center needs
2. H2 turbines, renewable fuel and other clean backup
3. Advanced power electronics and controls to reliably manage data center load in a high-renewable grid



Carolinas

"Eight times the growth we projected just two years ago..."

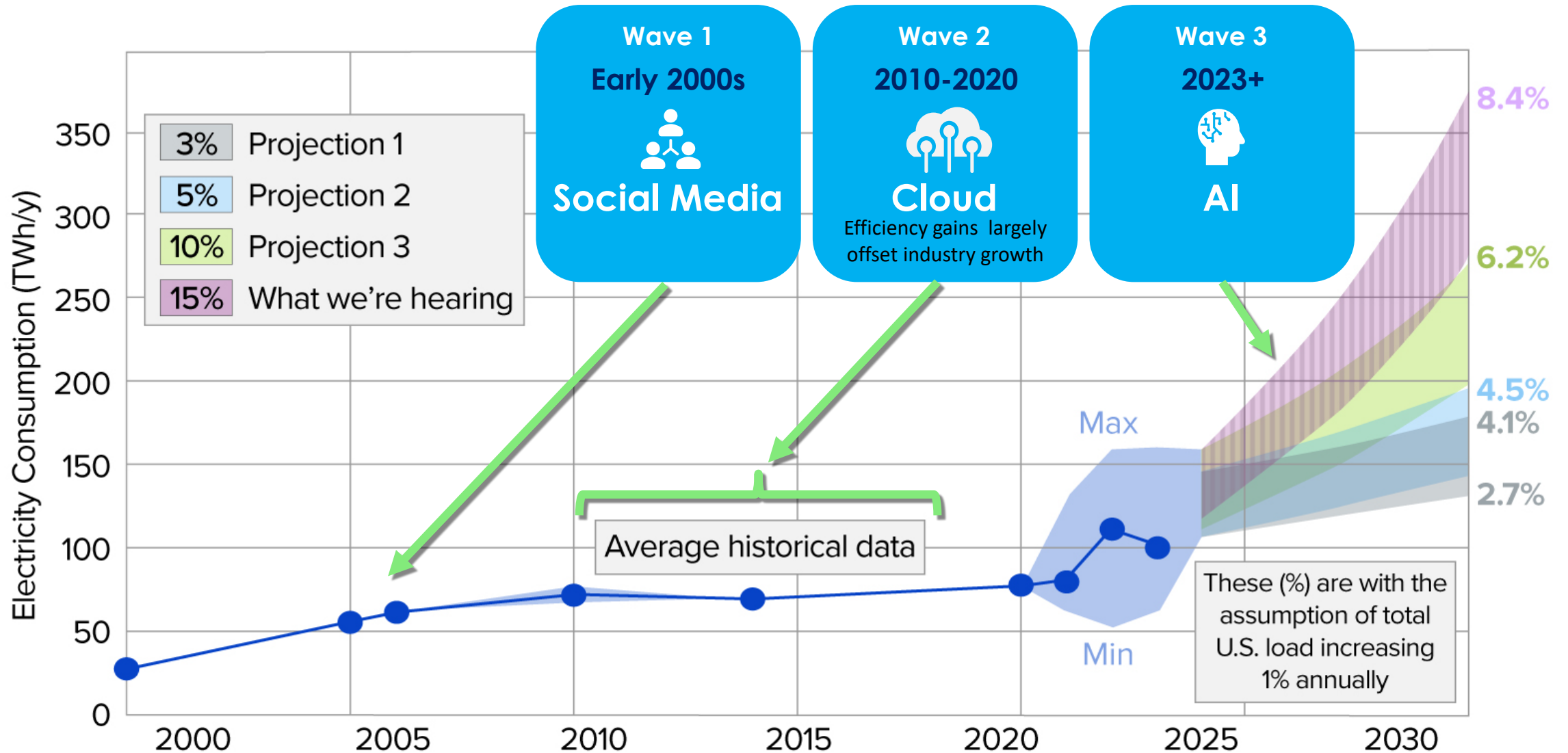
Lynn Good
President and CEO



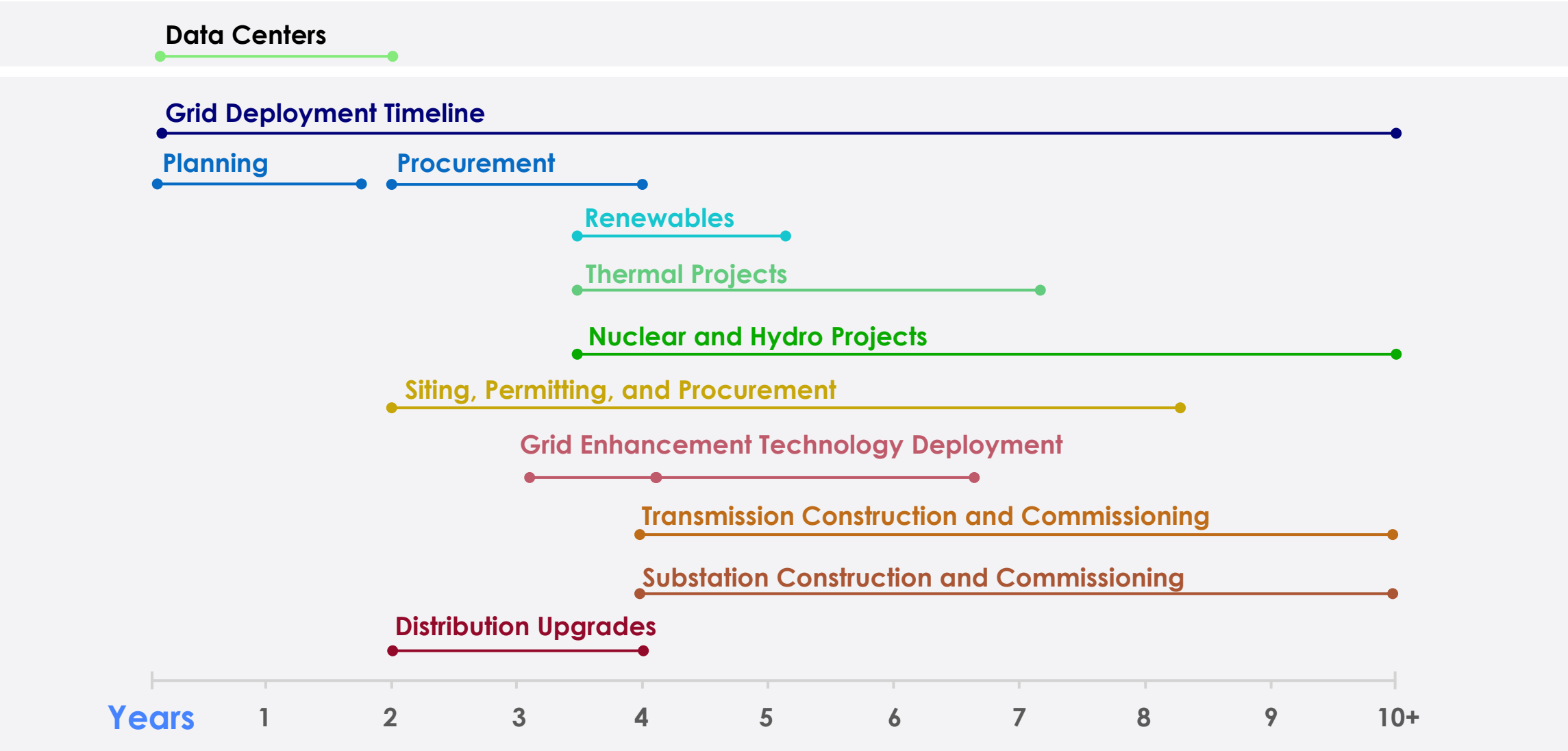
~6,600 MW growth projected through 2030, up from approximately 400 MW forecasted in January 2022

Georgia Power IRP

AI is Driving a Third Wave of Data Center Growth



Technology Deployment Takes Time



Notional timelines

Developing a Framework for Operational Flexibility

Rapid expansion of data centers necessitates an immediate, collaborative effort to ensure adequate supply, operational flexibility, and grid stability

1 Technology leaders: Companies like Google, Microsoft, Amazon, and Nvidia are crucial in shaping the demand and capabilities of future data centers.

2 Data Center Builders: Firms such as QTS, Compass, and Digital Realty are on the frontlines of constructing the physical infrastructure that will house the next generation of AI technologies.

3 Grid RD&D Leaders: DOE's \$billions of investment in grid technologies such as GETs provides near-term advances. The VPP liftoff report and related investments accelerate the effective integration of DER.

5 NARUC Commissioners and Other Stakeholders: Regulatory bodies and additional stakeholders are key to creating policies and regulations that support this new energy paradigm.

4 Electric Companies/ISO/RTOs: These organizations are responsible for maintaining grid integrity and reliability, making their involvement essential in the development of a flexible operational framework.



Dialog among key industry players to address challenges and provide benefits to all