Meeting Growing and Dynamic Energy Demand with an All-of-the-Above Strategy

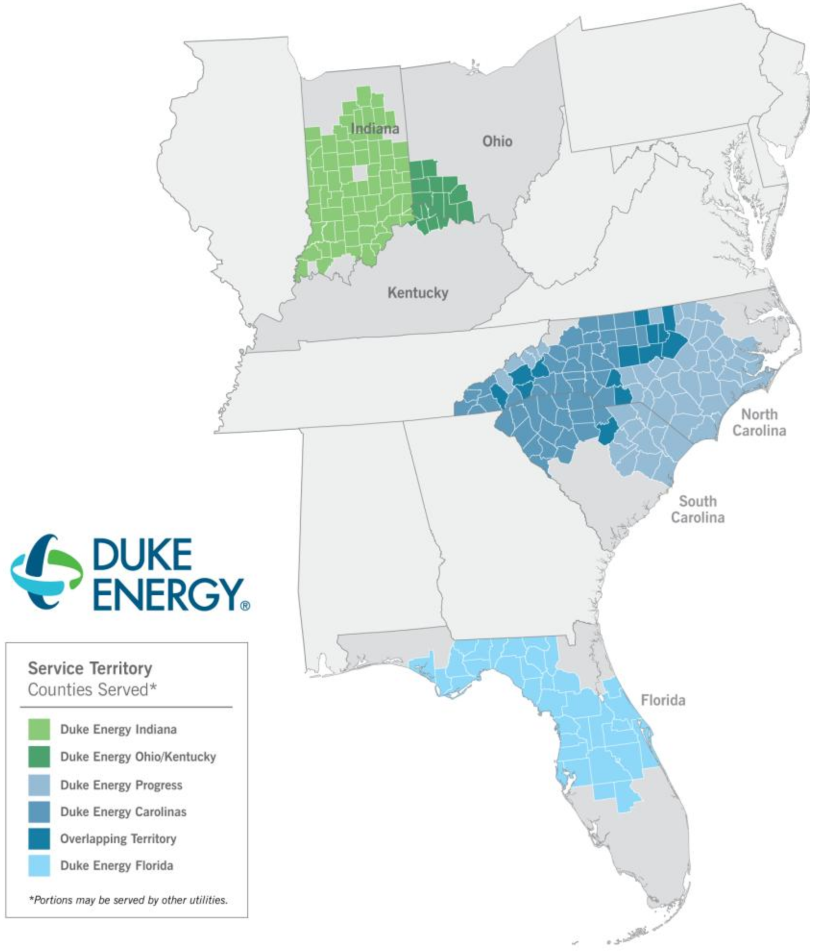
ESIG Fall 2025 Technical Workshop

October 28, 2025

DUKE ENERGY®

BUILDING A SMARTER ENERGY FUTURE®

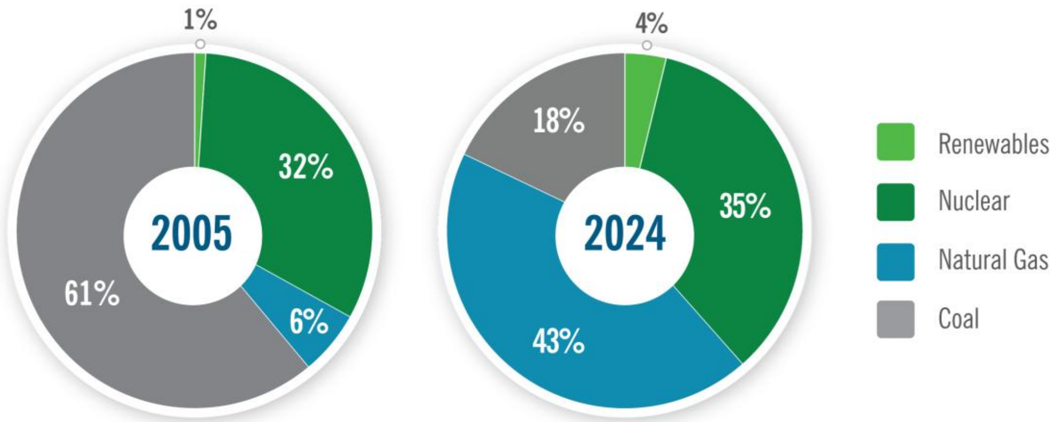
Duke Energy Electric System Spans Six States



- Duke Energy owns over 55 GW of power generating capacity serving over 8.6 million electric retail customers across six states
- Our priority is providing reliable, affordable and increasingly clean energy to customers across all service territories

Transforming the way we produce power

generation (MWh) by fuel type



Foundations of Resource Planning

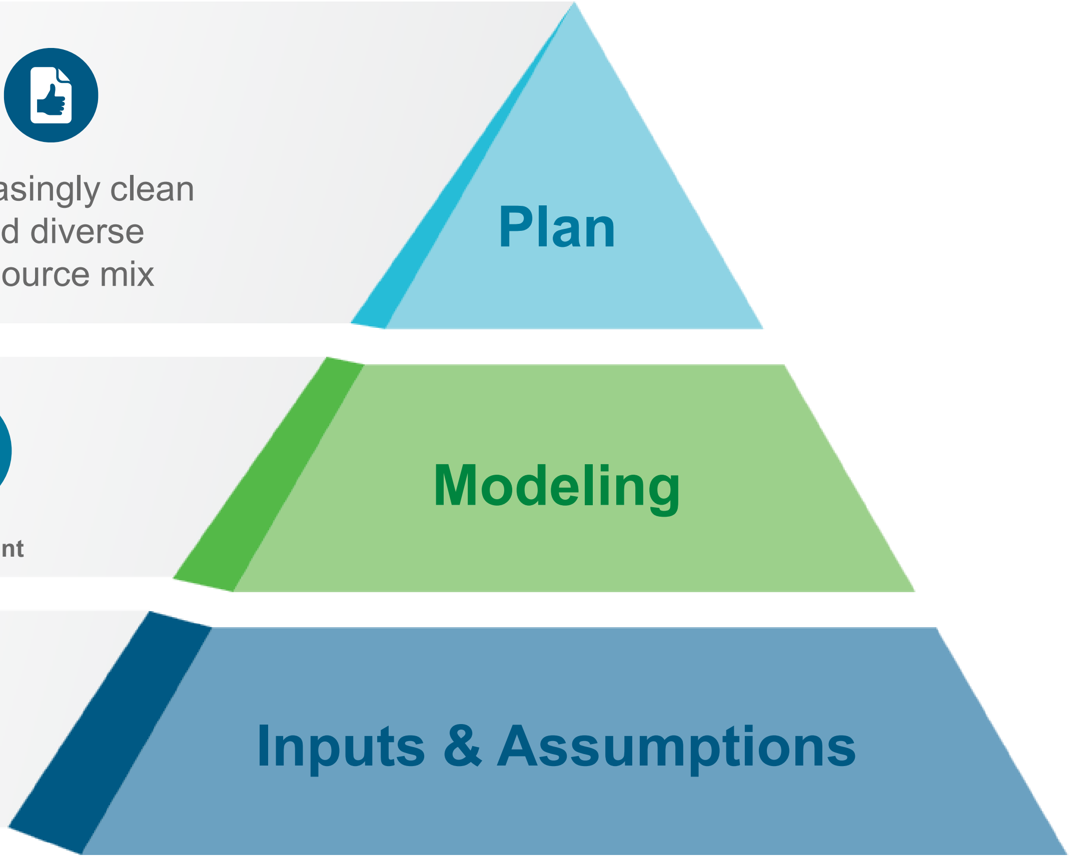
- Reliability-focused
- Execution-informed
- Minimize cost to customers
- Increasingly clean and diverse resource mix

The modeling and analytics supporting Integrated Resource Planning must be **DART**:

- **D** Defensible
- **A** Auditable
- **R** Repeatable
- **T** Transparent

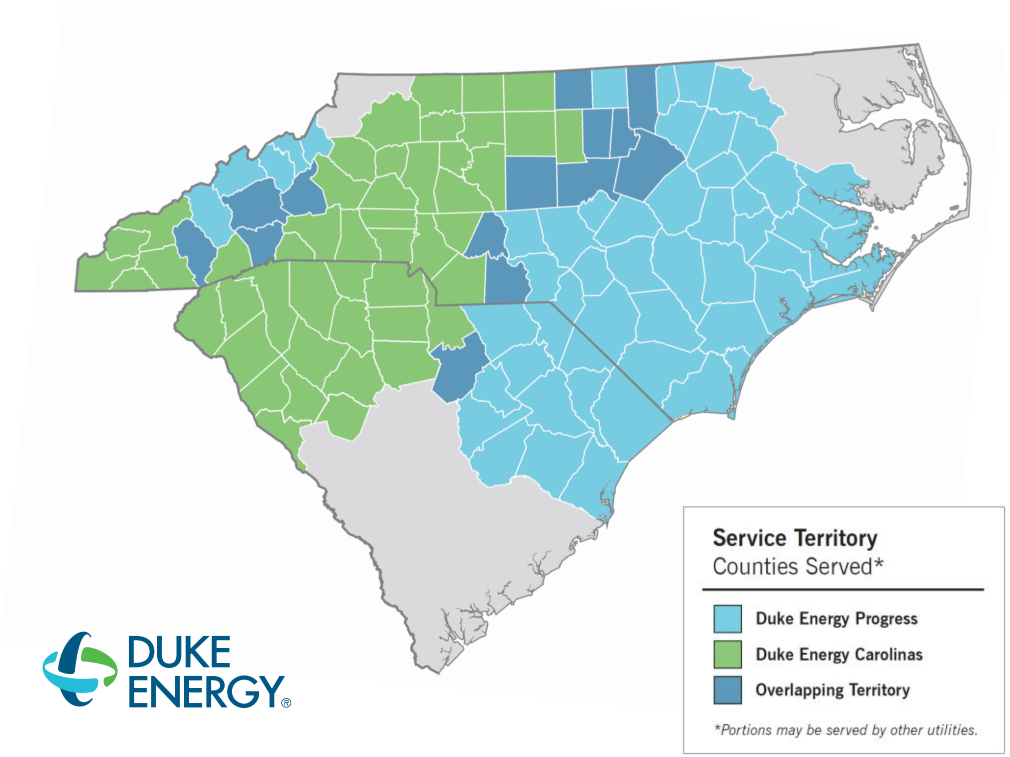
Influencing factors:

Inflation	Extreme weather	Public Policy	Supply chain



2025 Carolinas Resource Plan

36.6 GW of owned capacity serving 4.7 million retail customers across NC and SC



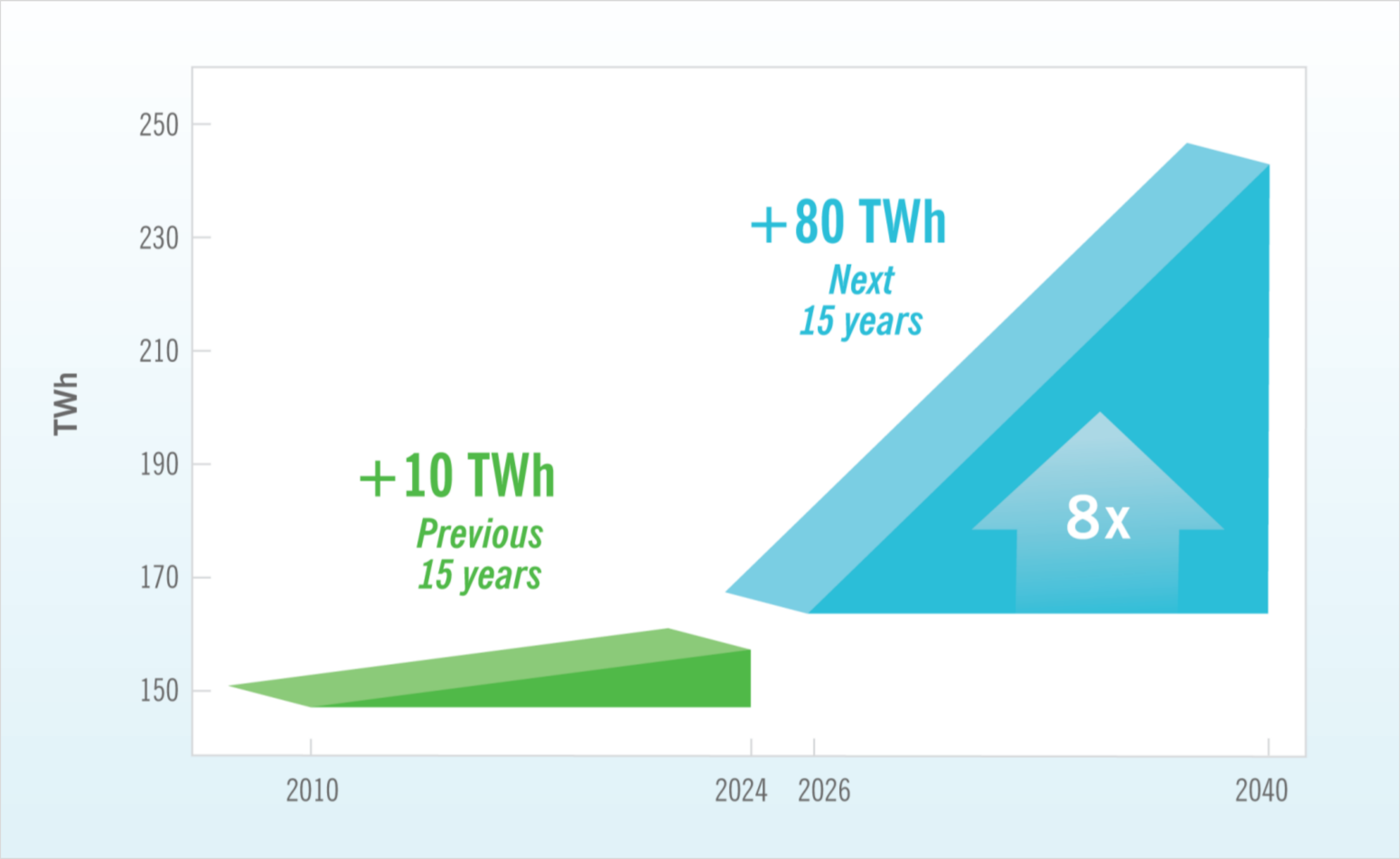
- The Carolinas Resource Plan is Duke Energy's IRP for the dual-state Carolinas system
- Filed with the public utilities commission every two years in NC and every three years in SC
- Seeks approval of near-term action plans over 3-5 years to meet the long-term energy needs of both states

Powering the Carolinas in a Dynamic Planning Environment

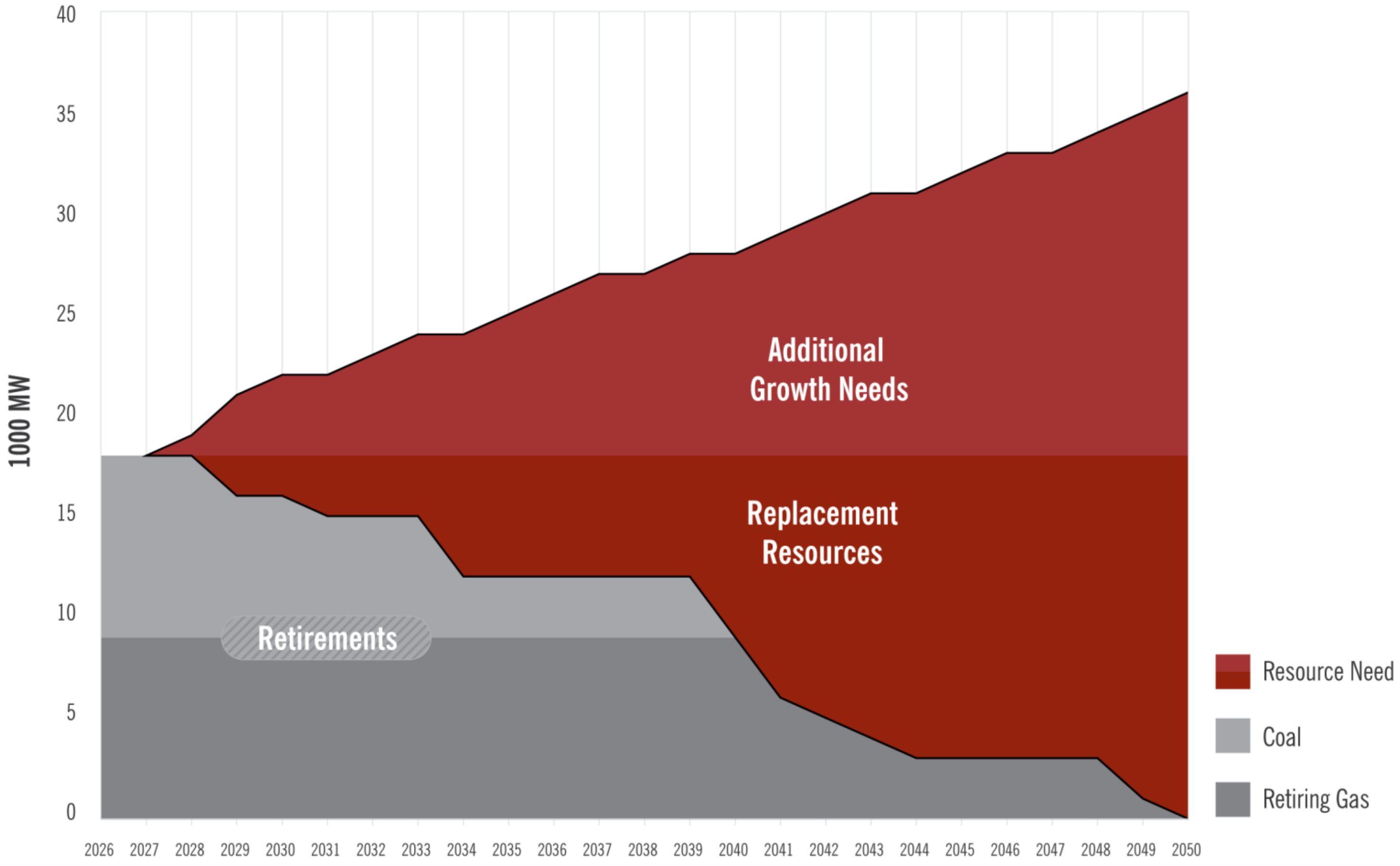
Unprecedented Load Growth in the Carolinas	Significant and sustained economic development, population growth, and electrification
Resource Costs	Limitations on tax credits for solar, wind, and energy storage; macroeconomic cost pressures including inflation and financing; supply chain and labor constraints; tariffs
Maintaining or Improving Reliability Amid Fleet Transition	Grow into and monitor sufficiency of 22% planning reserve margin amid waning support from neighbors and rising extreme temperature risk
Fuel Security	Subscription of existing gas infrastructure; permitting and approvals for new natural gas infrastructure; potential future role for ELNG storage; advancements in hydrogen blending
Policy Landscape	State: SC Energy Security Act; NC Power Bill Reduction Act Federal: Executive Orders on wind, nuclear, and coal; One Big Beautiful Bill; tariffs; environmental regulations (e.g., EPA 111, MATS)
Consumer Trends	Shifting needs and objectives of large load customers; Interest in more personalized energy programs (e.g., demand-side management); evolving forecast for EV adoption
Orderly Coal Retirements	Monitor changing environmental regulations; devolving industry economics and supply chains; escalating cost and operational risks
Technology Advancements	Tracking commercialization time horizon for new nuclear and long-duration energy storage technologies; Assessing carbon capture & sequestration and hydrogen

Unprecedented Load Growth in the Carolinas

- Over the past 15 years, customer energy needs grew by approximately 10 terawatt-hours (TWh)
- Looking ahead, growth over the next 15 years is forecasted to surge *eightfold*, with energy needs increasing by nearly 80 TWh
- To put this future growth in perspective, total electricity consumption in the state of South Carolina was 81 TWh in 2023



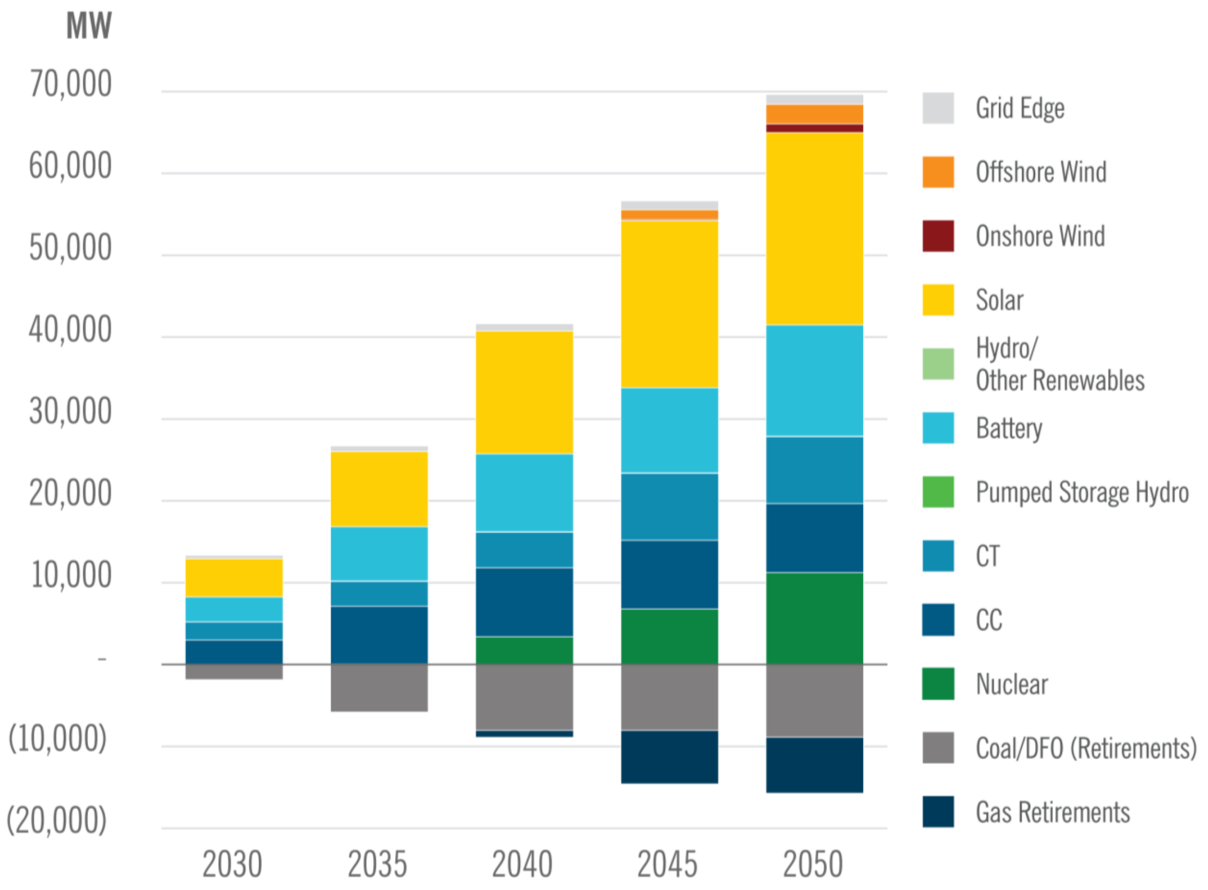
Determining the Resource Need



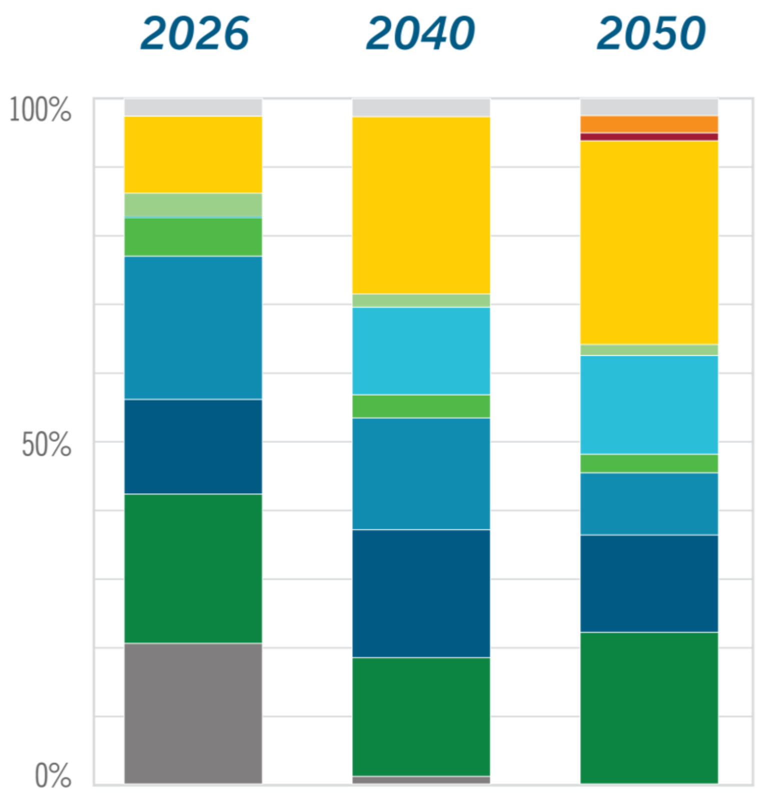
Note: Resource retirements and capacity needs for the Carolinas system

Meeting the Resource Need

Cumulative Capacity Additions & Retirements

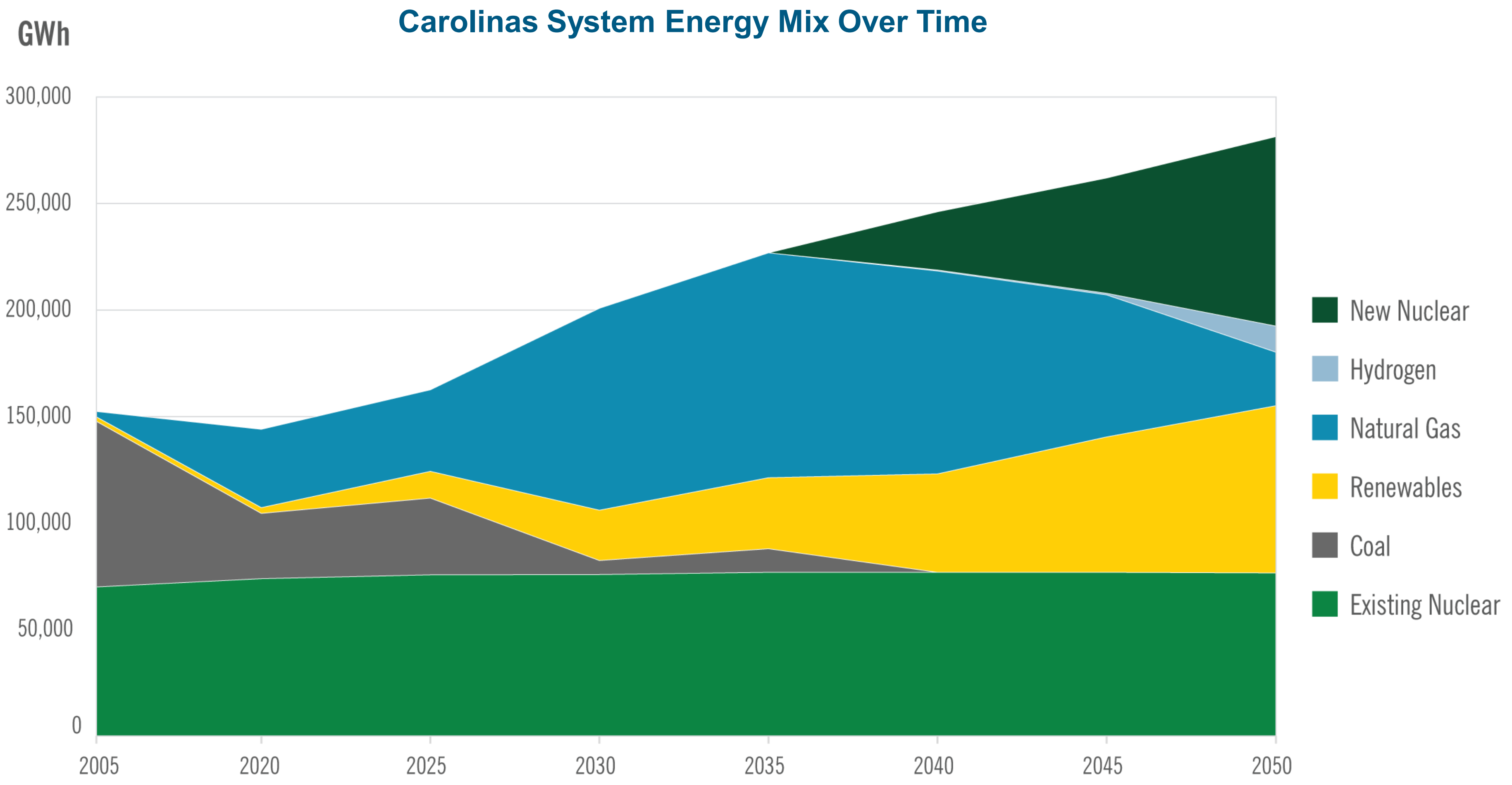


Capacity Mix



Note: Nameplate capacity, Carolinas system

Building a diverse energy mix to maintain reliability and low-cost energy



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