THREE NUCLEAR STRATEGIES

- **TODAY**, continue safe, reliable, innovative and efficient operations
- **TOMORROW**, extend the operational life of our nuclear fleet and produce more energy by upgrading components through power uprates and gaining efficiencies through 24-month refueling cycles
- For the **FUTURE**, pursue new nuclear generation options to modernize our system and meet the growing needs of our customers

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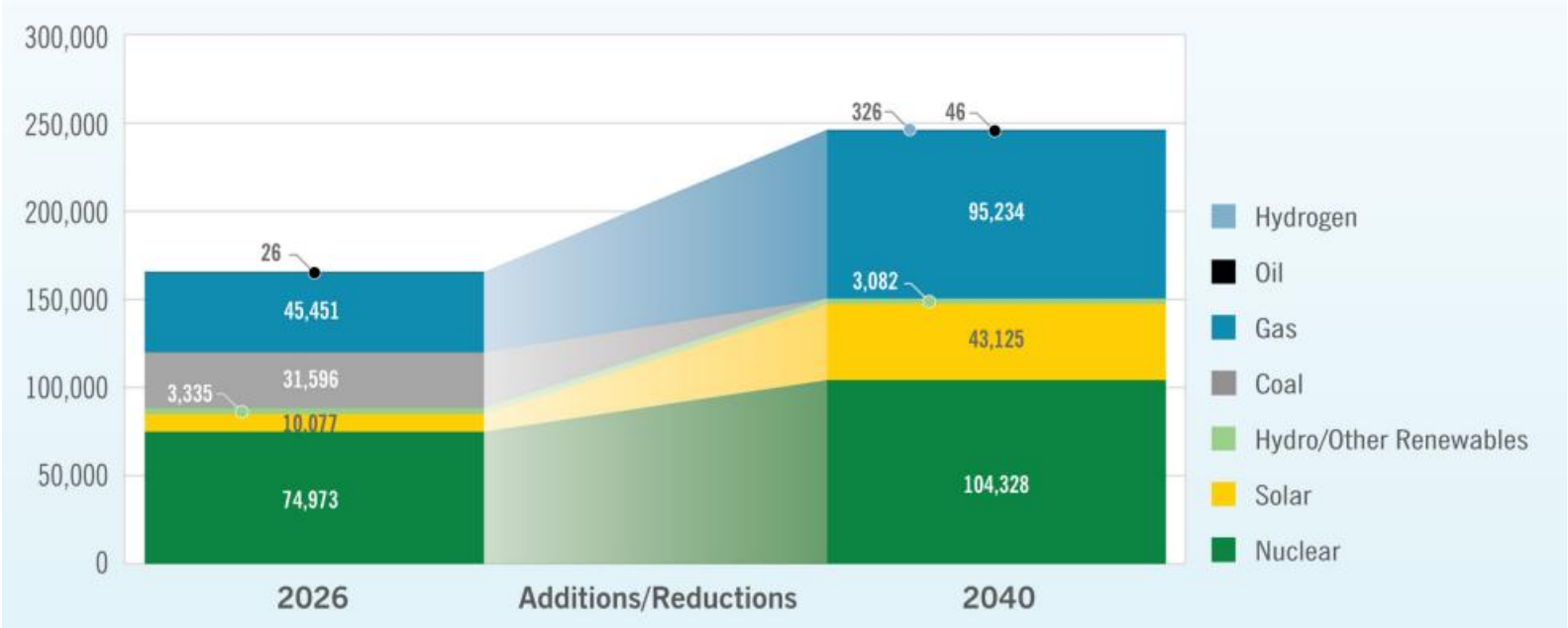
Nuclear generation is the only clean energy source that is always on and available 24 hours a day, complementing renewables like solar.

2025 Carolinas Resource Plan

Figure 3-11: Generation Mix Over Time for the Recommended Portfolio



New Nuclear Generation Options

W.S. Lee Site

Belews Creek Site

Harris Site

Legend

- Existing nuclear sites
- New nuclear generation sites

Nuclear Technologies

Technologies	Overview	Leading U.S. Reactor Designs
Large Light-Water Reactors	▪ Generation III+ reactors ▪ Most proven technology, several in operation ▪ Enhanced safety systems, simpler designs and modular construction	 Westinghouse AP1000  W.S. Lee Site with AP1000 Renderings
Small Modular Reactors	▪ Generation III+ reactors ▪ Light-water-cooled; uses ordinary water (H_2O) ▪ Like nuclear reactors in operation today ▪ 75-350 megawatts per unit with one design offering 470 megawatts	 GVH BWRX-300  Holtec SMR-300  NuScale VOYGR  Westinghouse AP300
Non-Light-Water Reactors	▪ Generation IV reactors ▪ Non-water-cooled; uses molten salt, helium gas or liquid metal ▪ Higher temperatures, lower pressures ▪ Integrates well with renewables ▪ 75-350 megawatts per unit	 TerraPower Natrium  X-energy Xe-100

Early Site Permit Application

Belews Creek, N.C., Site

Risk-Mitigation Strategy

- Confirms site suitability
- Resolves environmental and site safety topics, reducing the risk of delays during licensing and construction
- Allows selection of a reactor technology later
- Remains valid for 20 years and has a renewal option

18-Month Review Schedule

- **Dec. 30, 2025:** Application submitted
- **April-May 2026:** NRC environmental scoping public comment period
- **May 2027:** Final Safety Evaluation Report and Environmental Impact Statement
- **August 2027:** Mandatory hearing

Second-Mover Strategy

U.S. Department of Energy Generation III + SMR Technology Grant

- Awarded $400 million grant
- Accelerate development, reduce risks and lower costs
- Proposes U.S. coalition on small modular reactors
- Partnered with Tennessee Valley Authority (lead), other utilities and technology vendors

GE Vernova Hitachi Technology Collaboration Agreement

- Advance standard design and licensing for U.S. deployment
- Learn from first movers: Tennessee Valley Authority and Ontario Power Generation
- Partnered with GVH to participate in working groups

TerraPower Natrium Project

- Kemmerer, Wyo.
- Embedded three-person operations and maintenance team as part of U.S. Department of Energy's Advanced Reactor Demonstration Program
- Developing strategies and processes to optimize how to operate next-generation nuclear plants

AP1000s

- Worked with Southern Company to glean lessons learned from the in-service of Plant Vogtle
- Exchanging information with Westinghouse to understand construction challenges
- Following Westinghouse's plans to revise essential design documents