Advanced Nuclear – Vital to Our Carbon-Free Future

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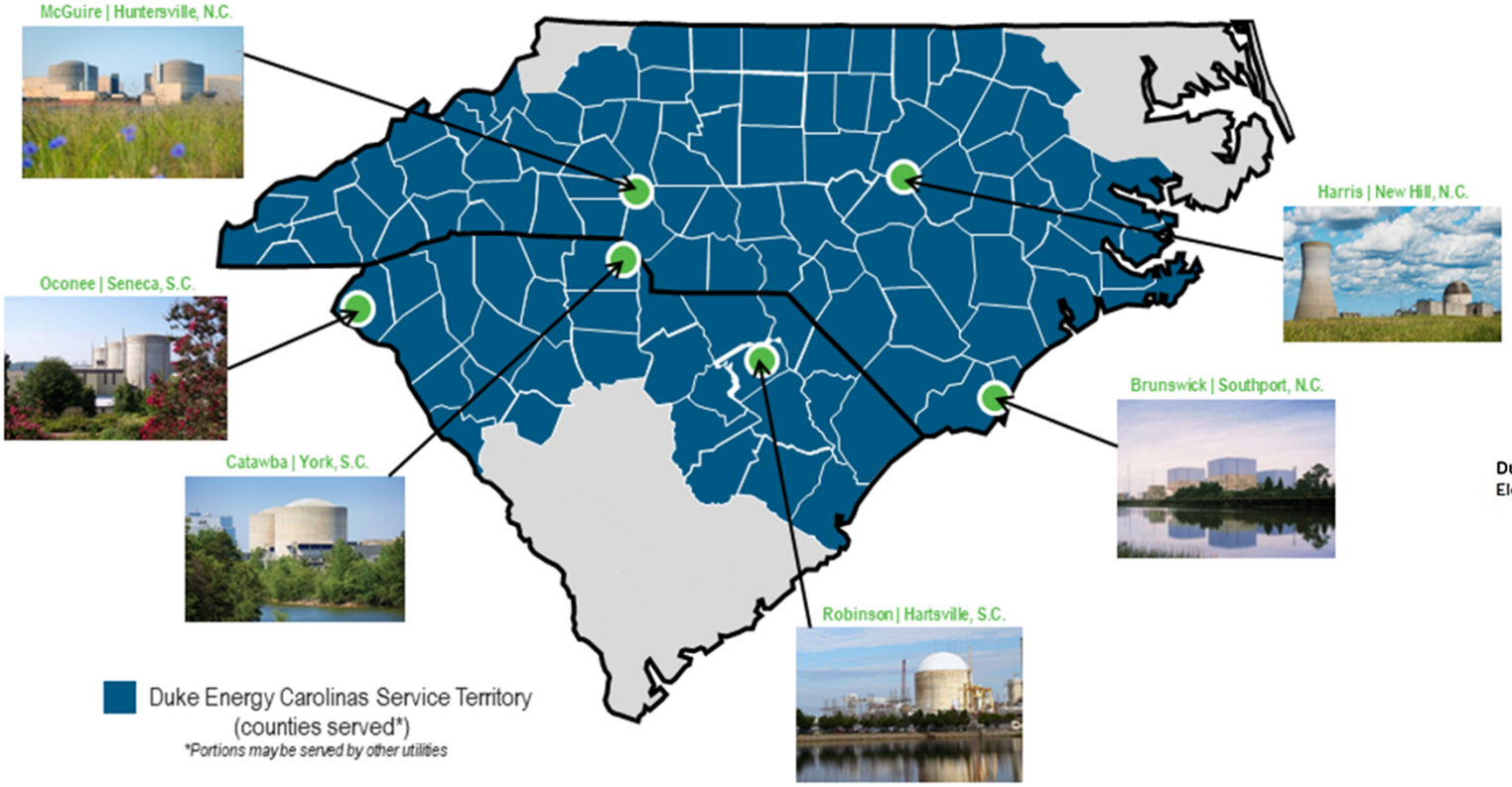
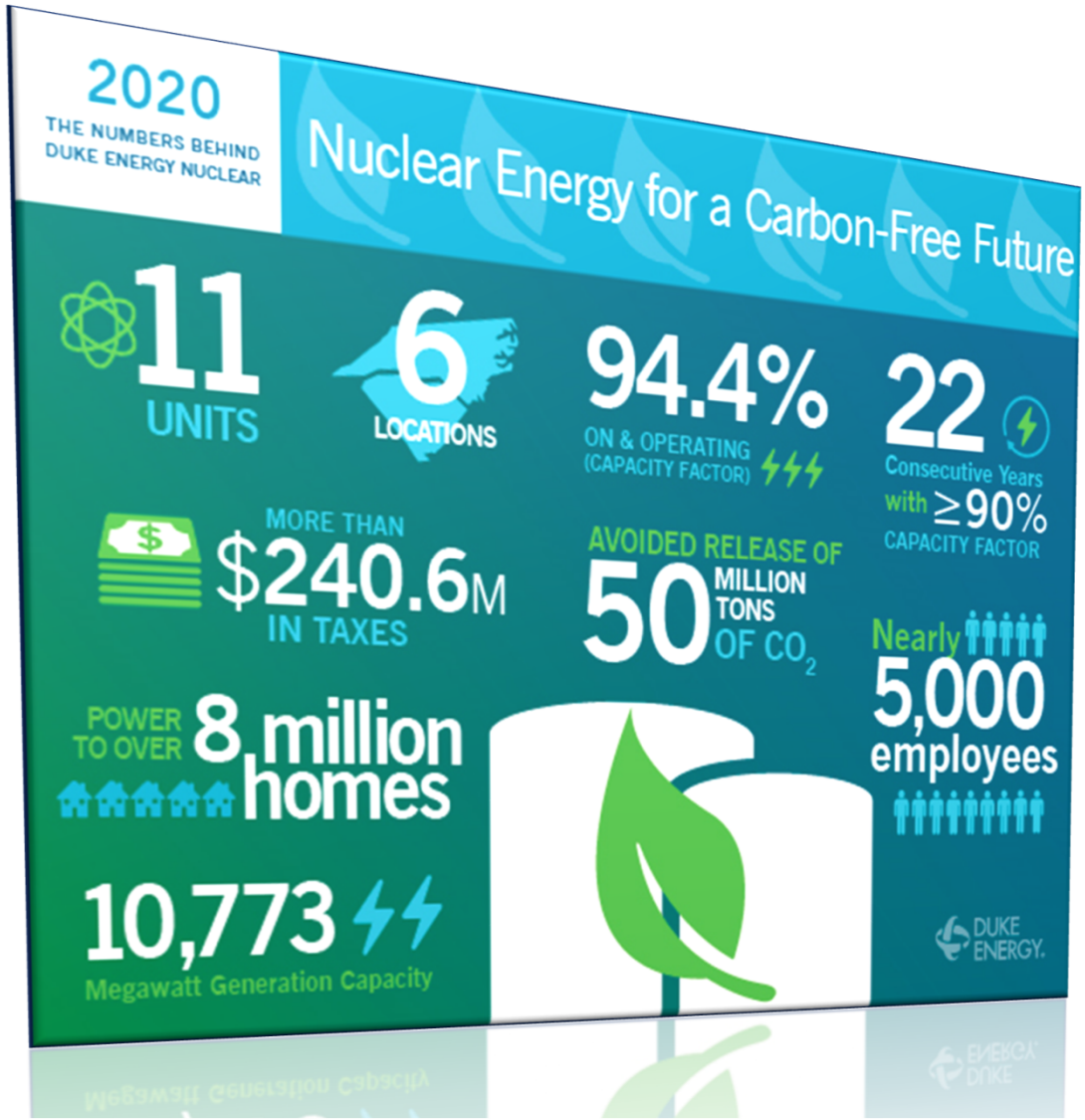
DUKE ENERGY®

Duke Energy Nuclear – 11 Generating Units at 6 Sites in the Carolinas



Duke Energy Nuclear

Carbon-Free Generation



Duke Energy Regulated Generation (MWh)

2019

39% CO_2 Reduction

31% Gas
31% Existing Nuclear
24% Coal
9% Purchase/Sales
5% Renewables*

2030

52% CO_2 Reduction

42% Gas
30% Existing Nuclear
14% Renewables*
11% Coal
3% Purchase/Sales

2040

78% CO_2 Reduction

29% Renewables*
29% Existing Nuclear
25% Gas
16% ZELFRs
1% Coal

2050

95% CO_2 Reduction

36% Renewables*
30% ZELFRs
28% Existing Nuclear
6% Gas

*Renewables include hydro, wind, solar, landfill gas, biomass, etc.

The Road Ahead

- Today – Operational Excellence
- Tomorrow – Subsequent License Renewal
- The Future – Advanced Reactors
  - Drivers
    - Zero-emitting load-following resources (ZELFRs)
    - Storage (e.g., thermal, pumped-storage, batteries)
    - Hydrogen
  - Key Enablers
    - Technology
    - Carbon policy
    - Regulatory risk

Risk-Informed Decision-Making

- Supply Chain Capacity
- Early Site Permit (ESP)
- Finality – Part 50 versus Part 52
- Risk-Informed Framework
  - Licensing, inspection and enforcement
- Flexibility – Part 50, Part 52 or Part 53
  - Approvals for next-of-a-kind applicants
- Climate Change
  - COVID-19 – Vaccine lessons learned

BUILDING A **SMARTER** ENERGY FUTURE®