

Substations at Progress Energy-Carolinas

IEEE Power & Energy Society

Substations Section Meeting

May 21, 2012

Raleigh, NC

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Operations & Planning-Carolinas

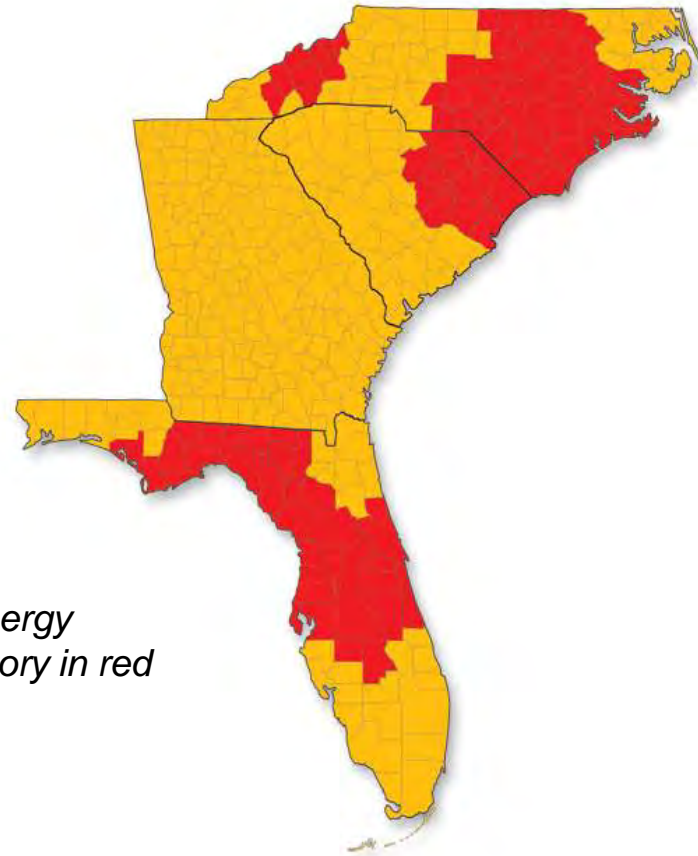


Substations at Progress Energy-Carolinas – Presentation Outline

- Company Overview
- Construction Evolution
- Implementation Challenges
 - Environmental
 - Property Costs
 - Construction Sequence

Progress Energy at a glance

- 3.1 million customers with 23,000 megawatts of generation
- Progress Energy Carolinas - 1.5 million customers
- Progress Energy Florida - 1.6 million customers

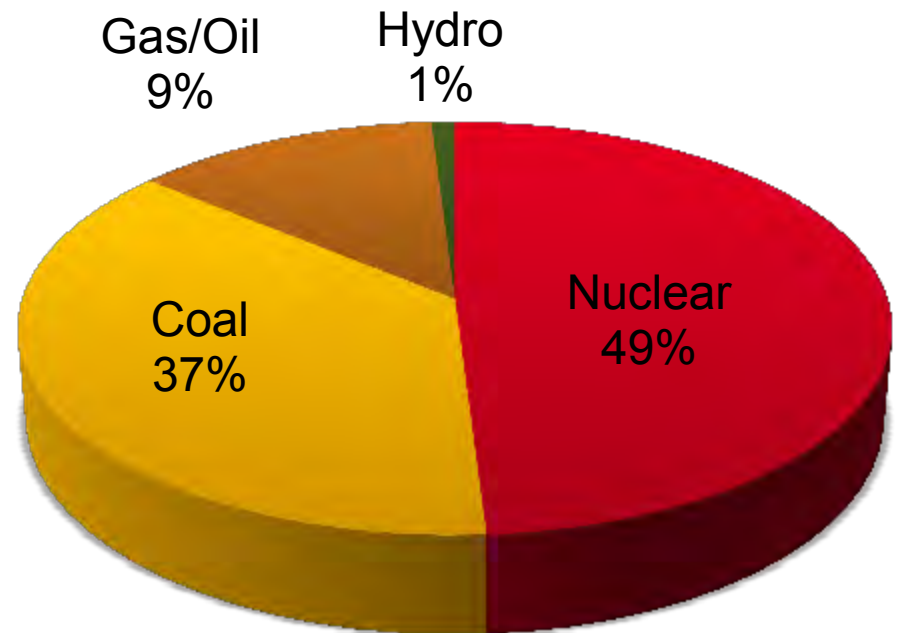


*Progress Energy
service territory in red*

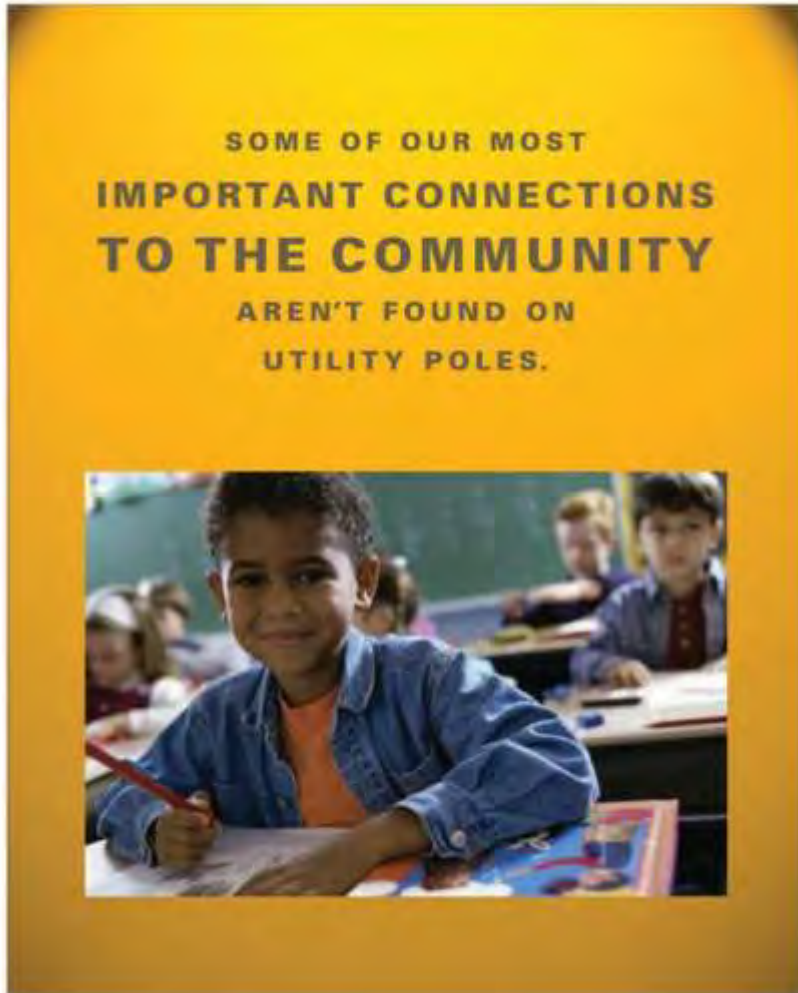
Carolinas Generation



2011 Generation Mix (MWh)



Partnering with the communities we serve



2010 Community Investments

- \$9 million in corporate giving
- More than \$2 million pledged through Employee Giving Campaign
- Nearly \$1 million to the Energy Neighbor Fund

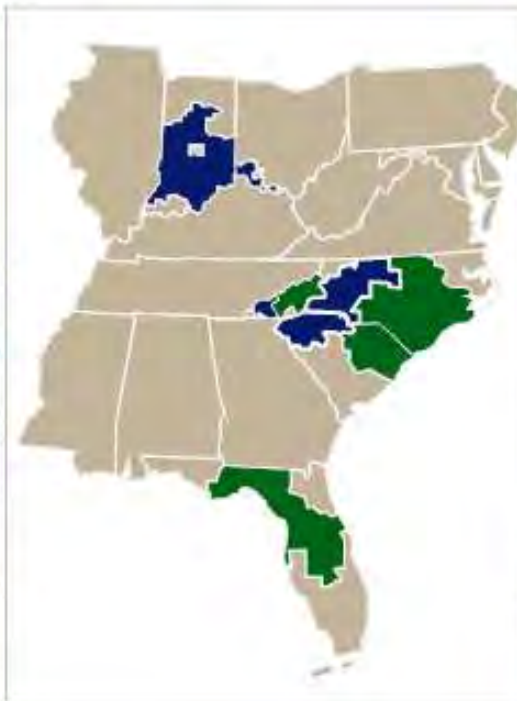
The new energy reality: More customers to serve



2010
1.5 million customers



2026
1.9 million customers



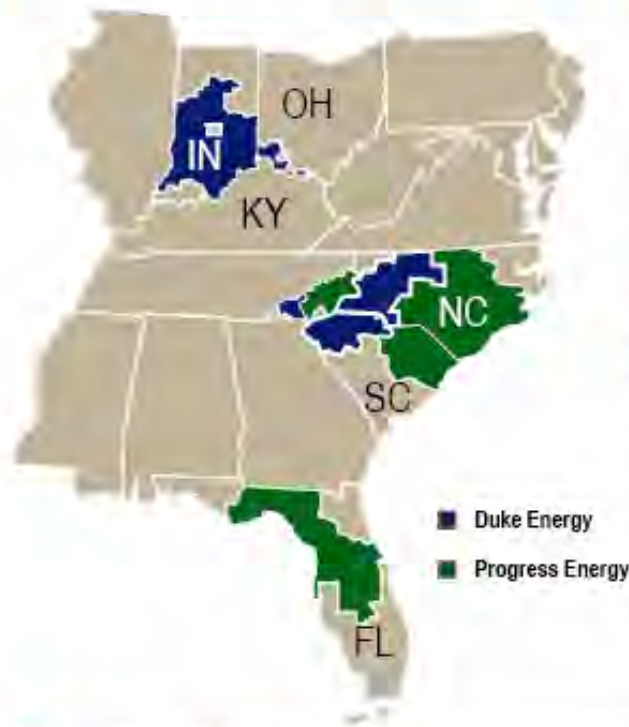
CREATING THE LEADING U.S. UTILITY

January 10, 2011

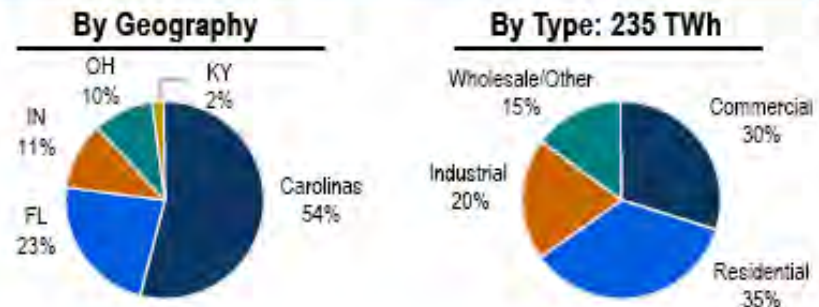
Attractive, Diversified Operations

- Presence in six attractive growth service territories with constructive regulatory traditions
- More electric customers than any other U.S. utility, serving 7.1 M domestic regulated electric customers

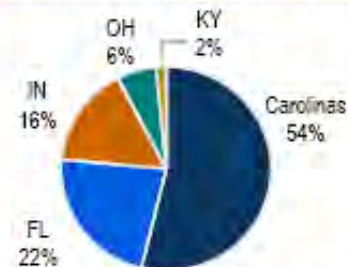
Diverse Service Territories



Customer Diversity: 7.1 M regulated customers



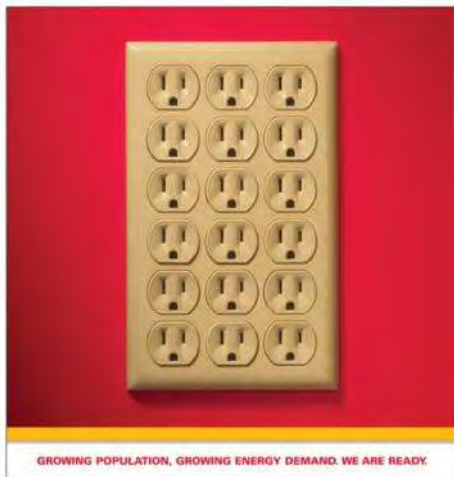
Rate Base Diversity: \$40 B



Note: Customer data as of 12/31/2009; rate base data estimated as of 12/31/2010 (see Note on slide 24); customer data only includes regulated customers

The new energy reality: More energy to power our lives

600 sq ft average increase in home size



1975

Average size of home in 1975 -
1,535 square feet



2009

Average size of home in 2009 -
2,135 square feet

Substation Assets – Progress Energy-Carolinas

- Transmission/Distribution
 - 332
- Transmission/Transmission
 - 98
- Industrial (T/T & T/D)
 - 81
- Wholesale Points of Delivery (T/T ; T/D)
 - 129

Construction Evolution

- Current preferred structural material : Steel



Construction Evolution

- Wood & Steel Mixture Currently In-Service



Construction Evolution

- Equipment Foundations
 - Timbers (Wood vs Pre-Cast Concrete Beams)
 - Poured-in-place concrete slabs

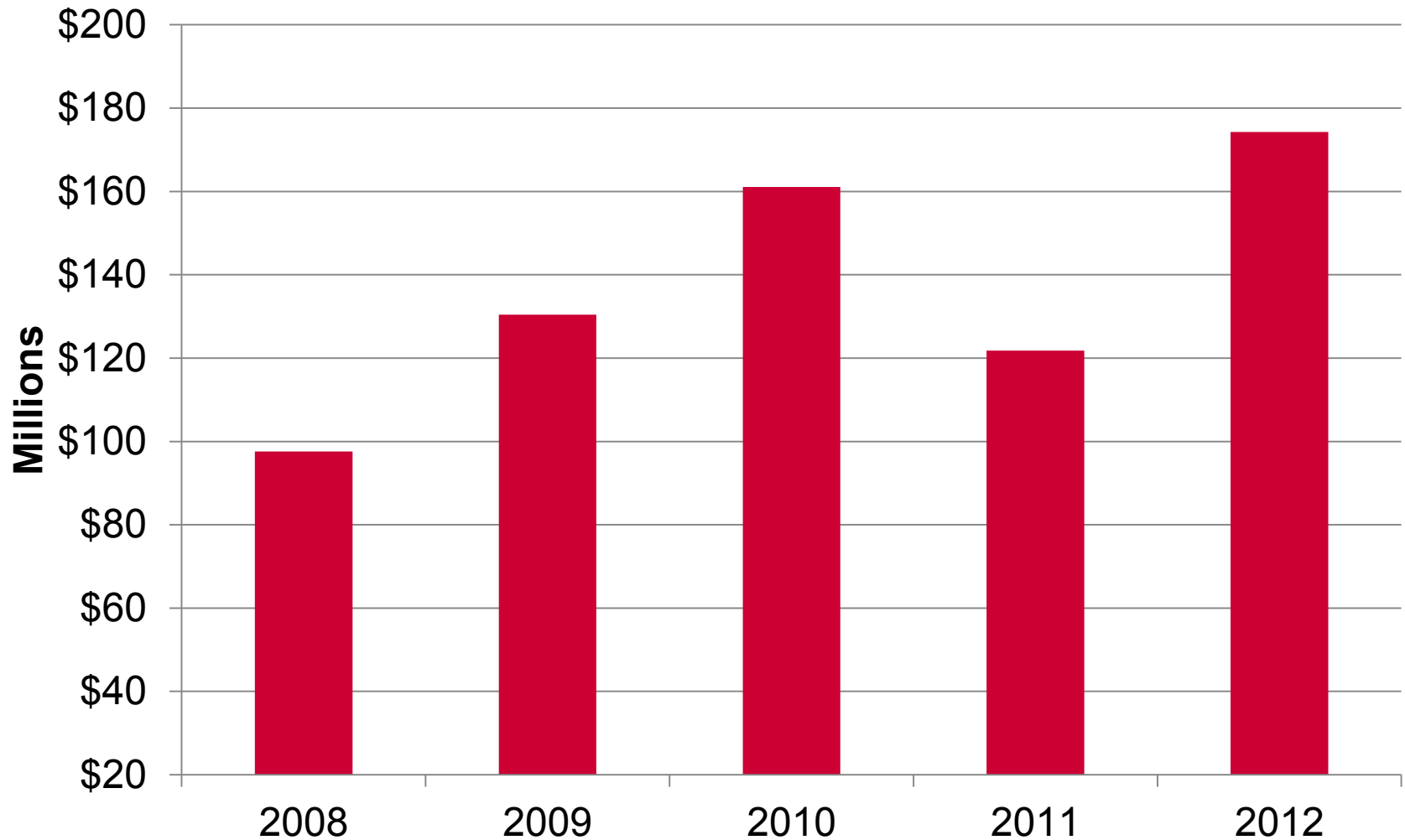


Construction Evolution

- High Reliability Substation (HRS) Design



Transmission Capital Budgets



Implementation Challenges

- Environmental
 - Post-Construction Storm Water



Implementation Challenges

- Environmental Protection Agency (EPA) – SPCC



Implementation Challenges

- Property Costs & Availability



Raleigh Harrington Street 115 kV Substation - August 25, 2010



Raleigh Harrington Street 115 kV Substation - September 1, 2010



Raleigh Harrington Street 115 kV Substation - September 16, 2010



Raleigh Harrington Street 115 kV Substation - October 31, 2010



Raleigh Harrington Street 115 kV Substation - November 29, 2010



Raleigh Harrington Street 115 kV Substation - February 15, 2011



Raleigh Harrington Street 115 kV Substation - March 1, 2011



Raleigh Harrington Street 115 kV Substation - July 14, 2011



Raleigh Harrington Street 115 kV Substation - January 3, 2012



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- Thanks for coming to Raleigh!