New Nuclear – A Regulated Utility's Perspective

Steve Nesbit, Director – Nuclear Policy and Support

DUKE ENERGY®

Duke Energy Facts

- 150+ years of service
- 7.3 million electric customers / 500,000 natural gas customers
- Fortune 250 company
- $121 billion in assets
- Stock dividends for 85+ years
- Traded on NYSE as DUK
- Dow Jones Sustainability Index
- 100 Best Corporate Citizens by Corporate Responsibility magazine

Business Segments

Regulated Utilities

- Regulated generation, electric and gas transmission distribution systems
- Duke Energy Carolinas
- Duke Energy Progress
- Duke Energy Indiana
- Duke Energy Ohio
- Duke Energy Kentucky
- Duke Energy Florida

Commercial Businesses

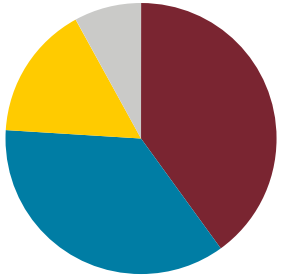
Commercial Power

- Midwest Commercial Generation
- Duke Energy Renewables
- Duke Energy Retail

International Energy

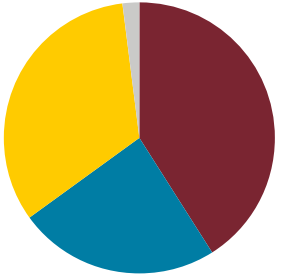
- Duke Energy International (primarily Latin American assets)

Regulated Utilities
(percent owned capacity - MW)



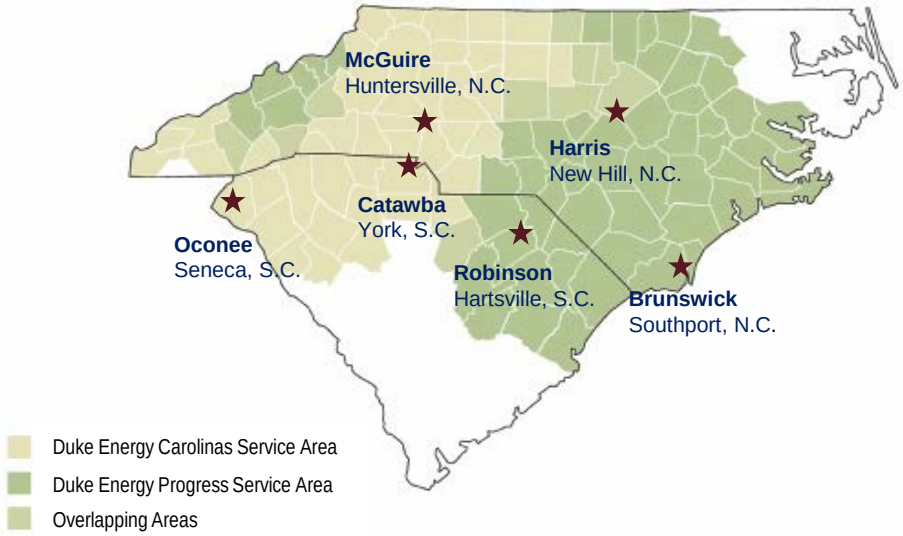
Coal	40%
Natural Gas/Fuel Oil	36%
Nuclear	17%
Hydro/Renewables	7%

Regulated Utilities
(generation - MWH)

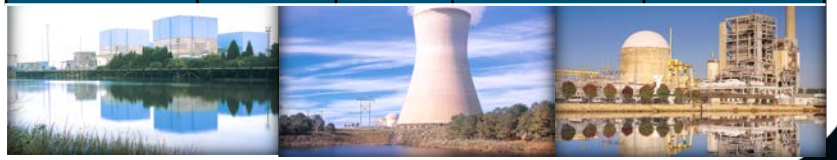


Coal	41%
Natural Gas/Fuel Oil	24%
Nuclear	33%
Hydro/Renewables	2%

Duke Energy Nuclear Fleet

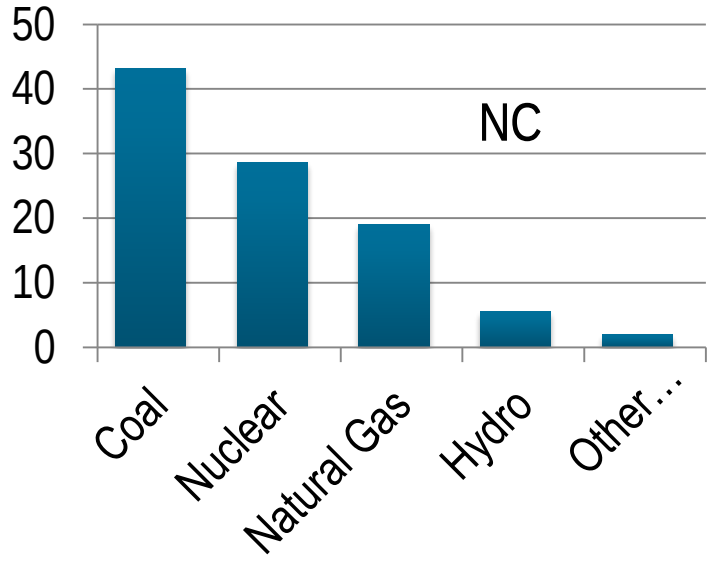


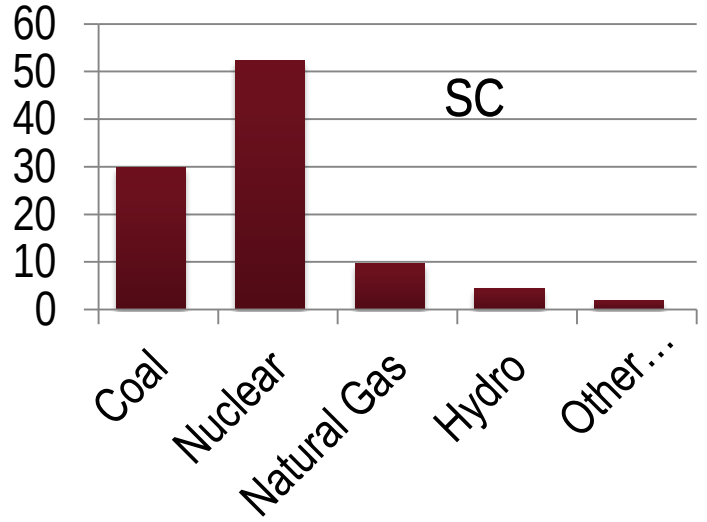
Station	Capacity (MW)	Units	Commercial Operation	License Renewal
Oconee	2554	3 PWR	1973	2033, 2034
Catawba	2290	2 PWR	1985	2043
McGuire	2296	2 PWR	1981	2042, 2043
Brunswick	1870	2 BWR	1975	2034, 2036
Harris	928	1 PWR	1987	2046
Robinson	741	1 PWR	1971	2030
Crystal River	Retirement announced 2013			
Total	10,679	11		



Generation by Fuel Source in N.C. and S.C.

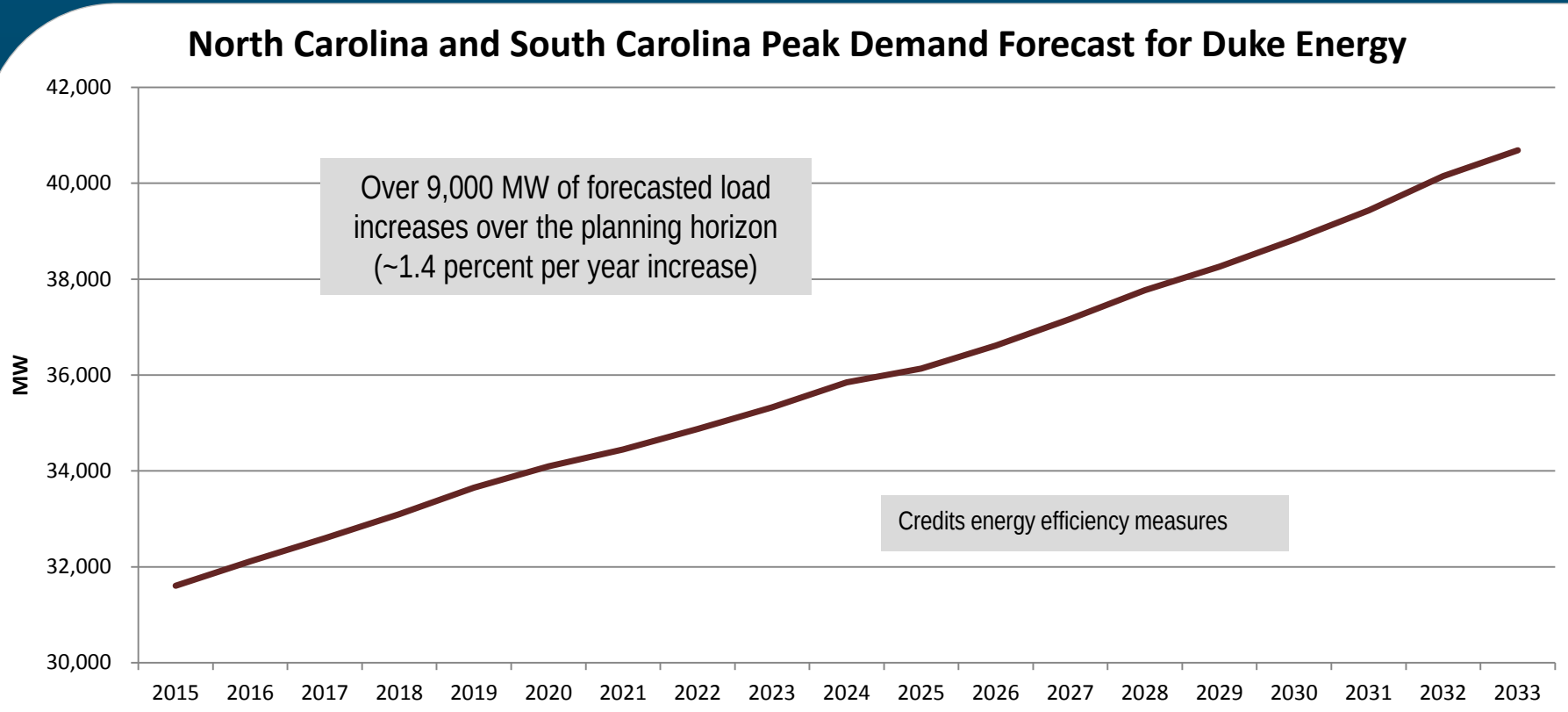
2013 Percent Generation by Fuel Source (Includes Duke Energy and All Other Generators in State)



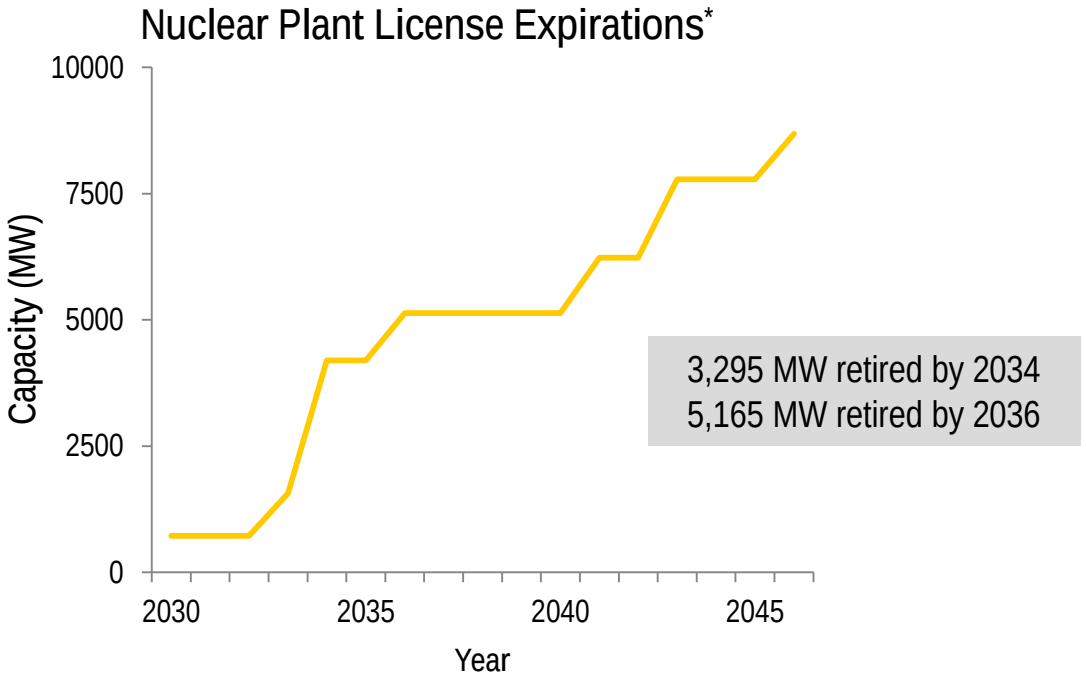


Source. U.S. Energy Information Administration (EIA)

Load Growth


North Carolina and South Carolina Peak Demand Forecast for Duke Energy
MW
42,000
40,000
38,000
36,000
34,000
32,000
30,000
2015
2016
2017
2018
2019
2020
2021
2022
2023
2024
2025
2026
2027
2028
2029
2030
2031
2032
2033
Over 9,000 MW of forecasted load increases over the planning horizon (~1.4 percent per year increase)
Credits energy efficiency measures

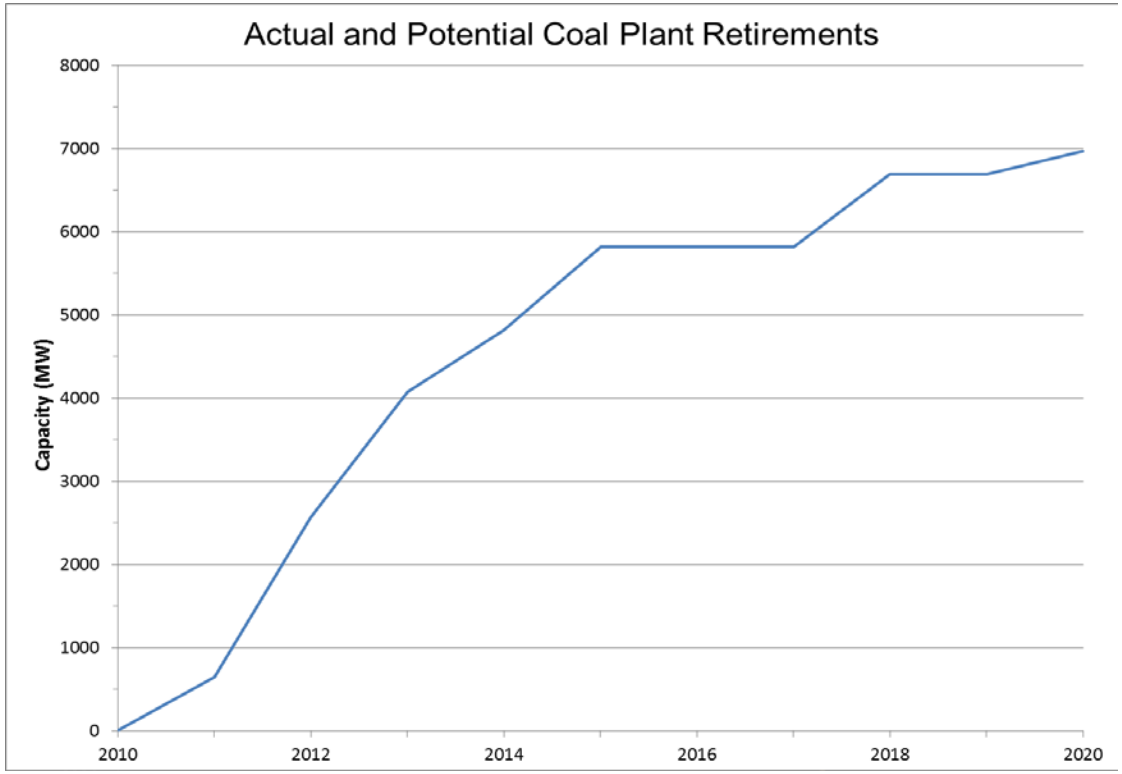
Duke Energy's Nuclear Plant License Expirations



* Does not include non-Duke Energy portion of co-owned plants

- Robinson
  - Capacity: 741 megawatts
  - License Expires: 07/31/2030
- Oconee
  - Capacity: 2,554 megawatts
  - Unit 1 License Expires: 02/06/2033
  - Unit 2 License Expires: 10/06/2033
  - Unit 3 License Expires: 07/19/2034
- Brunswick
  - Capacity: 1,870 megawatts
  - Unit 1 License Expires: 09/08/2036
  - Unit 2 License Expires: 12/27/2034

Duke Energy Coal Retirements

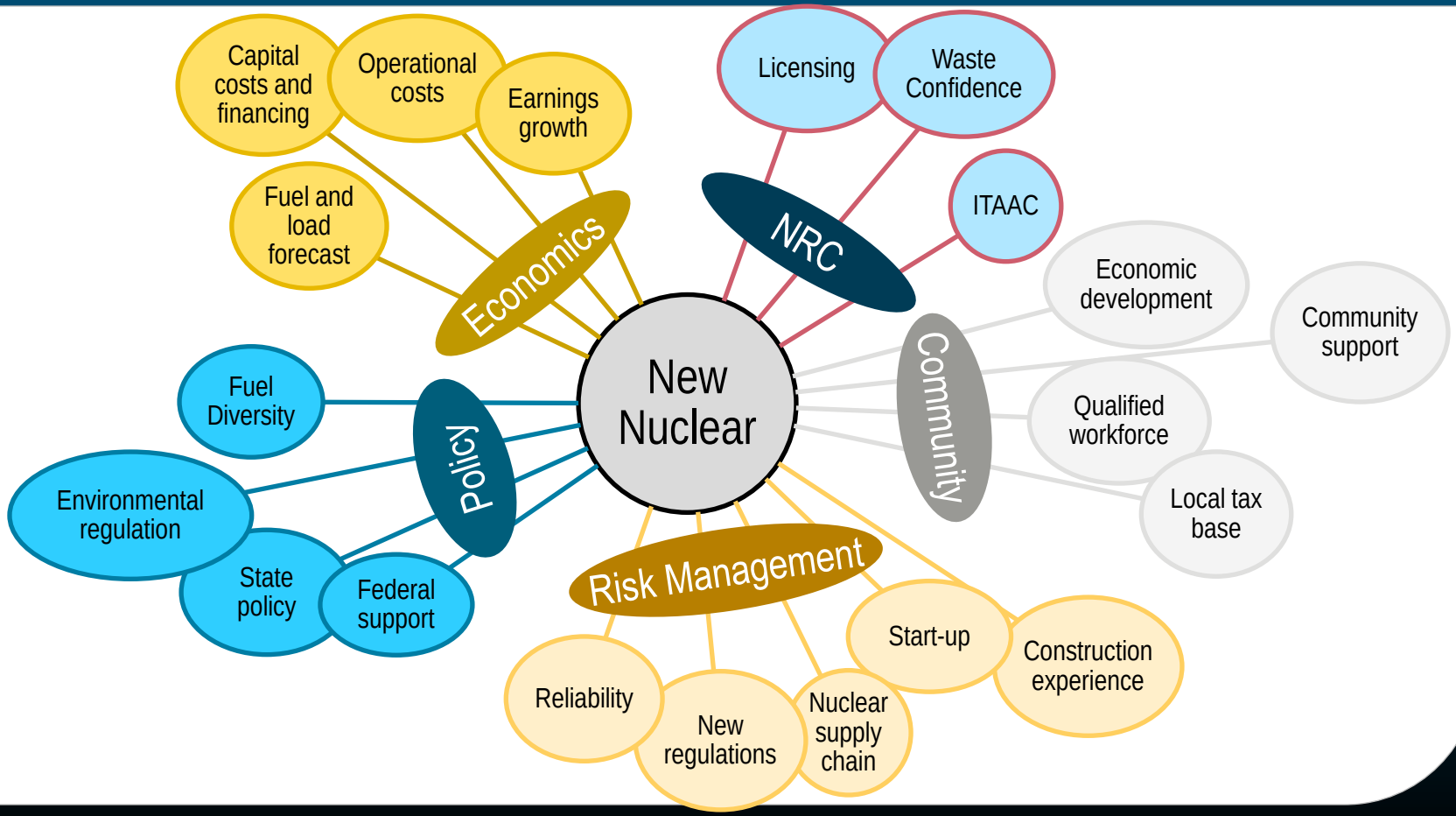


- 4,985 MW actually retired by 2015
- 9,327 MW potentially retired by 2033
- By 2030, 80 percent of remaining coal units will be more than 55 years old

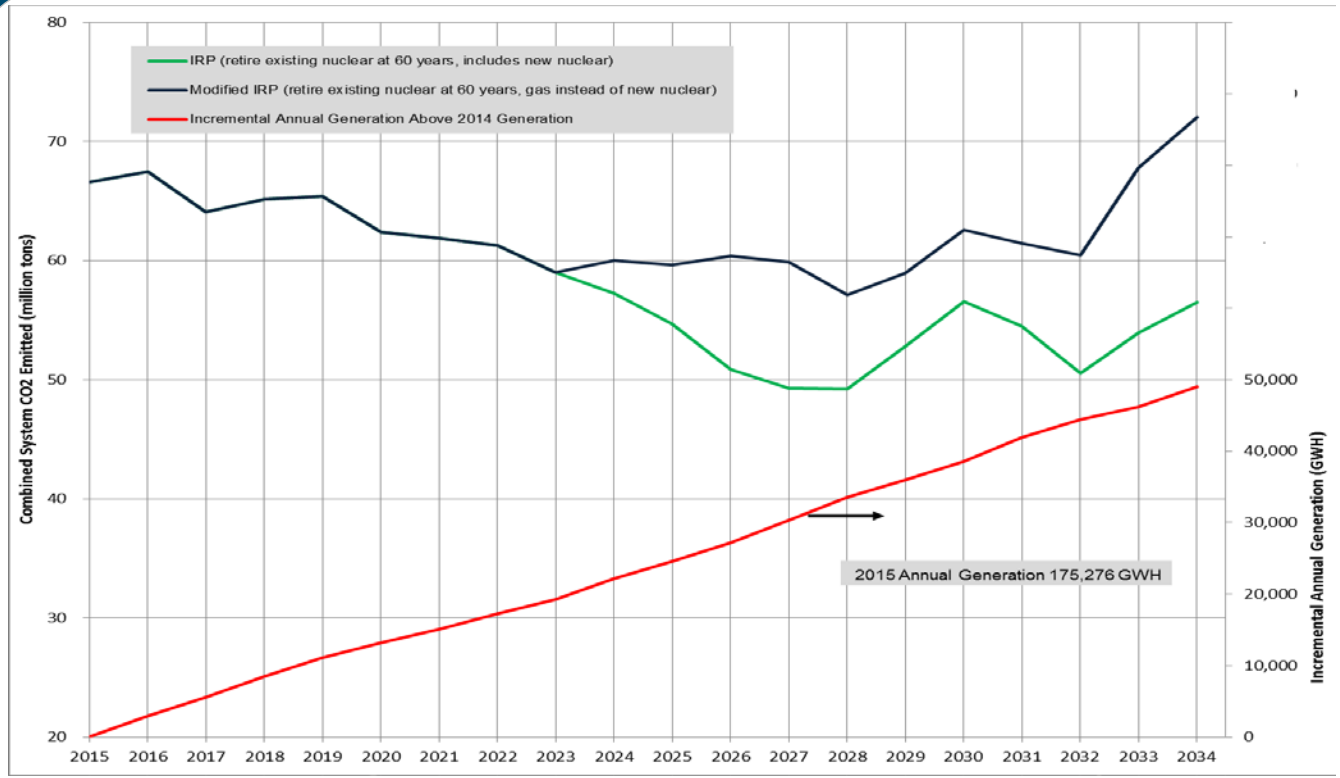
Estimates prior to finalization of EPA rulemaking on greenhouse-gas emissions

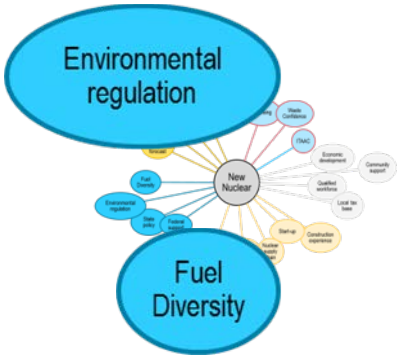
New Generation Considerations

Planning Environment for New Nuclear Development



Impact on Carbon – With and Without Planned Nuclear Generation

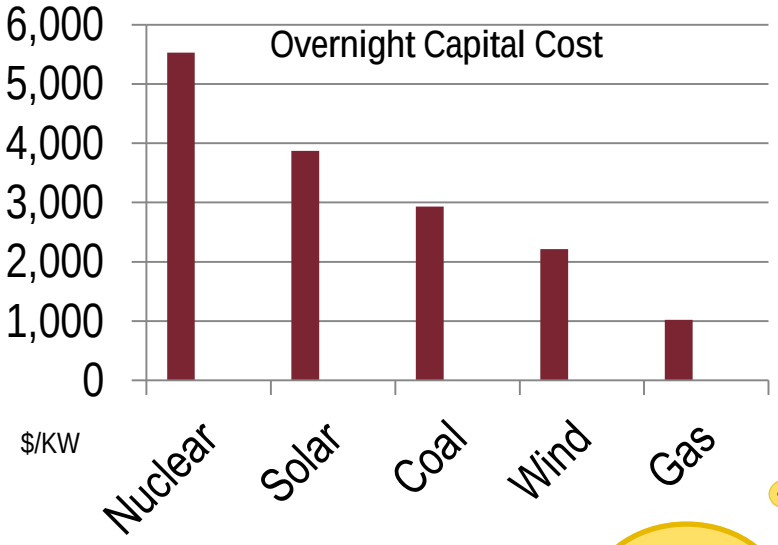


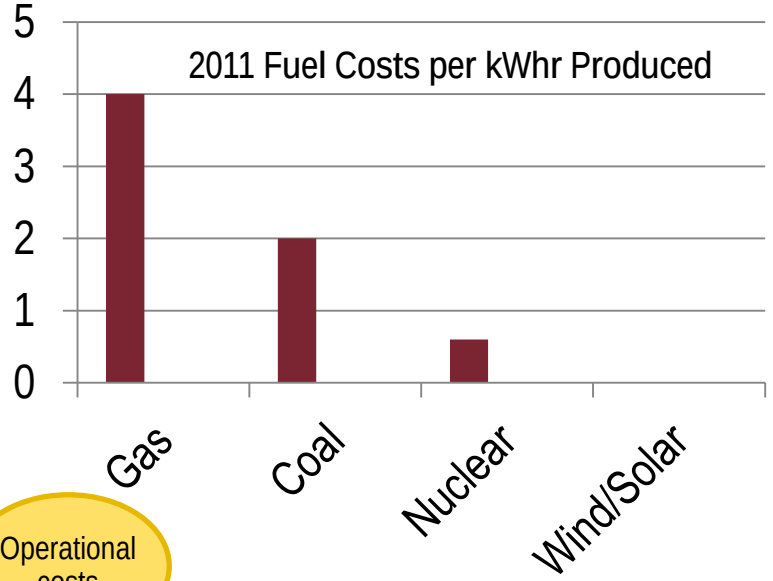


Duke Energy cannot deploy gas exclusively for future baseload generation and reduce, or even maintain, carbon emission levels

Costs

Nuclear is expensive to deploy, but the fuel cost is much lower than other baseload generation sources

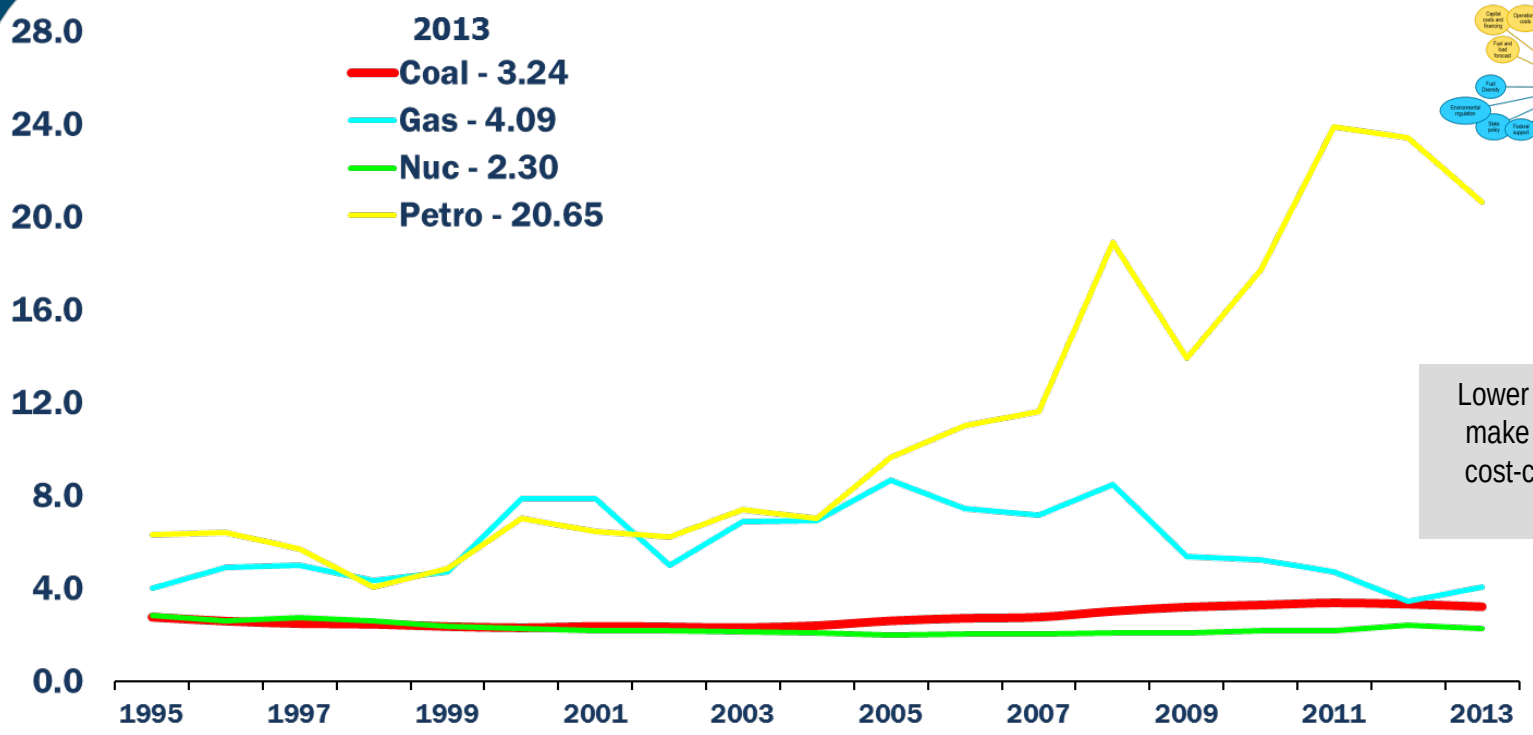


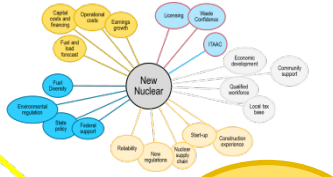


Source: U.S. EIA 2013 Update

Source: Forbes Energy 07/08/2012

Production (Operations and Maintenance + Fuel) Costs





Operational costs

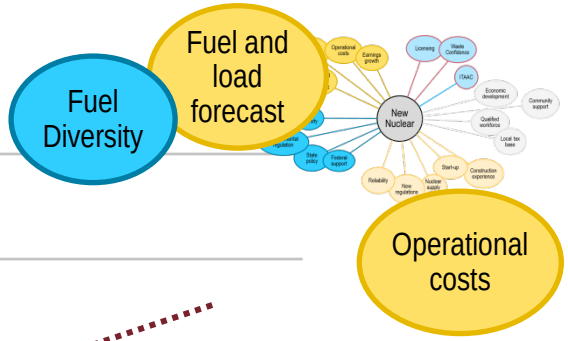
Lower production cost can make nuclear cheaper or cost-competitive over the long term

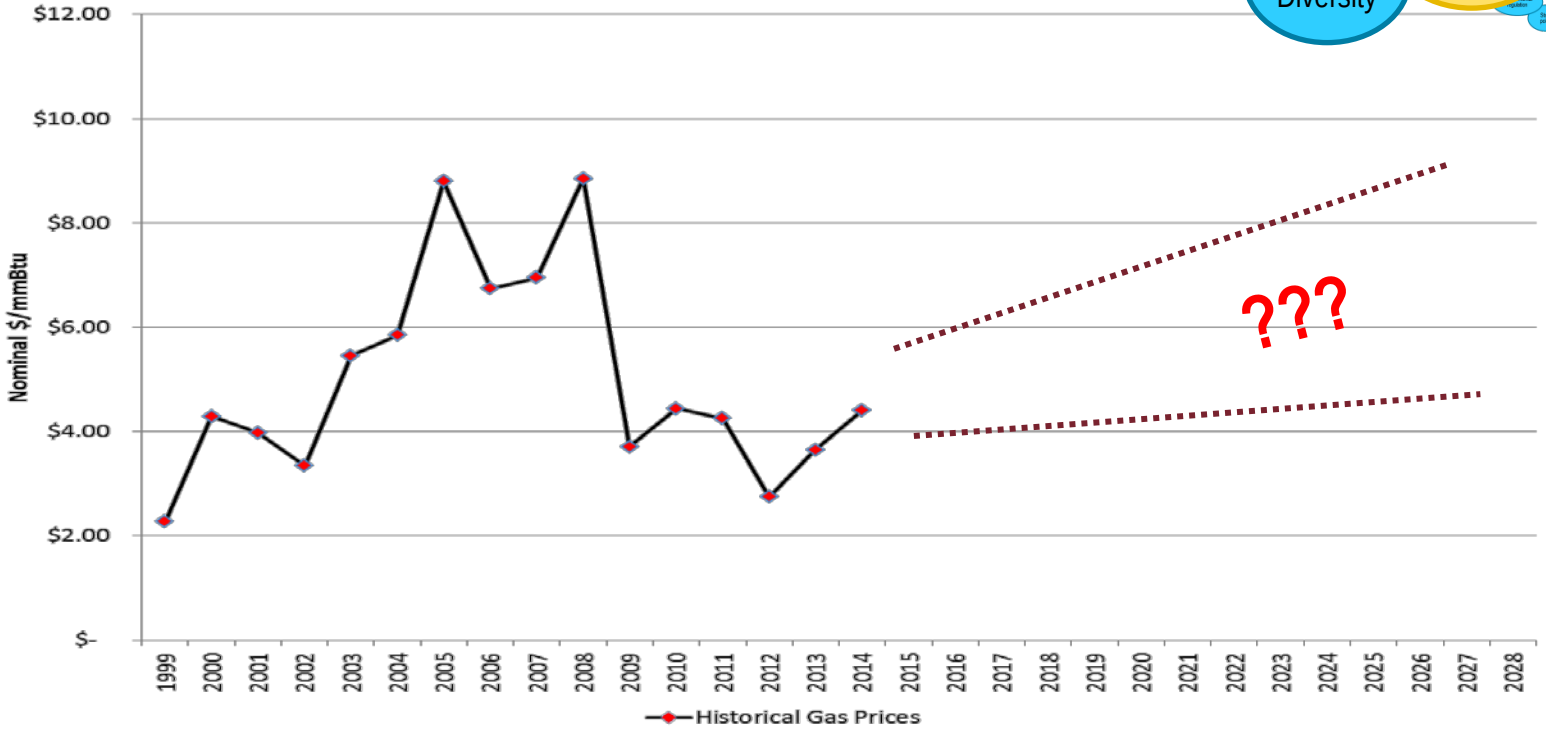
- **Production Costs = Operations and Maintenance Costs + Fuel Costs. Production costs do not include indirect costs and are based on FERC Form 1 filings submitted by regulated utilities.**
- **Production costs are modeled for utilities that are not regulated.**

Source: Nuclear Energy Institute based on data from Ventyx Velocity Suite – Updated 05/14

Natural Gas Prices

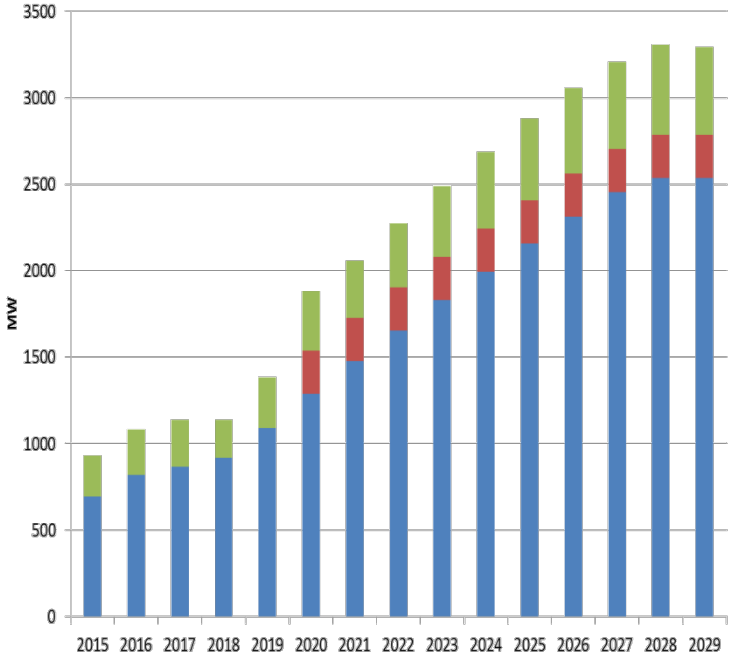
Natural gas price forecast has a consequential impact on planning





Renewable Generation

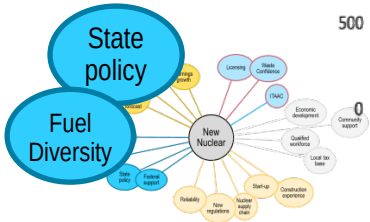
Renewables are an important part of our future portfolio, but are constrained by intermittency and low equivalent capacity factor

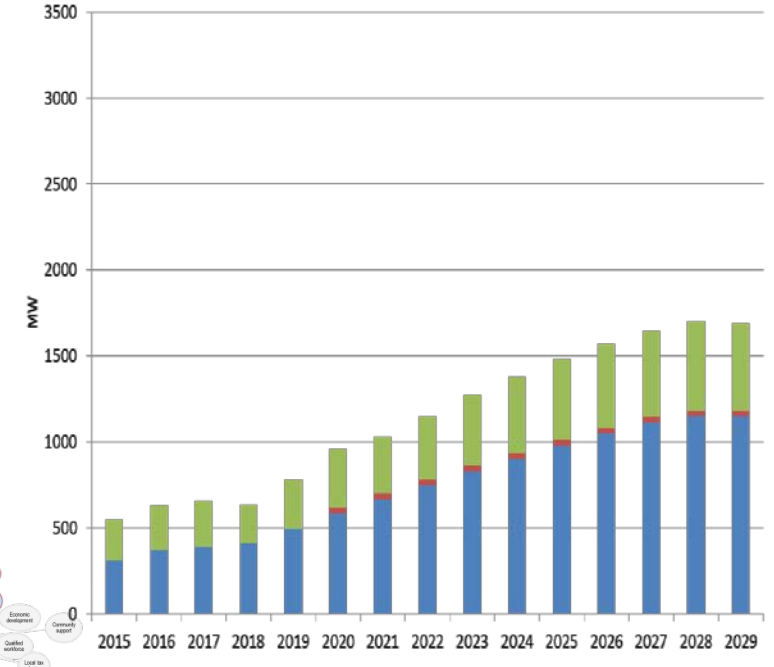


Solar

Wind

Biomass/Hydro



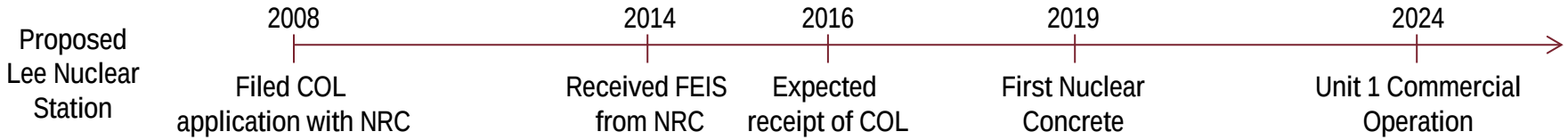


Factors Influencing Nuclear Development – Summary

Factor	2005 Forecast	2014 Forecast	Impact
Carbon Prices	Sensitivity analysis on $7 per ton starting in 2015 $20 per ton by 2030	$17 per ton starting in 2020 $40 per ton by 2030	
Natural Gas Prices	$9/mmBTU in 2005 escalating at 1.5%	$4/mmBTU in 2012 escalating at 4-5% over the long term	
Nuclear Capital Costs	~$2,000/kW	~$5,000/kW	
Cost of Capital	Weighted average cost of capital over 9%	Weighted average cost of capital under 7%	
EPA Regulations and Coal Retirements	Minimal impact from EPA regulations on coal-fired generation - no plans for coal retirements	New air, water, and waste regulations target coal-fired generation; Duke Energy has retired more than 3,600 MW of coal production in the Carolinas	
Load	Load growth on the order of 3% per year	Peak load predicted to grow ~1.4% per year	
Renewables	State renewable mandates were not in place	N.C. requires 12.5% renewable retail sales by 2020; S.C. recently passed legislation to encourage electricity production from solar	
Nuclear Retirements	Earliest 60-year retirement was Robinson, 25 years in the future	Robinson retirement is only 16 years in the future	

2013 Duke Energy Resource Plan for the Carolinas (Base Case)

Year	Resource		MW	
2014	Nuclear Uprates	Combined Cycle	29	625
2015	Natural Gas Conversion	Nuclear Uprates	194	56
2017	New Combined Cycle	Nuclear Uprates	680	45
2018	Combustion Turbine (Fast Start)	Combined Cycle Uprates	126	137
2019	New Combined Cycle (2)		1,686	
2021	New Combined Cycle		843	
2022	New Combustion Turbine	New Combined Cycle	403	843
2024	New Nuclear (Lee)		1117	
2026	New Nuclear (Lee)		1117	
2027	New Combustion Turbine		403	



Conclusion

- Continued pursuit of new nuclear capacity supports Duke Energy's long-term resource plans by providing fuel diversity, a hedge against potential future carbon dioxide regulations and uncertainty in fuel prices, especially the cost of natural gas.
- New nuclear plants also provide economic development and jobs for the service territory.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