North Carolina Renewable Energy and Efficiency Portfolio Standard:

The Southeast's first step to become a beneficiary of the New Global Energy Economy

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NCSEA

The North Carolina Sustainable Energy Association

NCSEA

Our Mission:

"To ensure a sustainable future by promoting renewable energy and energy efficiency in North Carolina through education, public policy and economic development"

We work collaboratively with the utilities, industry & commercial sectors, state/local agencies, environmental groups and the emerging renewable energy industry, collaboratively identifying private and public sector goals and achievement mechanisms.

How NC Arrived at a Renewable Energy and Energy Efficiency Portfolio Standard

- 2005 – Introduced an RPS bill, became a study bill
- Jan 2006 – NC General Assembly / ERC asked the NC Utilities Commission to study renewable resources
- Dec 2006 – "La Capra" study answers key questions
  - Feasible amounts of renewables and energy efficiency?
  - Impact on rates? Other costs and benefits?
- Six months in 2007 – RPS bill negotiation
- Aug 23, 2007 – Signed by Governor Easley, amending policy guidance for Utilities Commission beyond least cost reliability.
- 4 months Oct 2007 to Feb 2008 – NCUC rulemaking

S.L. 2007-397: Paradigm Shift in NC Energy Policy and Regulatory Directive

- Legislative paradigm shift:
  from *no efficiency / renewables* to support for a *mix of conventional and clean energy solutions*
- Sec 62-2(a)(10), revised energy policy of NC:
  - Diversify the resources used to reliably meet energy needs of customers
  - Provide greater energy security from in-state resources
  - Encourage private investment in EE/RE
  - Provide improved air quality and other benefits to consumers and citizens

NC REPS Law

Compliance:

Renewable Energy

+ Energy Savings thru Energy Efficiency

% of prior year's retail sales

- Adopt independent RECs tracking
- Modify enabling rules:
  - Interconnection – Expand to 10M Consider adoption of FERC standards
  - Net Metering – Consider expansion
  - Analysis of rate structures, policies in other states…

Investor Owned Utilities

2012 : 3%

2015 : 6%

2018 : 10%

2021 : 12.5%

Municipals & Cooperatives

2012 : 3%

2015 : 6%

2018 : 10%

Can meet with existing and efficiency

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Renewable Energy Resources

Solar, wind, small hydropower, biomass, wave energy, landfill methane, includes:

- Thermal hot water
- Combined heat & power

"Carve-Outs"

- Solar :
  - 0.02% by 2010 *
  - 0.2% by 2018
- Hog waste : 0.2% by 2018
- Poultry: 900,000 MWh by 2018

Exempts systems under 2 MW from obtaining a Certificate of Public Convenience and Necessity from NC Utilities Commission

REPS Compliance –

Renewable Energy Certificates (RECs)

OR

Renewable "Bundled" Electricity

Maximum 25% out of state

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Energy Efficiency

Energy Saved thru EE measures*

- Measured and verified
- Includes waste heat in place of electricity
- Energy savings in 1 megawatt units

Compliance
25% up to 2020
40% for 2021 and beyond

**Only utility sponsored EE measures*

Renewables and Efficiency:
Different Mechanisms for Cost Recovery

Renewables	Efficiency
↓	↓
Subject to cost cap	Prudency review
$10/yr residential $50/yr commercial $500/yr industrial	Adjusted for net revenue lost
	Utility incentives
	Rate base

Fast-Track REPS Rulemaking…

Overall guidelines for implementation

- Tracking of Renewable Energy Certificates "RECs"
  - System to efficiently facilitate transactions (*e-100, s121*)
- Enforcement mechanisms? (*unspecified*)
  - Attract investment in new renewable projects & jobs
  - Support EE/RE competition to reduce cost to ratepayers
- How have utilities chosen renewable generators? (*RFPs?*)
- How to measure/verify energy efficiency? (*????*)

…Not Recommended

All working details should come from working groups.

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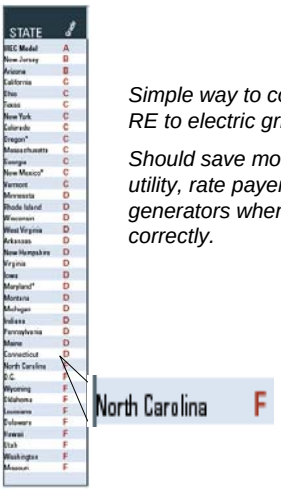
NCUC Interconnection Rules Improved!

Interconnection 2007



Simple way to connect RE to electric grid.

Should save money for utility, rate payers, RE generators when done correctly.

The *Freeing the Grid Report*
-Based on common criteria
-Grades state rules

NC issued new rules in June

Scoring a "B" in 2008

Blending the FERC Standard with the best of NC's pre-existing rule!

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Freeing the Grid: 2007 Edition

NC scores an 'F' on Net Metering

Net Metering

"Turn meter backwards" when produce more than need. Should save everyone money when done right.

The *Freeing the Grid Report*
- -Based on common criteria
- -Grades state rules

"Reducing demand and sharing excess electricity, net metering programs are a powerful market-based incentive."

Middle of regulatory proceeding –

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REPS is Only a First Step in Responsible Policy & Regulation: Southeast facing common energy challenges ahead

No matter what, the price of conventional electricity is going up, efficiency will remain low, price of renewable energy will continue coming down

Challenge Question:
What will your state and local citizens and economy get in return for this higher price?

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NC's EE/RE Job Market, Firms Growing as Result of NC REPS Law and tax credits

NCSEA 2008 EE/RE Industry Census -

- Surveyed 486 NC firms, 166 responses
- 6,050 currently employed in EE/RE
- ¾ of responses in manufacturing!
- Average past year growth 18%
- Average estimated growth next year 24%
- Large market transformation potential
- Poor utility EE/RE program design would reduce job & economic benefits to NC
- Top 50 NC labor growth sectors through 2017

Changing Global Energy Dynamics
The Past Is Not the Future for the Southeast

Nations on Leading Edge of Energy – China, MidEast

- China increased investment 14-fold since 2004
- China owns 70+% of global solar thermal market
- Europe and Mid East are leading corporate R&D
- China, India – major coal importers by 2015

Global Energy Resources

- Fossil fuels have been backbone of information age
- Oil, Natural Gas, Uranium gone in my lifetime. Yours?

Global Climate Change

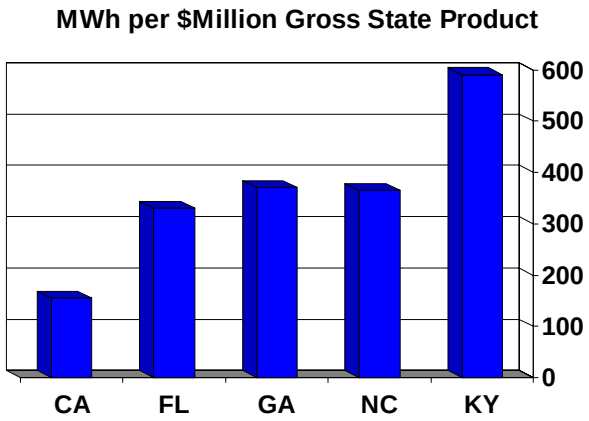
- How will a price on carbon impact your state? Southeast?
- How will your energy policy hedge against carbon in a way that delivers economic growth, jobs, wages, tax revenue?

Southeast Energy Challenges

Some challenges are within Southeast's control

Megawatt hours to generate $1 mil in economy

KY = 590 MWh
AL = 585 MWh
GA = 370 MWh
NC = 367 MWh
FL = 330 MWh
US = 290 MWh
CA = 155 MWh



Southeast has 7 of 10 least productive energy economies

Source: US EIA; La Capra Associates 2007

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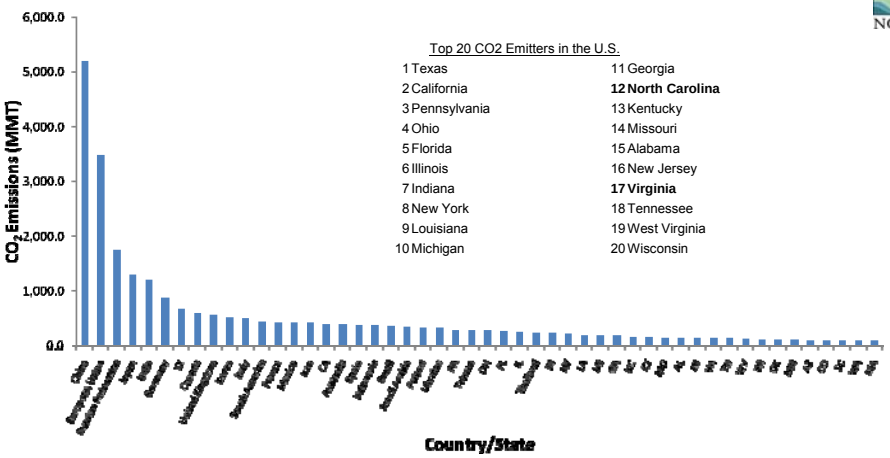

Top 20 CO2 Emitters in the U.S.

1 Texas	11 Georgia
2 California	**12 North Carolina**
3 Pennsylvania	13 Kentucky
4 Ohio	14 Missouri
5 Florida	15 Alabama
6 Illinois	16 New Jersey
7 Indiana	**17 Virginia**
8 New York	18 Tennessee
9 Louisiana	19 West Virginia
10 Michigan	20 Wisconsin

- North Carolina ranks **35th** globally and **12th** nationally in CO_2 emissions
- **9 out of the 10** southeastern states are top global CO_2 emitters.
- **7 out of 10** southeast states are within the Top 20 emitters in the U.S.; the most of any other region.

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Is an RPS enough to create a sustainable energy economy in your state? Southeast?

- Set initial market floor through an RPS or EE requirement
- Generate independent, transparent energy information
- Adopt state energy policy that is adaptable and long-term
- Gather lessons learned from new policy implementation
  - Integrate new lessons with previous understanding of energy
  - Adapt policy and regulations to reflect enhanced understanding
- RE companies won't arrive until regulation is fair, transparent
  - Interconnection and net metering rules
  - Multi-year EE and RE tax credits (NC 35% through 2010) and other capital assistance
- Align utility interest with the public interest

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