

Renewable Portfolio Standard & Incentives for Woody Biomass

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North Carolina Solar Center

An Inclusive Interest in Energy Efficiency and Renewable Energy

- Solar (photovoltaics, solar hot water, passive solar, daylighting)
- Wind
- Biomass (animal waste, energy crops, landfill gas)
- Biofuels (ethanol, biodiesel)
- Hydrogen & Fuel Cells
- Green Buildings & Sustainable Design
- CHP & Distributed Generation
- NC Industries of the Future



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Senate Bill 3 passed during 2007 Legislative session to provide a state based Renewable Energy and Efficiency Portfolio Standard (REPS) tailored to NC resources as detailed in studies by LaCapra Assoc. and GDS Assoc.

<http://www.ncuc.commerce.state.nc.us/rps/NC%20RPS%20Report%2012-06.pdf>
<http://www.ncuc.commerce.state.nc.us/rep/NCRPSEnergyEfficiencyReport12-06.pdf>



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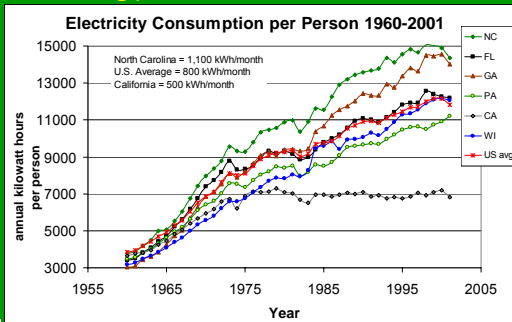
Why do we need a Renewable Portfolio Standard in NC?



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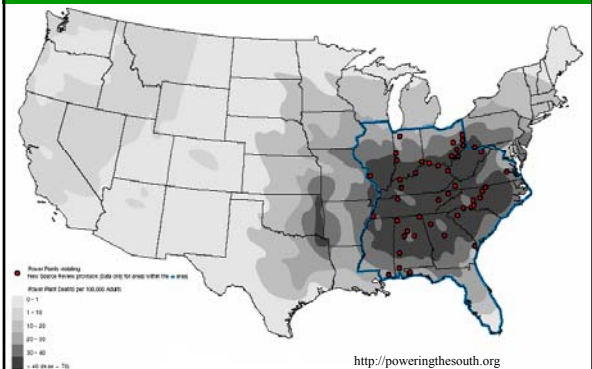
NC and GA – two of most inefficient energy economies in the U.S.



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Yin & Yang of cheap power in SE Risk of dying from coal fired power plant particulates



Benefits of an REPS for NC

- Economic (net gain) Benefits
 - Rate impact estimated lower than new coal or nuclear
 - 2,000+ net jobs per year
 - \$1.5 billion more in wages through 2017
 - \$2.7 billion increase in Gross State Product
 - Keeps more \$'s circulating in NC economy
- Social Benefits
 - Creates local wealth statewide; close to the land
 - Strengthens rural counties
- Environmental Benefits
 - Helps resolve hog and poultry waste/pollution issues
 - Improves air and water quality
 - **Reduces NC's CO₂ emissions by 13+ million metric tons per year**



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This slide from Legislative presentation on REPS, 2008 by
L. Hunt - Governor ASU Energy Center, La. Center for
Energy Research and Innovation

Definition - Renewable Energy Resource

- "Renewable energy resource" means a solar electric, solar thermal, wind, hydropower, geothermal, or ocean current or wave energy resource; a biomass resource, including agricultural waste, animal waste, wood waste, spent pulping liquors, combustible residues, combustible liquids, combustible gases, energy crops, or landfill methane waste heat derived from a renewable energy resource and used to produce electricity or useful, measurable thermal energy at a retail electric customer's facility; or hydrogen derived from a renewable energy resource.
- "Renewable energy resource" does not include peat, a fossil fuel, or nuclear energy resource.



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Key Elements of NC REPS

- Exempts RE systems under 2 MW from obtaining a Certificate of Public Convenience and Necessity from NCUC but require Notice of Intent
- Directs NCUC to increase size of Interconnection Standard to 10 MW
- Suggests that NCUC consider increasing Net Metering Rule to 2 MW



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REPS Rulemaking

- Utility Commission and Environmental Management Commission guidelines are needed for implementation
- Rule set will determine program success
- How should we handle Renewable Energy Certificates
- Utilities Commission is tasked with providing Enforcement mechanisms.
- Creates competition that reduces cost to ratepayers
- Improved interconnection rule set and net metering are required
- How will Utilities choose RE generators?
- How will the program measure/verify energy efficiency?



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Progress Energy Carolina's Renewable Request for Proposals (RFP)

- Progress Energy has issued a request of proposals to meet the requirements of the North Carolina Renewable Energy Portfolio standards.
- Solar bids with nameplate capacity of 50 kW or greater, or non-solar bids with nameplate capacity of 10 MW or less will be accepted.
 - Priority will be given to those proposals with an anticipated commercial operation date prior to 2011.
- Bidding deadline is November 11, 2008
- Bidders will be notified by March 1, 2009 of Progress Energy Carolina's intent to enter further discussions.

<http://www.progress-energy.com/environment/raefp/index.asp>



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Do we have some questions?

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REPS Legislation Related Activities

- Rulemaking for the REPS, Docket No E-100, Sub 113 - rules were issued end of February and docket was closed. The docket was reopened in July for the NCSEA submission of design specifications of an electronic tracking system. Awaiting Commission Order.
- Interconnection, Docket No E-100, Sub 101 - new rules issued in June adopting a blend of the FERC SGIP and the NC rules (directed in REPS legislation). The 3 IOUs procedures were submitted and approved. The docket was reopened in August by Duke objecting to disconnect switch ruling - filed a motion for reconsideration of the Commission decision that an external disconnect was unnecessary on up to 10 kw inverter based systems.



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REPS Legislation Related Activities

- Study of Rates and Policies to Promote a mix of generation and energy conservation (directed in REPS legislation), Docket No E-100, Sub 116 - ordered a sequence of 3 comment filings. Closed, and Commission was to submit the study on September 1, 2008 to Governor, ERC and Joint Legislative Utility Review Committee.
- Net Metering, Docket No E-100, Sub 83 - consideration of expanding the limit for unit size to 1 MW (directed in REPS legislation), Procedural Schedule (= written evidentiary hearing) (Aug-Nov), Public Meetings in Raleigh (9/30) and Charlotte (10/2)



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REPS Legislation Related Activities

REPS Implementation - Energy Efficiency

- Duke's Save-A-Watt Proposal, Docket No E-7, Sub 831 - awaiting Commission decision, spawned (PBF) NCSaves\$ Docket
- NCSaves\$, Docket No E-100, Sub 120 - a PBF with an independent 3rd party administrator to conduct energy savings program, opened for comment Sep-Oct
- Progress' Residential Solar Hot water Proposal, Docket No E-2, Sub 928 - approved program but separate docket for cost recovery (No E-2, Sub 931)
- Progress Distribution System/Demand Response Proposal, Docket No E-2, Sub 926 - proposal to upgrade distribution system and claim it is DSM with hearing date set for Dec
- Progress EE/DSM Cost Recovery, Docket No E-2, Sub 931 - hearing date set Dec



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REPS Legislation Related Activities REPS Implementation – Renewable Energy

- Progress REC Contracts Cost Recovery, Docket E-2, Sub 930 - awaiting Commission order (Jun-Sep)
- Duke's PV DG Proposal, Docket E-7, Sub 856 - proposes to lease roof-tops, 700-750 3kw - 10kw and around 50 50kw - 3 MW PV systems - opened for comment Sep-Oct



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