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North Carolina Solar Center at NCSU

NC Renewable Energy Policy: Regulatory Update and Existing Legislation

NCSU Energy from Wood
March 13-14, 2006

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Societal Benefits of Renewable Energy Projects

- National security
 - Reduces importation of fossil fuels to the U.S.
- Environmental performance
 - substantially better- reduces or avoids SO₂, NO_x, and CO₂ emissions, ash production, water consumption compared to fossil energy
- Local control of energy production stabilizes pricing and assures supply – peak shaving
 - Both private companies and munis/co-ops

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Economic Benefits of Renewable Energy

- Economic development in rural areas
- Contribute to the tax base of rural communities
 - may be the largest single property taxpayers in their respective jurisdictions
- Balance of Trade
 - \$7 billion/year goes from NC to other states for fossil fuel purchase
- Waste disposal
 - approximately 22 million tons/yr of solid biomass waste in the US

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Barriers facing Renewables

- Financing challenges - High first costs
- Uncertain long-term commitment to incentives – e.g. NC GreenPower
- Non-core business investment for the customer

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Barriers facing Renewables

- The producer is paid avoided cost pricing
 - A contrived price that does not reflect true cost of next kW of generation
- Uncertain/difficult/expensive interconnect requirements
- Environmental benefits not recognized or accrue to utilities
 - RE certificate markets (green “tags”)
 - Regulated Emissions Credits go to Utilities

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The Problem in the Southeast

- Little Change = Little Opportunity
- No deregulation = no RPS, PBF, etc.
- Interconnection and power purchase agreements remain challenging to negotiate
- Have to fight the system to enter market – uncertainty in rule set with utilities – makes project development & financing difficult

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Is There Hope in the Southeast?

- **YES!** Three Major Drivers for RE – Agriculture, Air/Water Quality, Jobs & Econ Development
 - Politically strong Ag community seems to want to promote renewable energy
 - Air Quality makes strange bedfellows (see NC Clean Smokestacks)
 - Economically depressed regions need jobs

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Database of State Incentives for Renewable Energy

- The NC Solar Center hosts DSIRE - a comprehensive source of information on state, local, and utility incentives that promote renewables
- www.dsireusa.org



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State Regulatory Policy

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Major RE-related NCUC Dockets

- **Integrated Resource Planning (IRP)** E-100 Sub 103
 - Process reforms under consideration – “book report problem”
 - Recent filings question utility growth estimates
- **Avoided Cost** E-100 Sub 100
 - Sets prices paid to RE Generators by Utilities
 - Green Tags/Renewable Energy Credits
- **NC GreenPower** E-100 Sub 90
 - Public meeting for 2:00 p.m. on Monday, April 3, 2006, in Commission Hearing Room 2115, Dobbs Building

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Major RE-related NCUC Dockets

- **Interconnection** E-100 Sub 101
 - Public Staff hosts “kick-off” of Informal Negotiations between NCSEA and utilities, January 2003
 - Continuing Negotiations on limited set of issues as proscribed by the NCUC – Workshop in January 2006
- **Net Metering** E-100 Sub 83
 - Currently waiting on NCUC response to NCSEA filing
 - A number of biomass-specific net metering programs exist around the US – see DSIRE for info

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Interconnection Order

- Consensus reached on most issues
- Limited to VERY small systems
 - 100 kW commercial, 20kW residential
- Uses national standards for technical requirements (IEEE, UL, NEC)
- Uses a “screen” to determine eligibility

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Facilitating NC GreenPower

- All of these docket activities revolve around facilitation of NCGP and growing RE markets
- Technical IC is only a piece of the puzzle
 - Standard IC agreements
 - Progress Energy – CSP-21A, PV Rider, Duke Power – PP-N, PV Rider, Dominion Power – Schedule 19
 - Cooperatives (EMCs) and Municipal Utilities will not necessarily have standard IC agreements
 - FERC Form 556 to become Qualified Facility
 - Certificate of Public Convenience & Necessity
 - Simplified process for PV <10kW AC, no advertising
 - \$25 filing fee

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NC GreenPower

- Major Flaws for Generation Partners
 - Small (but growing) Participation = Little Demand
 - Lack of Contract Guarantees
 - Need for Interconnection Agreement with Utility

www.ncgreenpower.org

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Defining Biomass

ncGreenPower

One of the most controversial issues in the development of the program was the biomass definition

Compromise was for a two-tiered program

- “Mass Market Product”
 - \$4/100kWh
 - solar, wind and methane from biomass
- “Large Volume Product”
 - \$2.50/100kWh (10,000 min)
 - solar, wind, small hydro, and all types of biomass, *with certain limitations*

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NC GreenPower & Biomass

Wood waste: NC GreenPower recognizes and encourages responsible and sustainable business practices for forest and wood products management. Although North Carolina has abundant forestry and wood resources, the quality and quantity of original forests are in decline due to land development. Thus, developers are creating significant amounts of wood waste at the expense of the quality and quantity of original forests. NCGP does not intend for this type of wood waste to be included in the NCGP program. Therefore, the following guidelines have been developed for the types of wood waste that will be allowed for NCGP qualification: tree trimmings, mill residues (bark, sawdust and fines from primary processing facilities); segregated construction and demolition wood (excluding painted, treated, glued, pressurized wood or any wood contaminated with plastics or metals); clean wood waste from manufactured home plants, pallet recycling facilities, furniture manufacturers, finished building products and other similar industries; wood from land clearing that would otherwise end up in landfills; and wood bedding material removed from poultry brooder houses. Wood “chips” derived from processing whole trees within forested land will not be allowed as qualifying wood waste. However, the Board of NC GreenPower may review this exclusion in the future to determine if sustainable forestry practices are being employed in connection with wood chip production and to determine if such practices warrant the consideration of wood chips as a green power source, and if the environmental community is willing to recognize their use in such a way.

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NC GreenPower & Biomass

- Types of wood waste that will be allowed for NCGP:
 - tree trimmings
 - mill residues (bark, sawdust and fines from primary processing facilities)
 - segregated construction and demolition wood (excluding painted, treated, glued, pressurized wood or any wood contaminated with plastics or metals)
 - clean wood waste from manufactured home plants, pallet recycling facilities, furniture manufacturers, finished building products and other similar industries
 - wood from land clearing that would otherwise end up in landfills
 - wood bedding material removed from poultry brooder houses

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State Legislative Policy

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NC Renewable Energy Tax Credit

- Eligible Technologies Include
 - Solar, Wind, Hydroelectric, Biomass including Landfill Gas, Spent Pulping Liquor, Anaerobic Digestion, Ethanol, Methanol, Biodiesel
- Amount: 35%
- Max. Limit: \$2,500,000
- Terms: Distributed over five years
- Expiration Date: 1/1/2011

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NC Manufacturer Tax Credit

- Eligible Technologies: Solar, Wind, Biomass, Hydroelectric, Renewable Transportation Fuels
- Amount: 25% of construction
- Terms: Credit may be carried forward for 10 years

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NC Energy Improvement Loan

- Eligible Technologies: Solar, Wind, Biomass, Hydroelectric, Energy Efficiency
- Applicable Sectors: Commercial, Industrial, Nonprofit, Schools, Local Government
- Max. Limit: \$500,000
- Terms: 1% interest rate; 10-year max

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Questions or comments?

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