

RE & Carbon Markets: NC Energy Regulation is Still a Barrier to Robust Renewables and Carbon Markets

Ivan Urlaub, Executive Director
NC Sustainable Energy Association

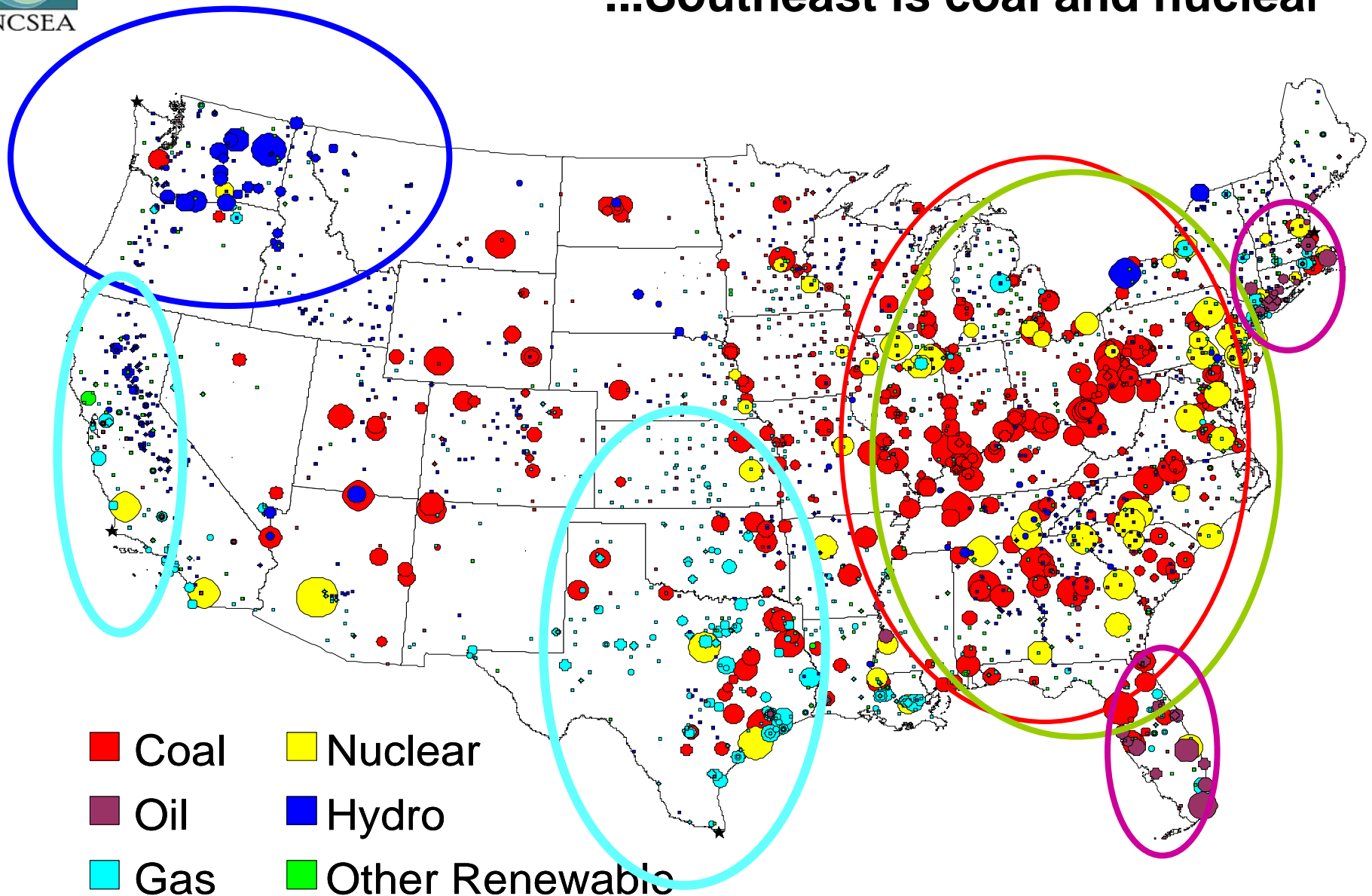
McKimmon Center, Raleigh, North Carolina
2008 NC Sustainable Energy Conference
April 8, 2008



NCSEA

REGIONAL DISPARITY OF GENERATION TECHNOLOGIES

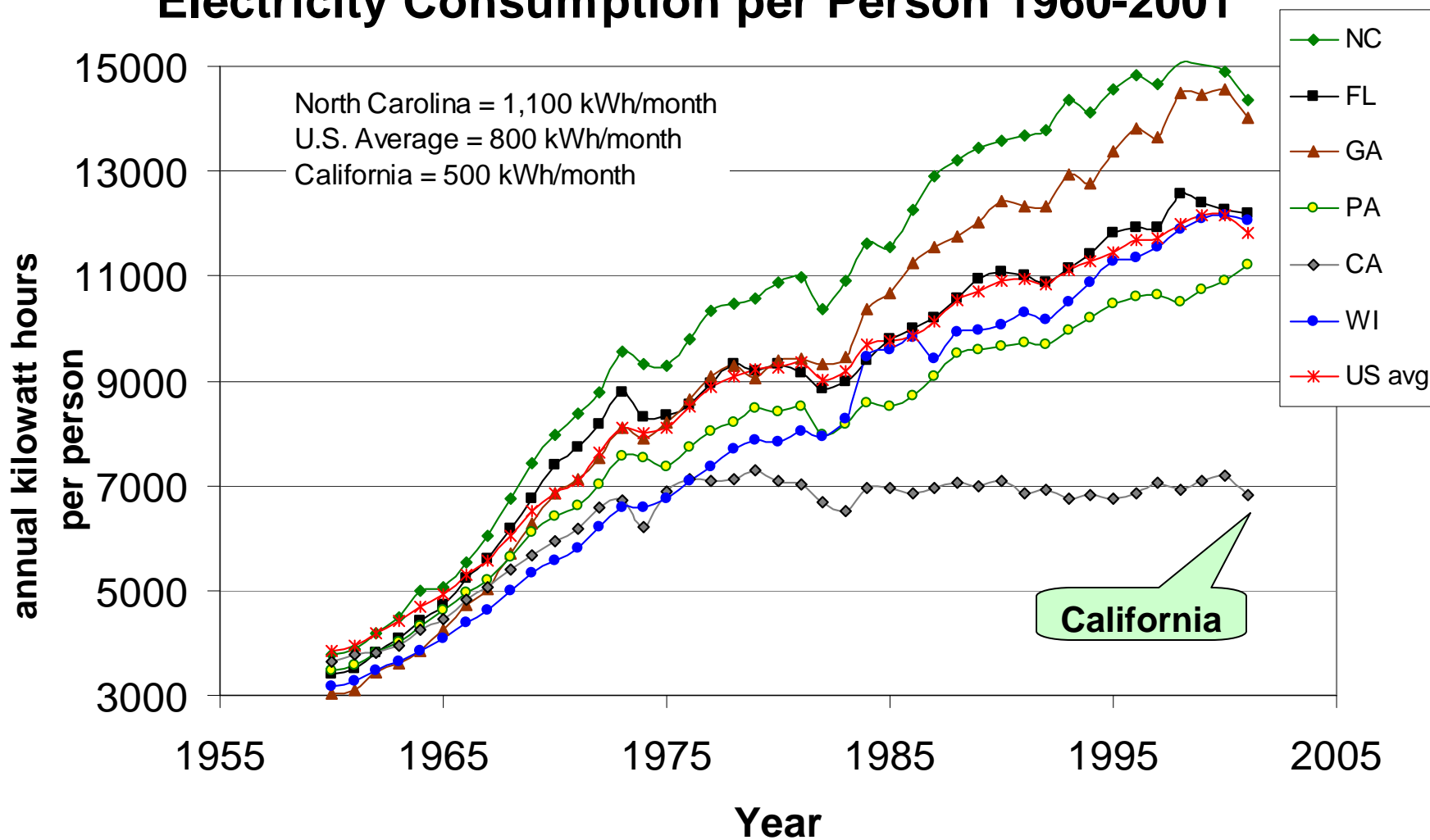
...Southeast is coal and nuclear



Per Capita Electricity Use

(select states)

Electricity Consumption per Person 1960-2001





Great Opportunities for Market Growth!

Renewables, Efficiency untapped in Southeast

Megawatt hours to generate \$1 mil in economy

AL = 585 MWh

SC = 580 MWh

NC = 380 MWh

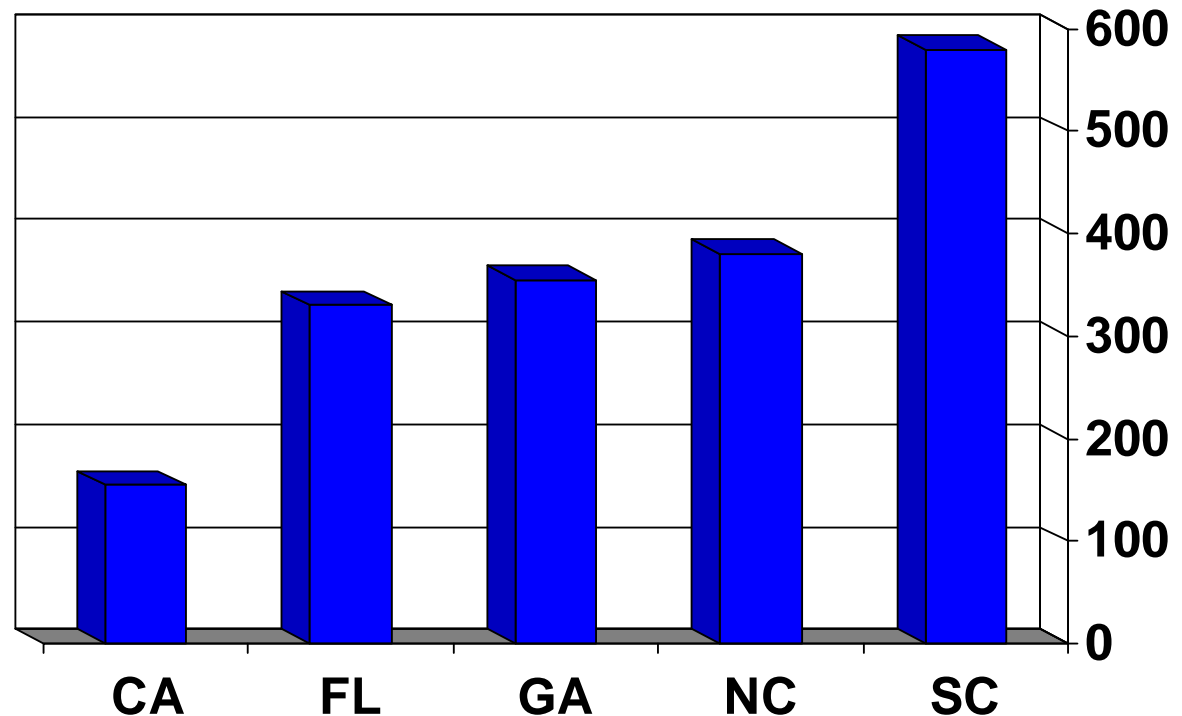
GA = 355 MWh

FL = 330 MWh

US = 290 MWh

CA = 155 MWh

MWh per \$1 Million Gross State Product



Southeast includes 7 of 10 least energy productive economies

Source: NC Institute for Emerging Issues Symposium, Boone, NC, 2007



Carolinas' Economy: Energy unproductive

*We do not have cheap electricity for what we get in return.
La Capra study = coal + natural gas cost more than RE + EE*

Electricity	US Avg	NC	SC
Ave retail price per kilowatt hour	\$0.060	\$0.055	\$0.045
MWh to produce \$1 million GSP	290	380	580
Electric cost to produce \$1 million GSP	\$17,400	\$20,900	\$26,100
Compared to cost for ave. U.S. state		+20.1%	+41.6%



World Energy Challenge is NC Opportunity

Barely scraped the surface of RE potential

- By 2030 North carolina will:
 - Experience approx. 50% population growth
 - Add or renovate 75% of buildings statewide
 - Provide at least 12.5% of our electricity using renewables and energy saving solutions
 - Experience lower electricity rate impacts than if we had chosen coal and natural gas in 2010's
- Renewables and the carbon market will be taken for granted, just part of landscape



Policies (+) influencing the market

NC policies improving market prospects

- RPS Law, 2007 (*Renewable & Efficiency Portfolio Standard*)
 - 7.5% to 12.5% RE by 2021 (*4th largest in nation*)
 - Up to 5% can be Efficiency that satisfies baseload
 - 6th state to require solar PV / thermal, CHP
- Renewable Tax incentives expire 12/31/2010
 - 35% credit for residential systems
 - 35% credit up to \$2.5 mil per installation for commercial
- Established rules for RPS implementation

Caveat: Fundamentals of rules confusing, will require legislative and NCUC revision soon or ratepayers will pay more for inefficient market
- NC Climate Action Plan completed, results show efficiency, renewables provide greatest reductions



Policies (-) influencing the market

Policies preventing RE market from developing

- Net Metering
- Interconnection
- RECs tracking system
- RE system owners being double-billed for fees by Utilities, fees are unnecessary
- Workforce Development Roadmap
- Confusion over authority to create an Energy Productivity Fund
(also known as a Public Benefits Fund, or PBF)

Freeing the Grid: 2007 Edition

NC scores an 'F' on Net Metering, Interconnection

Net Metering

STATE	Grade
IREC Model	A
Colorado	A
New Jersey	A
Pennsylvania	A
Maryland	A
California	A
Oregon	B
Delaware	B
Iowa	B
Connecticut	B
Ohio	B
New Mexico	B
Arkansas	C
New Hampshire	C
Rhode Island	C
Hawaii	C
Maine	C
Louisiana	C
Virginia	C
Minnesota	C
North Dakota	C
Massachusetts	C
Montana	C
Vermont	C
Missouri	C
Washington	D
New York	D
Texas	D
Kentucky	D
Michigan	D
Wyoming	D
Oklahoma	D
Indiana	D
West Virginia	D
Utah	F
D.C.	F
Georgia	F
North Carolina	F
Wisconsin	F

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

North Carolina **F**

Interconnection

STATE	Grade
IREC Model	A
New Jersey	B
Arizona	B
California	C
Ohio	C
Texas	C
New York	C
Colorado	C
Oregon*	C
Massachusetts	C
Georgia	C
New Mexico*	C
Vermont	C
Minnesota	D
Rhode Island	D
Wisconsin	D
West Virginia	D
Arkansas	D
New Hampshire	D
Virginia	D
Iowa	D
Maryland*	D
Montana	D
Michigan	D
Indiana	D
Pennsylvania	D
Maine	D
Connecticut	D
North Carolina	F
D.C.	F
Wyoming	F
Oklahoma	F
Louisiana	F
Delaware	F
Hawaii	F
Utah	F
Washington	F
Missouri	F

Simple way to connect RE to electric grid. Should save money for utility, rate payers, RE generators when done right.

North Carolina **F**

North Carolina has no coal, natural gas, oil or nuclear resources; lots of untapped renewables

Coal, natural gas, oil exporting states have better Net Metering and Interconnection rules than NC



What will it take to grow RE, EE markets?

Carbon Market not viable if policy prevents RE, EE market

- RE Market in 2017 should be 2000+ Megawatts, 2000+ net job gain
- RPS Law greatest carbon reduction benefit of 62 policies considered by NC Climate Change Commission
- RE companies won't come here until regulatory environment is fair, transparent...
 - Improve, expand Interconnection, Net Metering
 - Adopt a RECs tracking system
 - Extend RE tax credits to 2015 to keep them here



RE, EE Markets not impacted by RPS yet

Utility RFPs inadequate indicator of industry interest

Timeline of events make RE bids premature:

- Mid-2007, Duke Energy issues RE RFP, 90+ bids received!
- August 2007, Gov. signs RPS Law
- Fall 2007, Progress issues RE, EE RFPs
- Fall 2007, Utilities accuse out of state RE companies of “subverting NC’s democratic process” by being in RPS rulemaking
- Winter 2007/08, EMCs issue RE RFP
- Spring 2008, NCUC issues RPS rules, lack clarity on concepts needed to submit low-cost, efficient RE, EE bids
- RPS Rules issued in absence of interconnection, net metering decision (comments filed in 2007)
- Spring 2008, Utilities claim lack of interest, high prices in RE bids submitted under their RFPs
- Spring 2008, Utilities, EMCs stop talking to RE bidders



Ivan Urlaub

Executive Director

NC Sustainable Energy Association

P.O. Box 6465, Raleigh, NC 27628

Commissioner, Legislative Commission on Global Climate Change
Advisor, NC Climate Action Plan Advisory Group

(919) 832-7601 (office)

ivan@energync.org

www.ncsustainableenergy.org