

# Knowledge Transfer and State-level Renewable Energy and Carbon Policy: Insights from the Front Line

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North Carolina

**Cooperative Extension Service**

NORTH CAROLINA STATE UNIVERSITY

COLLEGE OF NATURAL RESOURCES

# Presentation Objectives

- **Describe the education, research, and policy roles as foresters in a U.S. state just beginning renewable energy and carbon policy development**
- **Share some observations from what we as foresters have learned in working with a diverse set of partners**

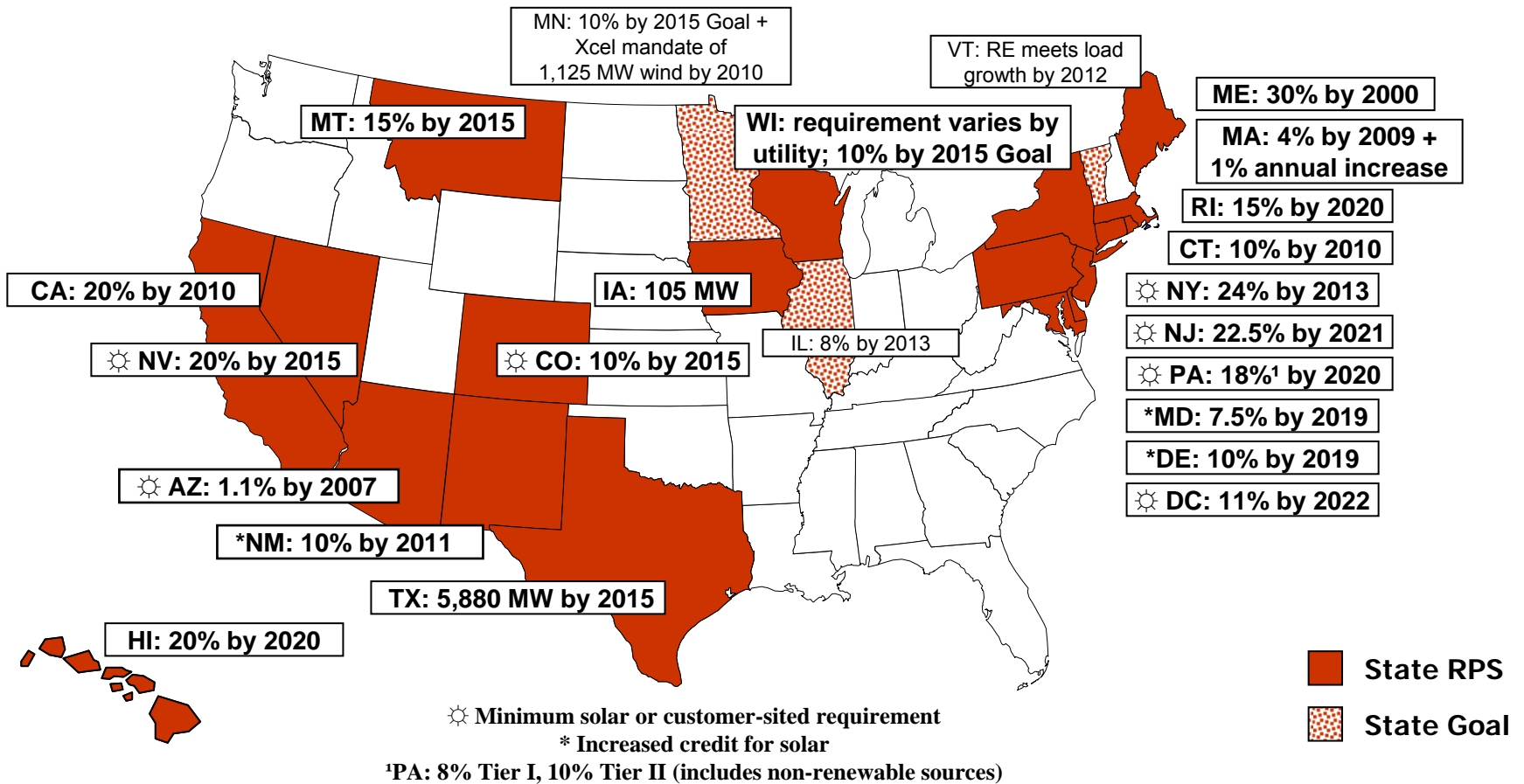
# Some Conclusions Up Front

- **Forest resources can contribute significantly to global change solutions**
- **Our message can be communicated to non-forestry audiences**
- **The luck of good timing is hard to beat!**

# **U.S. National Policies on Renewable Energy and Carbon**

- **Largely absent at the national (or Federal) level**
- **Mostly left to individual states**
- **Thus, policies vary around the country**

# Renewables Portfolio Standards



# North Carolina



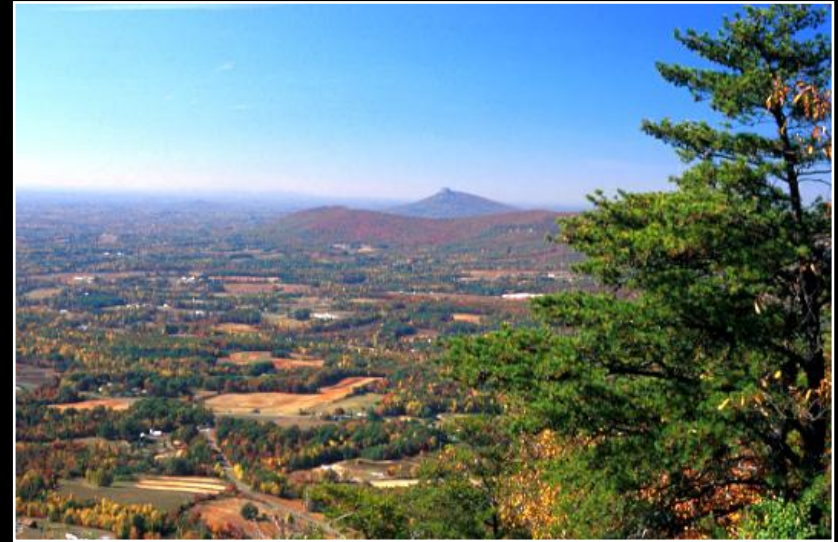
# A Few Facts About North Carolina

- 48,711 sq mi. (126,161 sq km)
- Population 8.9 million
- Urban, yet rural
- Very diverse physiography (mountain region in west, rolling Piedmont with most of the larger cities, Coastal Plain with larger-scale agriculture and forestry, rapidly developing sea coast)
- 17.6 million acres forest land (7.12 million ha)
- 62% forested, 89% non-industrial privately owned
- 450,000+ private forest landowners

# North Carolina Forests



Mountains



Piedmont



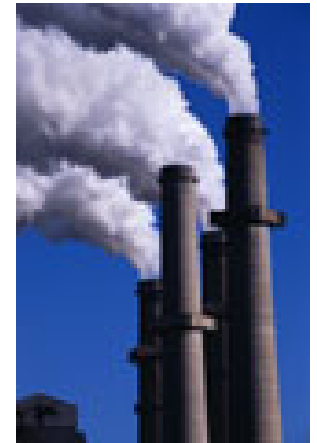
Coastal Plain



Sandhills

# EXTENSION FORESTRY AND ENERGY AND CARBON POLICY DISCUSSIONS: When, Why and Where?

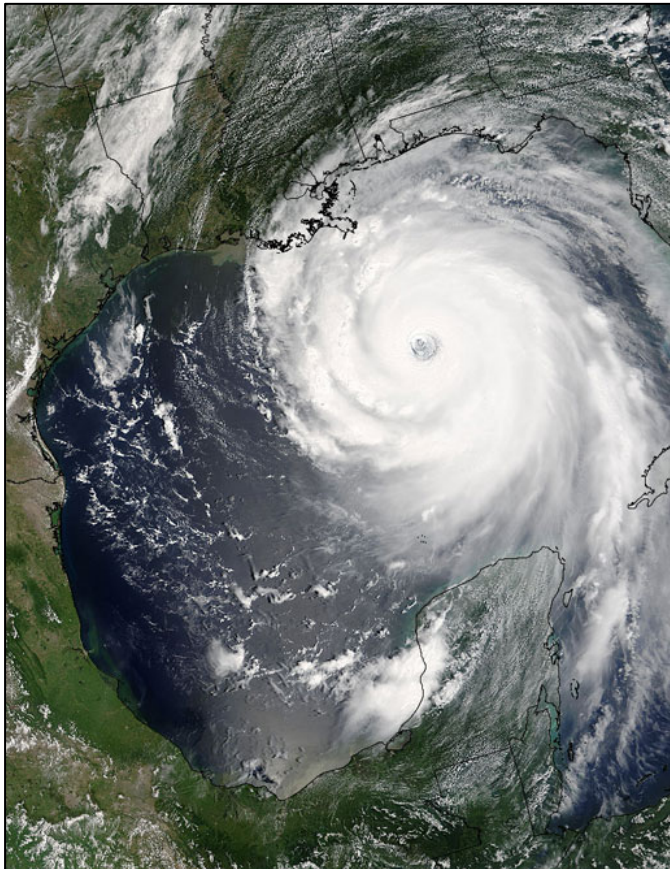
- About three years, we as a group decided it was time to propose NC forests as a player in these arenas.
- Belief that wood represented an abundant carbon-neutral renewable fuel source.
- Belief that monies spent in the forest for increasing carbon sequestration were relatively low cost.



# **We Asked “How Do We Start?”**

- **Decided to host a conference in March 2006 to “introduce” NC policy makers, environmental interests, agency personnel, and other stakeholders to the potential of our forests to supply renewable energy and solutions to global change**
- **Then hoped to participate in post-conference discussions**

# Two Factors Opened the Door for Broad Discussions



Hurricane Katrina - 2005



Record Fuel Prices - Later 11

# Major Policy Opportunities in North Carolina After Katrina

- **Four days after Katrina (September 2005), the NC General Assembly created the Legislative Commission on Global Change**
- **In February 2006, the Climate Action Plan Advisory Group created**
- **In April 2006, a Renewable Environmental Portfolio Standard introduced in NC General Assembly**

# NC Legislative Commission on Global Change

- **34 members**
- **“to study issues related to global warming, the emerging carbon economy, and whether it is appropriate and desirable for the state to establish a global warming pollutant reduction goal”**
- **And, “if the establishment of a goal is appropriate and desirable, to .... develop a recommended goal.”**

# Climate Action Plan Advisory Group

- **To complement the Legislative Commission**
- **To develop proposals for dealing with global climate change in North Carolina**
- **40 members representing industry, environmental groups, government agencies, academic institutions, agriculture, forestry, coastal interests, real estate, tourism, banking, insurance and other businesses**

# Renewable Environmental Portfolio Standard (RPS)

- **A legislative bill to require the NC public utilities to generate a certain percentage of electricity with renewable energy**
- **There were none in the southeastern U.S.**
- **Strong opposition among the utilities and many environmental groups**



# An Opportunity for Forests, Landowners, and The Environment!

- **NC forest landowners need better timber markets, especially for low-value material.**
- **Forests are a significant resource!**
- **Forest productivity can readily be increased**



# Challenges

- **Some groups opposed to harvesting.**
- **How do you explain forestry to almost entirely non-forestry audiences?**
- **Other well-represented interest groups anxious to supply solutions (e.g. ag).**
- **State university faculty cannot lobby or advocate, thus only science-based information can be offered.**

# Our Strategy Loosely Described

- **Produce science-based answers we anticipated would be needed.**
- **Invite regular stakeholder review of all of our analyses and findings.**
- **Volunteer for formal and informal policy discussion and study groups.**
- **Offer to speak, provide data, organize field trips, etc.**
- **Especially seek out those with opposing views.**

# Total Annual Biomass in Green Tons Available 1990-2002

	Annual Biomass Available Based on 1990-2002 Harvest Experience				
	Logging Residues	Residual Saplings	Post-Thinning Residues	Pulpwood	Total
Softwood	1,557,979	462,109	392,358	3,831,581	6,244,026
Hardwood	3,142,710	2,587,764	216,247	4,850,434	10,797,156
Total	4,700,689	3,049,874	608,605	8,682,015	17,041,182
Total in MW-years	335	218	43	619	1,216



# Total Annual Biomass in Green Tons Available from Better Forest Practices

	Enlightened Forest Practices Biomass Availability			
	Post-Thinning Residues	Logging Residues from Final Harvest	Pulpwood	Total
Softwood green tons	1,087,912	2,055,815	1,187,989	4,331,716
Hardwood green tons	4,863,473	4,306,613	1,935,980	11,106,067
Total green tons	5,951,385	6,362,429	3,123,969	15,437,783
Total in MW-years	425	454	223	1,101

Notice that there is less total biomass available because of the drop in pulpwood harvest compared to the 1990-2002 case. Thinning increases sawtimber and decreases biomass production.



# Where Are We to date?

- **The RPS was approved August 3 requiring 7.5% of electricity to be generated with renewables.**
- **70% of renewables will be wood**
- **5% reduced electricity use will be required via conservation measures**



# CAPAG Results

- **Public incentives for afforestation, improved forest management, and improved urban forestry among the most cost-effective carbon mitigating measures of 51 policy options adopted for recommendation**
- **Legislative Commission has informally said they highly favor forestry options**

# Lessons Learned

- **Find the point of common interest and use that as the lever to engage non-traditional audiences.**
- **Take advantage of non-traditional forums not focused on forestry issues.**
- **Use good science to make your points.**
- **Include stakeholders throughout the process including development of the “science”.**
- **Be honest, open, and straightforward regarding weaknesses in data or approaches or things you either don’t know or are not sure about**

# Lessons Learned (continued)

- **Be willing to patiently hear and address other points of view, no matter how much you disagree with them. After all, they might even be right!**
- **Be willing to repeatedly address the same question you thought you had satisfactorily addressed before.**
- **Be willing to give up ground (negotiate) to get things moving in the right direction.**