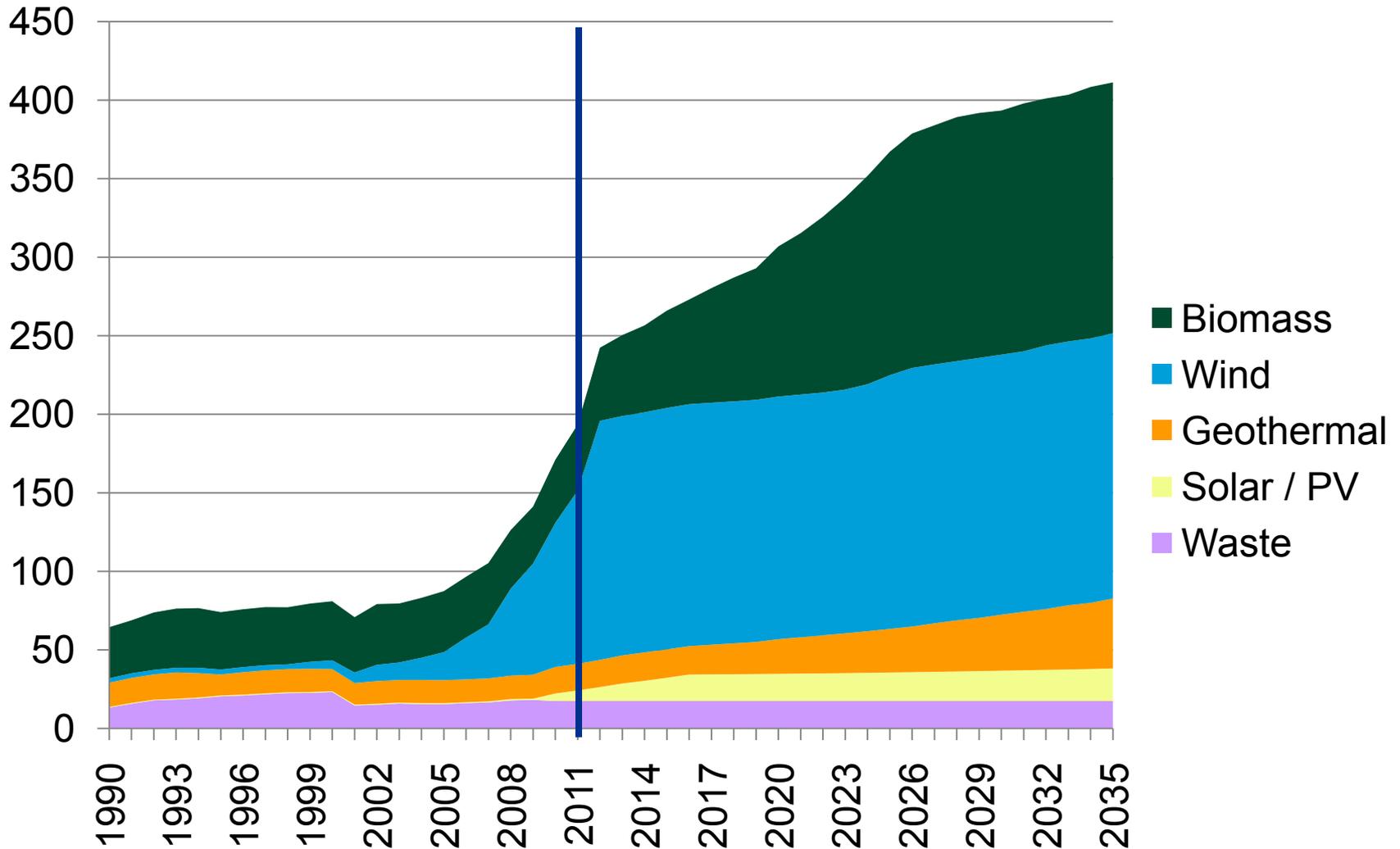


# Wood Bioenergy

Get it Right? Or Get it Done?

Will McDow

# Renewable Energy Growth



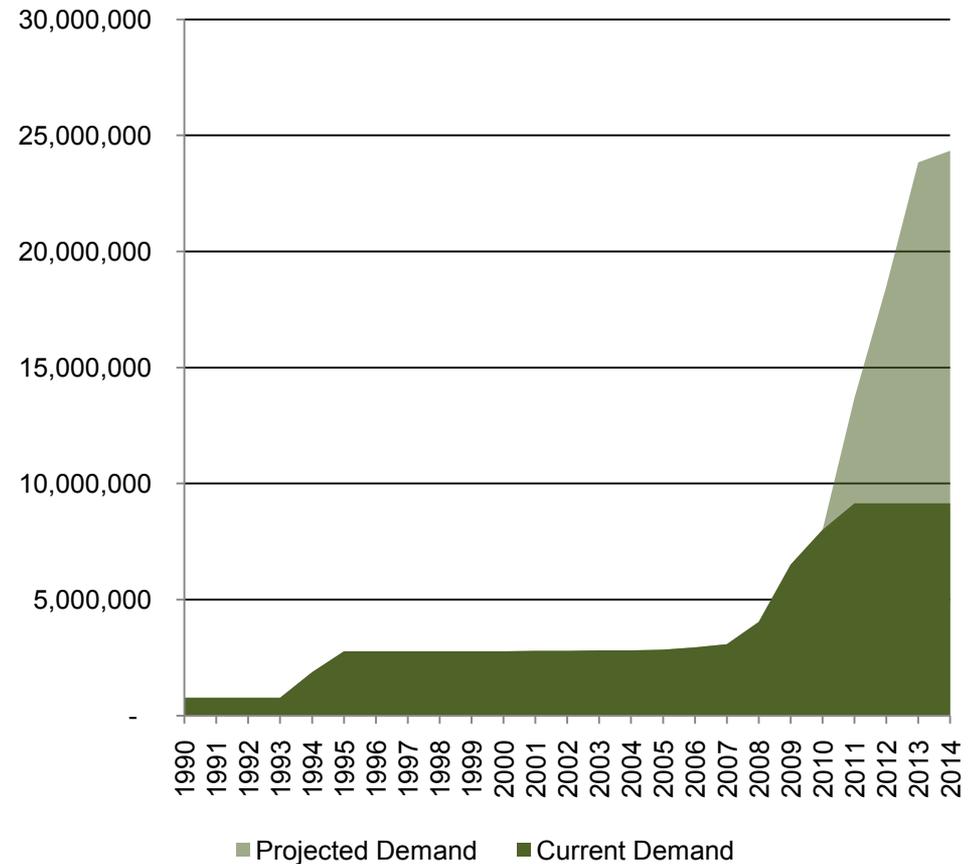
Source: EIA, Annual Energy Outlook 2011

# Wood Biomass Demand Growing

USDA Forest Service projects a 76% to 153% increase in harvests to accommodate future bioenergy demand.

Data Source: Forisk Consulting. Current demand = operating facilities; projected demand = facilities that meet status and technology screens and not yet operational.

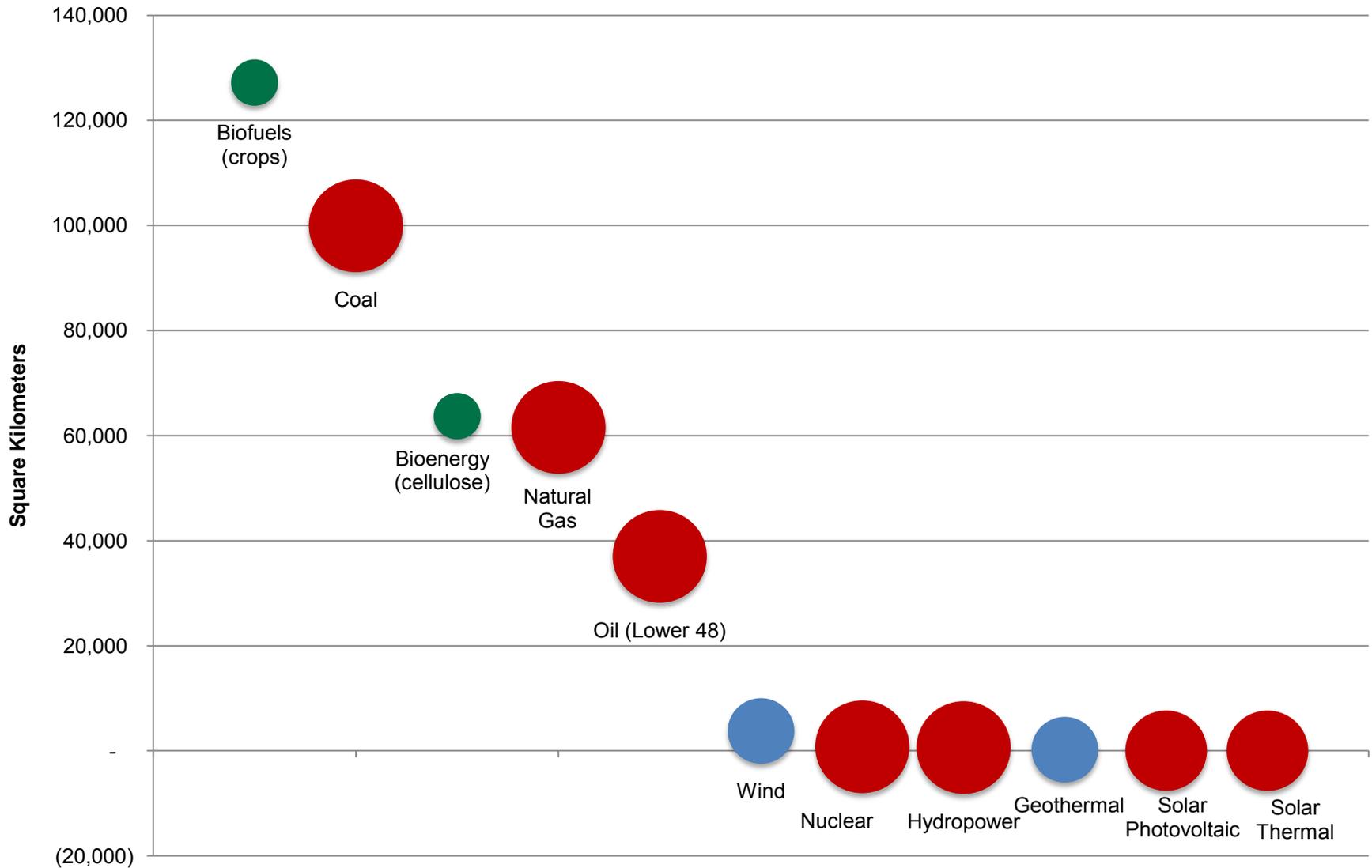
## Wood Biomass Demand US South



# Land Area Impacted by Energy Source, 2010-2035

Bubble size indicates estimated relative land use intensity

(Green = low intensity, Blue = medium, Red = high)



# Bioenergy and Carbon

## Forest Residuals

- Decompose rapidly
- Low carbon impact



## Whole Trees (new harvests)

- 25% of a tree is carbon
- Long-term C storage



# Feedstock Availability Model

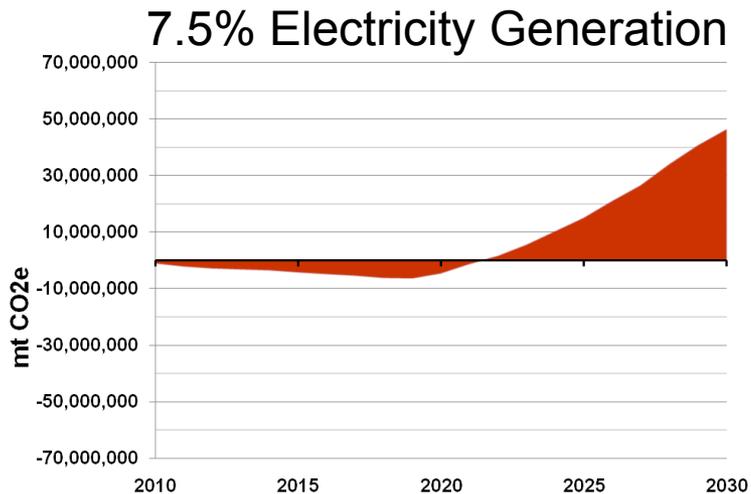
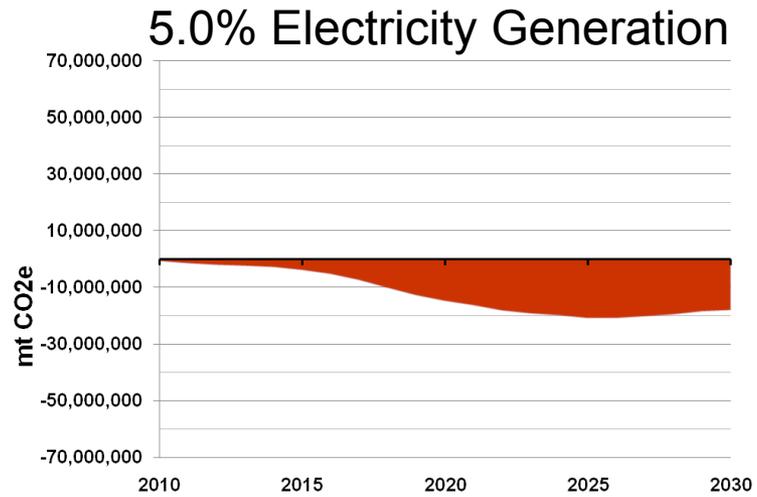
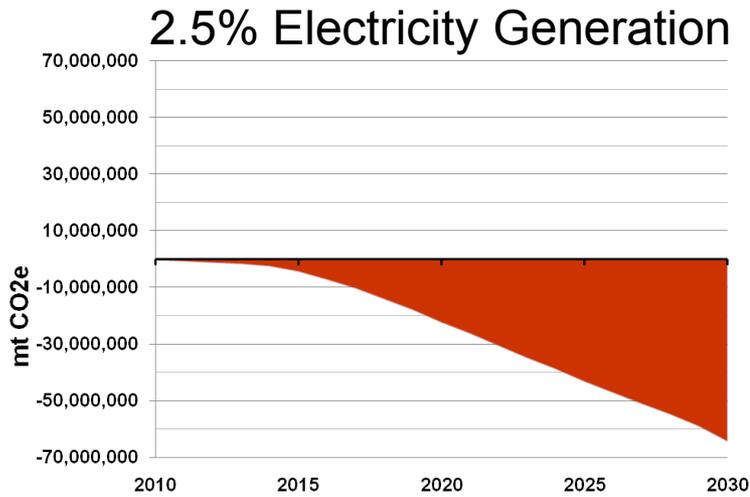
		% of Electricity from Wood Biomass (Statewide)					
		0%	1.0%	2.5%	5.0%	7.5%	10%
Gallons of Biofuel from Wood Biomass	0						
	100 Million						
	150 Million						
	200 Million						
	250 Million						
	300 Million						

- Duke University project with NCSU and EDF
- <http://nicholasinstitute.duke.edu/news/biomass-computer-model>

# Carbon Accounting

## Biomass Demand Scenarios

### GHG Balance with 3 Electricity Scenarios, NC



# GHG Balance by Scenario - NC

		% of Electricity from Wood Biomass (Statewide)					
		0%	1.0%	2.5%	5.0%	7.5%	10%
Gallons of Biofuel from Wood Biomass	0	Green	Green	Green	Green	Red	Red
	100 Million	Green	Green	Green	Red	Red	Red
	150 Million	Green	Green	Red	Red	Red	Red
	200 Million	Red	Red	Red	Red	Red	Red
	250 Million	Red	Red	Red	Red	Red	Red
	300 Million	Red	Red	Red	Red	Red	Red
	300 Million	Red	Red	Red	Red	Red	Red

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