

Biomass Energy and Forest Management



Operational, Economic and Environmental Realities
Associated with Biomass Harvesting and Use

Recent Headlines Highlight the Issue



- Woody Biomass Battle to Determine Fate of Forests in the Carolinas
- Groups Appeal NC Decision to Allow Forests to Be Burned for Energy
- NC explores energy crops, forest biomass for biofuel feedstocks
- EPA Action Highlights Need for Answers About Biomass Incinerators [NERATORS](#)
- Industry, Enviro Groups Spar Over Senate Climate Bill's Biomass Provisions
- Battle Over Biomass Halts Michigan Facility
- Environmental Groups Release Statement on Biomass Energy
- BioMass ballot question debated, with implications for energy, jobs
- Hundreds turn out to question biomass as renewable energy
- Don't Log the Forests for the Fuel: Dogwood Alliance Releases Paper Calling Tree-based Biofuel a False Solution for Southern Forests
- Recent NC Utilities Commission Ruling Shapes Woody Biomass Definition

“You can burn a pig, but you can’t burn a turkey”

Definitions, Definitions, Definitions



Three germane pieces of recent legislation define biomass: the Food, Conservation, and Energy Act of 2008 (2008 farm bill, P.L. 110–246); the Energy Independence and Security Act of 2007 (EISA, P.L. 110–140); and the Energy Policy Act of 2005 (EPAAct05, P.L. 109–58).

The term biomass is mentioned several times throughout the three bills, but is not always defined or referenced. In some cases, an individual law has multiple biomass definitions. For example, three definitions are provided in EISA. EPAAct05 has six biomass definitions. One definition is included in the 2008 farm bill. The tax code contains four definitions. A total of 14 biomass definitions have been included in legislation and the tax code since 2004.

The definitions are built into the many provisions and programs that may support research and development, encourage technology transfer, and reduce technology costs for landowners and businesses. Thus, because the various definitions determine which feedstocks can be used under the various programs, the definitions are critical to the research, development, and application of Using biomass to produce energy.

Source: Bracmort and Gorte, Congressional Research Service, Biomass: Comparison of Definitions in Legislation Through the 111th Congress, October 2010, page 2.

<http://www.fas.org/sgp/crs/misc/R40529.pdf>

The Issue for North Carolina



In August 2007, the State of North Carolina became the second state in the South to implement a renewable electricity standard. (Texas was the first.) The standards were set at the following levels:

- 6% of 2014 North Carolina retail sales by 2015
- 10% of 2017 North Carolina retail sales by 2018
- 12.5% of 2020 North Carolina retail sales by 2021

Renewable energy source refers to any “ 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,**” but does not include “peat, a fossil fuel, or nuclear energy resource.

The North Carolina Utilities Commission said that a list of biomass materials in the state laws was “not an exhaustive or exclusive list” of materials that could count as renewable biomass, and that the commission had the authority to approve materials on a case-by-case basis.

The commission recognized that wood fuel from whole trees is a “biomass resource” and a “renewable energy resource” under state laws, and can therefore be counted against the 12.5-percent renewables mandate imposed by state law that Duke Energy must reach by 2021. The ruling sustains the utility’s incentive to continue evaluating co-firing operations at two of Duke Energy’s regional power plants, using material including wood waste, logging residues, forestry thinnings and woodchips from whole trees.

Biomass as a part of Forest Management



- Biomass and Forestry
- Nothing new under the sun
- Wood is good, but....
- Those pesky economic issues
- If all you have is a hammer

Nothing New Under the Sun



Harvest



Transportation



Storage



Conversion

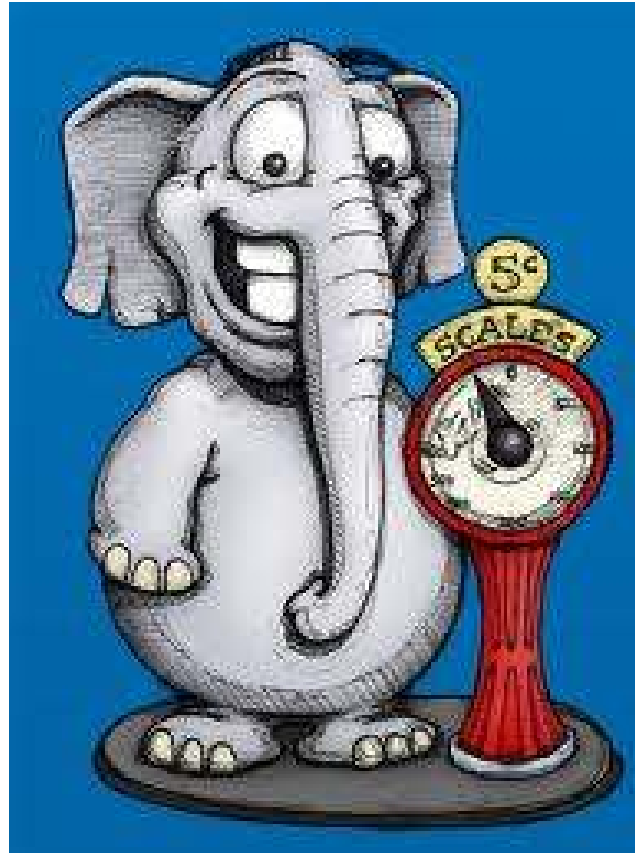


Maintenance and Disposal



Energy Extraction

Wood is Good, but



It's Bulky

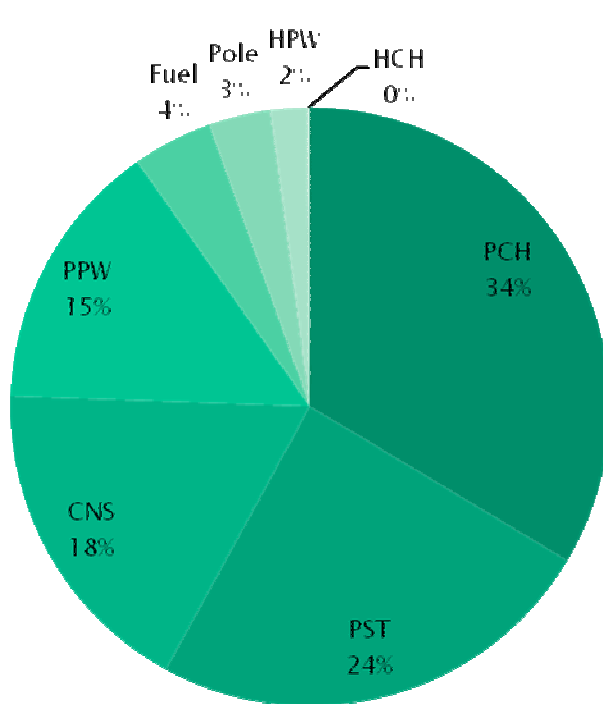


It's Wet

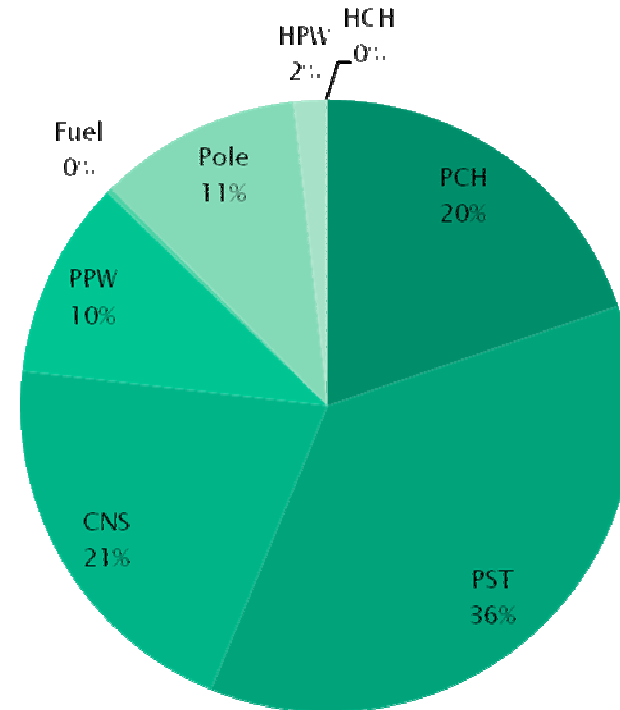




Volume by Product



Stumpage by Product



If All You Have is a Hammer...



Stand Improvement



Stand Improvement and Debris Removal



Managing Debris for Soil, Wildlife, and Water



Managing Debris for Fuel Reduction



In-woods Chipping



Grinding



Loading



Other Biomass Opportunities

