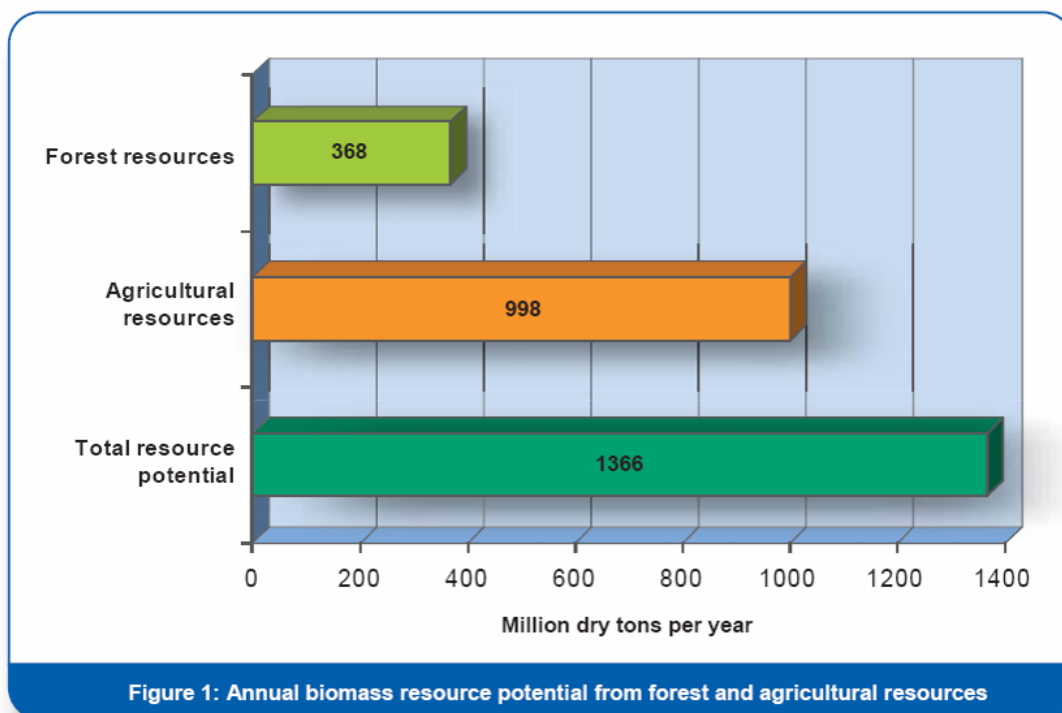


Fundamentals of Wood to Energy

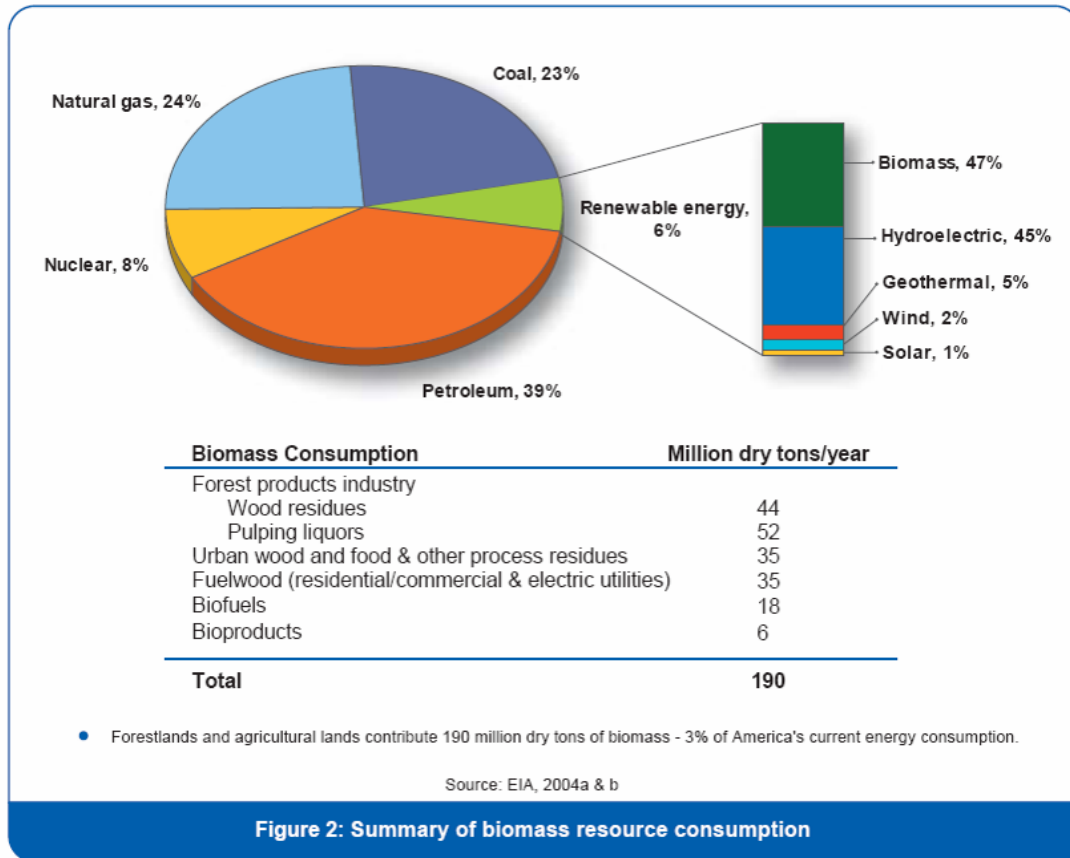
Fact Sheet – Wood Biomass and Renewable Energy

Biomass, which includes all plant and plant derived materials, can be utilized to create clean and renewable energy. Biomass is the only currently renewable source of energy that can create liquid and gaseous transportation fuels or can be combusted for heat and electricity. A study, entitled *Biomass as Feedstock for a Bioenergy and Bioproducts Industry; The Technical Feasibility of a Billion-Ton Annual Supply*, released by the U.S. Departments of Energy and Agriculture estimates that the combined forest and agricultural biomass that could be available for energy generation is equal to more than one billion tons per year and, if utilized, could displace 30 percent or more of the country's present petroleum consumption.



In 2003, biomass contributed nearly 2.9 quadrillion British Thermal Units (BTU) to the nation's energy supply, nearly 3 percent of the total U.S. energy consumption. Biomass accounts for 47 percent of renewable energy consumption and recently passed hydropower as the nation's largest single source of renewable energy (see Figure 2). More than 50 percent of biomass consumption for energy generation comes from wood residues and pulping liquors created by the forest products industry. In 2003, biomass accounted for approximately 13 percent of renewably

generated electricity, 97 percent of industrial renewable energy use, 84% of residential renewable energy use, 90 percent of commercial renewable energy use, and 2.5 percent of U.S. transportation fuels.



The processing of harvested forest products generates significant volumes of mill residues and pulping liquors. These materials are used by the forest products industry to create heat and steam, produce electricity, and recover valuable chemicals such as polymers, resins, and phenols. Utilization of wood products residuals provides an opportunity for the forest products industry to perform to important tasks: waste disposal and energy generation.

Fuelwood extracted from forestlands for residential and commercial energy is approximately 70 million green tons per year. A primary factor limiting expanded use of wood biomass for energy generation is the cost of transportation. The rule of thumb is that wood fuel can be hauled no further than 50 miles.