



Fibrowatt plant is cleaner than coal-fired power plants

A Fibrowatt biomass power plant is based on a proven plant design and the use of state-of-the-art pollution control technology to further reduce air emissions. Following is a comparison of actual emissions for existing coal-fired plants in North Carolina, an existing wood-fired power plant in North Carolina, and the Fibrominn plant in Minnesota, which utilizes this best available control technology (BACT).

Power Plant Type	Carbon Dioxide (CO ₂) ¹ (lb/mmBtu)	Carbon Monoxide (CO) (lb/mmBtu)	Nitrogen Oxides (NOx) (lb/mmBtu)	Sulfur Dioxide (SO ₂) (lb/mmBtu)	Hydrogen Chloride (HCl) (lb/mmBtu)
Fibrominn Poultry Litter-Fueled Power Plant²	Carbon Neutral ⁴	0.107	0.128	0.081	0.013³
Actual Emissions (Average Monthly Emission Rate) Sept.-Oct. 2007		(09/2007)	(09/2007)	(09/2007)	(07/2007)
		0.138 (10/2007)	0.108 (10/2007)	0.085 (10/2007)	
North Carolina Coal-Fired Boilers		0.208	0.285	1.354	0.05
Actual Emissions (Yearly Average Emissions, 2006)	205.2 ⁴	Spreader Stoker Boiler	NC State Average	NC State Average	
(SO ₂ , NOx, CO ₂ based on USEPA Acid Rain Program data for 2006)		0.021 Pulverized Coal Boiler	0.17-0.54 Range for Individual Boilers	0.40-1.63 Range for Individual Boilers	
(CO & HCl data based on the USEPA AP-42 Emission Factors)					
North Carolina Wood-Fired Boiler		0.60	0.211	0.0514	0.019
Actual Emissions (Yearly Average Emissions, 2006)	Carbon Neutral ⁴				
(SO ₂ , NOx, CO ₂ based on USEPA Acid Rain Program data for 2006)					
(CO & HCl data based on the USEPA AP-42 Emission Factors for dry-wood combustion)					

¹ As defined by the USEPA, the combustion of biomass (such as poultry litter, wood, crop residues, grasses) is characterized as "carbon neutral." While CO₂ will exit the stack, it is not characterized as newly released carbon because the carbon in this CO₂ is derived from the carbon utilized by the plants forming the basis for food rations. Rather, it is carbon that will continue to cycle through natural processes found in the environment.

² Emission averages for SO₂, NOx, and CO as reported here are results utilized to demonstrate compliance with the facility's Air Emissions Permit and are obtained through the operation of continuous emission monitors installed in the exit stack. These results are obtained according to the same monitoring requirements of the Acid Rain Program as required to monitor emissions from coal-fired power plants and the present wood-fired power plant.

³ Fibrominn's emission results for HCl as presented here are from the results of the initial performance testing (July 2-4, 2007) submitted to the Minnesota Pollution Control Agency.

⁴ While all three of these types of combustion facilities will release CO₂, only emissions for coal-fired power plants are considered "new" carbon being released to the environment. It is this previously sequestered carbon (carbon buried for millennia's underground) that is identified as a contributing factor to increases in ambient greenhouse gas concentrations and their relationship to the growing concerns regarding global climate change.