



**American
Forest & Paper
Association**

www.afandpa.org

What is Black Liquor?

The American Forest & Paper Association (AF&PA) is the national trade association of the forest products industry and advances public policies that promote a strong and sustainable U.S. forest products industry in the global marketplace. The industry is an integral part of our nation's green job base and generates approximately 6 percent of the total annual U.S. manufacturing GDP.

AF&PA's member companies make pulp, paper, packaging and wood products, and own forest land. Our companies make essential products from renewable and recyclable resources that sustain the environment. Nationwide, the U.S. forest products industry:

- *Employs more than one million workers — on par with the nation's automotive and plastics industries.*
- *Provides green jobs that reduce greenhouse gases by sustaining the forests that absorb carbon dioxide; making the paper and wood products that store it indefinitely; generating and using more renewable energy than anyone else—28.5 million megawatts annually, enough to power 2.7 million homes; and recycling paper to avoid methane emissions and reduce waste.*
- *Is among the top ten manufacturing sector employers in 48 states.*
- *Is a significant taxpayer, paying approximately \$7 billion annually in federal, state, and local taxes.*



What is black liquor?

Black liquor is a thick, dark liquid that is a byproduct of the process that transforms wood into pulp, which is then dried to make paper. One of the main ingredients in black liquor is lignin, which is the material in trees that binds wood fibers together and makes them rigid, and which must be removed from wood fibers to create paper.

How is it used?

Lignin, and therefore black liquor, contains the bulk of the energy content of wood. Black liquor is used as fuel at papermaking facilities to generate electricity as well as the heat needed to remove the water from pulp to make paper.

Are other fuels ever added to black liquor?

Sometimes. Small amounts of other fuels, such as diesel fuel, can be added to help light a furnace when it is started, as well as to help improve the quality of its combustion.

Is black liquor hazardous waste?

No. In fact, EPA has explicitly stated it is not a waste product at all, let alone a hazardous waste. Black liquor is a renewable biomass fuel classified as a "liquid fuel derived from biomass". In addition to sawdust, bark, and other parts of the tree, black liquor is one of the renewable, carbon-neutral fuels used by pulp mills to produce electricity and heat, thus making it possible for these facilities to generate approximately 66 percent of their energy needs onsite.

How much black liquor can a papermaking facility produce?

Processes and facilities vary, but a typical pulp mill will produce 250-400 gallons of black liquor per ton of pulp, most of which is consumed onsite to produce energy.

Is using black liquor for fuel good for the environment?

Yes. Using black liquor for fuel avoids fossil fuel use and, unlike fossil fuel, spent pulping is carbon neutral—its use results in no net increase of carbon dioxide in the atmosphere. This is because the carbon in black liquor was originally extracted from the atmosphere and its release during fuel use mimics the same natural cycle that occurs in the forest when trees decompose and release their carbon.