



Wisconsin Energy Bureau  
Department of Administration



**RENEWABLE  
ENERGY  
FACT SHEET**

# Paper Pellets for Industrial Fuel

Around Wisconsin, many industries are turning to paper pellets for their fuel needs. Paper pellets are made of industrial waste paper headed to landfills. With modern pelletizing techniques, it can be recycled to provide an excellent fuel for co-burning with coal or wood.

Paper pellets, also called Process Engineered Fuel (PEF), are a home-grown Wisconsin industry. They were invented by a Wisconsin paper company looking for a way to successfully burn its waste paper for fuel. The use of pellets has since spread, and now two pellet manufacturing companies are operating in the state.

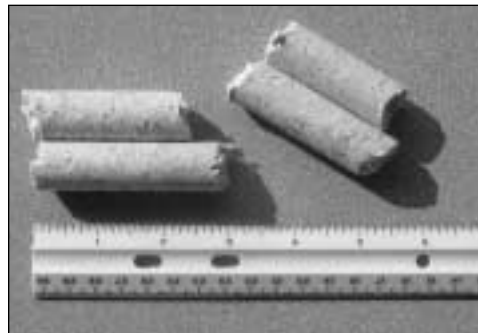
The largest purchaser of paper pellets is the State of Wisconsin, which has found they can save taxpayer money by co-firing in five coal-powered steam plants. Paper companies have also found pellets to be an economical fuel for process heating, although the pellets can be used in any industry.



*Credit: Erik Pratt*

## Benefits of Paper Pellets

- **Quality.** Paper pellets are made to meet the quality demands of your energy system. They are very dense, giving them a Btu content similar to coal. They are dried during processing to give them an extremely low moisture rate. Pellets have less sulfur and produce less carbon monoxide than coal. Compared to wood, paper has less formaldehyde.
- **Cost.** Pellets are a low cost fuel to manufacture. Because transportation is the highest component to the pellet's cost, however, the distance of your industry from the pellet manufacturer may be the biggest determinant of its economic value.
- **Environment.** Pellets are made of clean, recycled materials left over from local industries. By burning paper pellets you are keeping this material out of landfills and incinerators and reducing air pollution from coal.



*Credit: Erik Pratt*

## Using Paper Pellets

Pellets can be used in traveling grate or stoker boilers. They are typically mixed in with coal or wood before being conveyed into the boiler. State regulations limit the use of pellets to 30 percent by heat content and the facility's state air permits must include a provision to burn paper pellets.

Pellets can be transported by rail or truck. In wet or humid conditions, transportation may increase the moisture content of the pellets. There are no standard methods for storing pellets or mixing

them with coal. They typically are stored in internal or external bunkers. Inside bunkers allow longer storage time because less moisture will be absorbed. Some facilities mix the pellets right away with coal, others mix them just before burning. The ability to mix the pellets is a major factor in their success.

Paper dust is very light and may affect your system's lubrication more than coal dust. State facilities have found that paper pellets absorb some of the moisture on coal, allowing the coal to flow more easily on its way to burning.

Co-burning paper pellets takes a little more effort than burning a single kind of fuel. Yet, for the company that wants to save money, develop the region's economy, and improve some of its fuel handling, it may be the right choice for your fuel needs.

## Statistics

**Size:** 3/4" diameter, 2 1/2" to 3" long.

**Btu:** 8,500 to 11,500 per pound.

**Price:** The price of pellets depends upon the distance from the manufacturer. The lowest costing pellets are about \$1/MMBtu and increase from there.

**Ash:** 2 percent to 4 percent by weight.

**Moisture:** 2 percent to 4 percent by weight, although moisture can increase with humidity or rain during transportation.

**Weight:** 30 to 35 pounds per cubic foot.

## For more information:

### Demand-Side Applications of Renewable Energy

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[www.wifocusonenergy.com](http://www.wifocusonenergy.com)

Renewable Energy Yellow Pages: [www.doa.state.wi.us/deir/yelpages.htm](http://www.doa.state.wi.us/deir/yelpages.htm)

## Local Manufacturers of Paper Pellets

### Fiber Recovery, Inc.

18500B Ringle Ave.

Ringle, WI 54471

(715) 446-3319

### Pellet America

2220 W. Everett

Appleton, WI 54914

(921) 954-0466

