



# Pellet Fueled Power Generation in France will Result in a Significant Increase in Pellet Fuel Demand

October 2, 2023

By William Strauss, PhD, President, FutureMetrics

**“France will convert its two coal-fired power plants with a combined capacity of 1.8GW to biomass by 2027, French president Emmanuel Macron said in a televised interview on 24 September.”** (Argus, September 25, 2023<sup>1</sup>)

This brief two-page white paper and the online [dashboard](#) that is shown in Figure 1 below shows that the potential demand for pellet fuel at the two French power generating stations referenced in the opening paragraph is significant.

The two plants are the last remaining operating large utility scale generating stations in France that use coal.

Plant	Unit	Capacity (MW)	Coal Type	Source of Coal
Cordemais Power Station	Unit 4	630	bituminous	Imported
Cordemais Power Station	Unit 5	630	bituminous	Imported
Emile Huchet Power Sation	Unit 6	647	lignite	Regional
<b>TOTAL ==&gt;</b>		<b>1,907</b>	source: Coal Tracker Database	

Table 1 - French Coal Fueled Stations that will be Converted to 100% Pellet Fuel

All three units are based on pulverized coal (PC) technology. PC units require fuel that can be pulverized into very small particle size for use in the burners. For biomass-based fuels, the only suitable solid fuel that can be milled to the needed particle size in the power station’s coal mills is pellet fuel.

The Cordemais plant imports all of its coal and thus could import large quantities of pellet fuel.

“The [Cordemais] power station uses between 1.3 and 2.0 million tonnes of coal per year imported from South Africa, Poland, United States and Australia using the port facilities located at Montoir-de-Bretagne from where the coal is shipped by barges to the power station.”<sup>2</sup>

A Google map showing the locations of the two plants can be viewed [HERE](#).

The analysis is straight forward. With assumptions on capacity factors, plant efficiencies, co-firing ratios, and the energy content of the pellet fuel, the annual demand can be calculated.

Based on the default setting in the [dashboard](#) (see Figure 1 on next page),  
**the two plants would use about 4.78 million tonnes per year of white pellets<sup>3</sup>.**

<sup>1</sup> See full press release [HERE](#).

<sup>2</sup> [https://www.gem.wiki/Cordemais\\_power\\_station](https://www.gem.wiki/Cordemais_power_station)

<sup>3</sup> The user is encouraged to experiment with different assumptions. Note that the dashboard can estimate the annual tonnages with “black” pellets.



# FutureMetrics™ LLC

8 Airport Road  
Bethel, ME 04217, USA

## Estimating the Annual Pellet Demand for the Two French Coal Powered Generating Stations that will be Converted to 100% Pellet Fuel

Plant	Unit	Capacity (MW)	Coal Type	Source of Coal
Cordemais Power Station	Unit 4	630	bituminous	Imported
Cordemais Power Station	Unit 5	630	bituminous	Imported
Emile Huchet Power Station	Unit 6	647	lignite	Regional
<b>TOTAL ==&gt;</b>		<b>1,907</b>		

White Pellets 17.5 GJ/tonne = 4.86 MWh/tonne

? Steam Exploded Pellets 19.5 GJ/tonne = 5.42 MWh/tonne

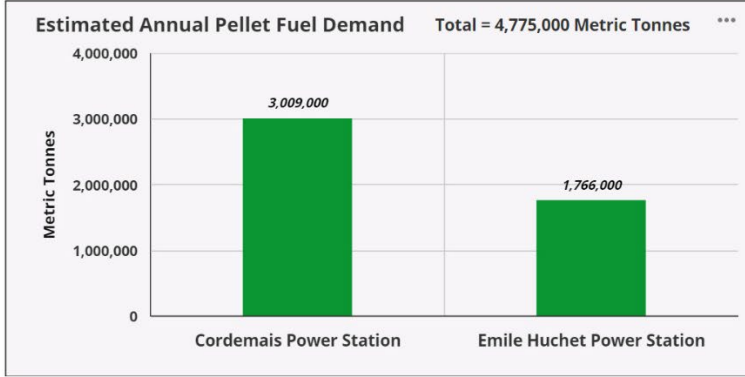
White Pellets <== Type of Pellet Fuel

Cordemais Capacity Factor = 53%      Emile Huchet Capacity Factor = 53%

Cordemais Co-firing Ratio (%pellets) = 100%      Emile Huchet Co-firing Ratio (%pellets) = 100%

40% Cordemais Efficiency = 40% - Heat Rate = 8,530

35% Emile Huchet Efficiency = 35% - Heat Rate = 9,749



## Dashboard by FutureMetrics

FutureMetrics Website

Select Which Station to Display in the Map

**Cordemais Power Station**

View larger map

Landmarks: Hippodrome de la Loire, Centre de découverte terre estuaire, Terre d'Estuaire, Pôle Nautique de Cordemais, LOIRE TECHNIQUE PLAISANCE, Mase Atlantique, Centrale électrique de Cordemais, Loire, Ile Du Bernard.

+ Add scenario      View all scenarios

Print      [Camera Icon]

Figure 1 - Dashboard for Estimating Annual Pellet Fuel Deman