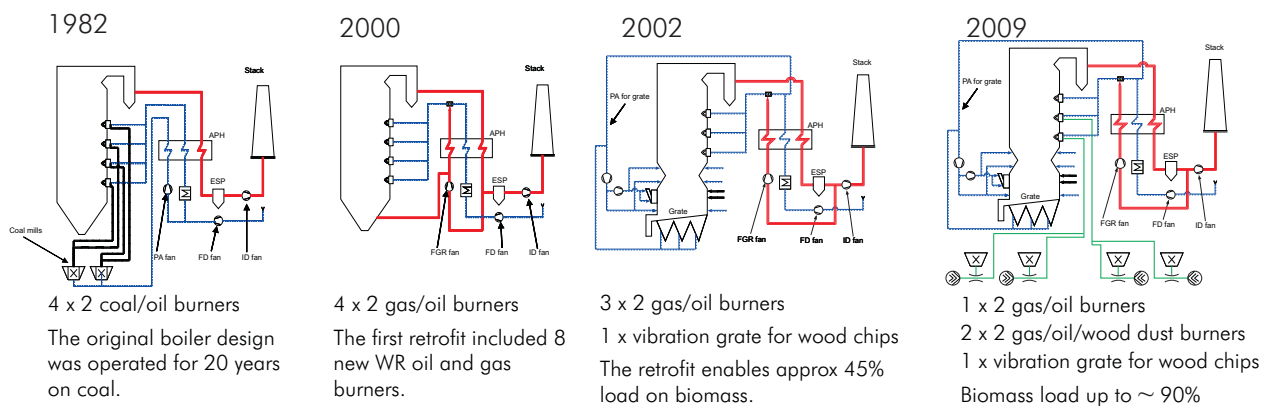


# Herningværket multifuel concept



The advanced BWE combustion technologies  
Multi fuel installation at Herning CHP plant in Denmark



In 1982 BWE designed and supplied the boiler for Herning Power Plant, a coal and oil fired CHP plant in Jutland. The plant operated on coal up to 2000 when BWE converted it into oil and gas firing.

In year 2002, BWE installed a bio grate firing system at the plant, enabling firing of wood chips. The bio retrofit main components comprised:

- A new pressure part design for the bottom part of the furnace
- A vibration stoker grate
- A booster fan for the secondary air system for the over grate combustion air.
- Extension of the C&I system

The plant is equipped with a shredder capable of making

the chips directly from timber, a large storage facility and a reception area with weighing facilities for incoming trucks. The system capacity is approx. 80 trucks per day.

The next step in the development of converting the plant from purely fossil firing to mainly biomass firing was taken in November 2008, when Dong Energy awarded BWE the contract for the supply



Vibration grate at test assembly in workshop.

and installation of 4 multi-fuel Low-NOx burners. The new burners are able to fire NG, HFO and dust from biomass (wood pellets). After the conversion the boiler is able to fire a total of 240 MW from biomass reducing the CO<sub>2</sub> emission of the plant by 325,000 tons/year compared to 100% coal firing.

### World leader in steam power technology

Burmeister & Wain Energy A/S has specialized in the development and design of advanced steam boiler plants for utility and biomass fired power stations.

Furthermore, BWE designs a wide range of auxiliary power station equipment such as the BWE Low-NOx coal/oil/N-gas/biomass burners, Air Preheaters and Gas-Gas Heaters.

BWE is part of the Italian STF S.p.A. Group.

Fuel		1982 Coal HFO	2000 Natural gas HFO	2002 Natural gas HFO Wood chips	2009 Natural gas HFO Wood chips Wood pellets
Steam data	Bar	115	115	115	115
	°C	525	525	525	525
	kg/s	118	118	118	118
Max load	%	100	100	100	100
- with bio*	%			45	~90
Min load	%	30	30	30	30
NOx (boiler exit)	mg/m <sup>3</sup> N**	650	150	225(N-gas) 450(HFO) 350(Bio)	225(N-gas) 450(HFO) 350(Bio)

\* Contribution of max load \*\* 3 Vol%O<sub>2</sub>-dry for N-gas - 6 Vol%O<sub>2</sub>-dry for other fuels

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