MITSUBISHI POWER

BIOMASS CONVERSION

NEW LIFE FOR OLD POWER PLANTS

Mitsubishi Power is a power solutions brand of Mitsubishi Heavy Industries.

Mitsubishi Power Europe GmbH

MOVE THE WORLD FORWARD MITSUBISHI HEAVY INDUSTRIES GROUP

FLEXIBLE SWITCH OVER BETWEEN COAL AND WOOD PELLETS

Drastically reduced CO_2 emissions with the same high level security of supply: Hard coal-fired power plants can easily meet these two targets if they are converted to perform (co-)combustion of biomass. Mitsubishi Power not only has decades of experience as an energy plant constructor in the field of large power plants (hard coal, lignite). We also have the technologies and references to convert existing hard coal units for use with biomass.

Wood-based biomass is available as a fuel source in the form of wood pellets and is already used in some European power plants as an alternative to coal. For this purpose, however, various components of a (utility) steam generator, which was originally designed for the combustion of hard coal, must be adapted accordingly.

Feeding

In principle, existing components of the internal carbonization system can also be used for wood pellets. We check at the existing plant whether applicable regulations must be observed and safety equipment retrofitted. The flexible switch over between coal and wood pellets requires separate fuel feeds in the fuel chute in front of the mill, which is separated by control technology and mechanical means.

This separate feed system enables direct, automated switching between coal and wood pellet combustion.

Grinding facilities

In our projects, MPS® series vertical roller mills are used. They have the required properties for the grinding of wood pellets, including high availability and service life of the grinding elements, high throughput capacity and high load change rate. Existing grinding facilities can be converted for use with wood pellets.

Burner

To ensure stable ignition of wood pellets, burners must meet various requirements, such as the lowest possible outlet velocity into the combustion chamber, the highest possible classifier temperature and a suitable combustion air duct. The DS® / DST burners developed by Mitsubishi Power are ideally suited for the (co-)combustion of wood pellets in utility steam generators.

The combination of our proprietary technology and extensive experience makes us an ideal partner for the conversion of coal-fired power plants.

EXTENSIVE REFERENCES


Soma Energy Park, Japan


Drax, UK


Avedøreværket, Denmark

In the past 15 years alone, Mitsubishi Power has converted or built new power plants with a capacity of more than 3,000 MW in which biomass is (co-)burned. Our references range from Japan, Canada and Great Britain to the Netherlands and Denmark. We have implemented biomass projects from 110 MW to 660 MW and thus have the corresponding experience for large-scale power plants. With our firing technology, we can use a wide variety of biomass qualities. These include in particular white pellets and black pellets from various types of wood. Our retrofits and new buildings cover a wide range of technical solutions: from the co-incineration of biomass to flexible fuel use (biomass, coal, natural gas), or a complete fuel switch to pure biomass combustion.

For more information please contact our team: sales@eumhi.com

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