



The Benefits of **GASIFICATION**

BENEFITS • SOLUTIONS

1015 W. Highway 24, Moberly, MO, USA • +1 (660) 263-7474 • www.vulcandryingsystems.com • sales@vulcandryingsystems.com



THE BENEFITS OF GASIFICATION

With coal-fired power plants releasing hazardous chemicals, operators around the world are seeking new ways to generate electricity. Processes such as gasification provide environmentally and economically friendly methods for producing energy.

The process of gasification converts organic materials into carbon monoxide, carbon dioxide, and hydrogen gas. This process is used on the industrial scale to generate electricity from fossil fuels. Biomass and waste-derived feedstock can be gasified, including wood waste, plastic, municipal solid waste (MSW), agricultural waste, industrial waste, sewage sludge, and crop residue.

Gasification can be used to process mixed wastes, as well as the plastic-only fraction of waste.

The gasification of waste has numerous environmental advantages over incineration and other similar technologies. Gasification plants produce significantly lower quantities of air pollutants, reducing the environmental impact of waste disposal and allowing for waste products to be used as a feedstock. All products of gasification are non-hazardous and marketable.

While being beneficial to the environment, gasification is also economically advantageous. The process can compete in high-price energy environments, providing both power and products. Gasification can be utilized to turn lower-priced feedstock, such as pet coke and coal, into valuable resources.

Operating costs of gasification power plants are lower than conventional coal-fired plants. Gasification plants also require less equipment for pollution control. Plants offer wide fuel flexibility (solid, gas, or liquid feedstock), allowing operators more freedom to adjust when prices and availability of specific feedstock varies.

The numerous applications in which gasification can be used vary from processing agricultural and forestry residues to household and commercial waste.

THE BENEFITS OF GASIFICATION

The gasification process can also be used to produce methanol, ammonia and other chemicals which can be used as a foundation in fertilizer. Other uses include production of transportation fuels from oil sands, coal, and biomass.

Specifically, gasification of MSW can be used to enhance recycling programs. One ton of MSW produces up to 1,000 kW of electricity, all while reducing methane emissions, use of fossil fuels and landfills.

Similarly, gasification of coal provides one of the cleanest ways to convert coal into electricity, hydrogen, and other valuable energy products. The process breaks down coal into basic chemical constituents, producing a mix of hydrogen, carbon monoxide, and other gaseous compounds.

Gasification has been used on a commercial scale in the refining, fertilizer and chemical industries around the world for over 50 years. As the use of gasification has expanded into the conversion of municipal and hazardous wastes, plants operators have had the opportunity to conserve resources and limit hazardous emissions.

VULCAN DRYING SYSTEMS SOLUTION

Vulcan Drying Systems supplies equipment for gasification processes. Our systems are designed specifically for gasification and our staff will size and manufacture the units to suit individual project needs.

For more information on Vulcan Drying Systems email us at sales@vulcandryingsystems.com or call us at +1 (660) 263-7474.

