References:
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next generation gasification

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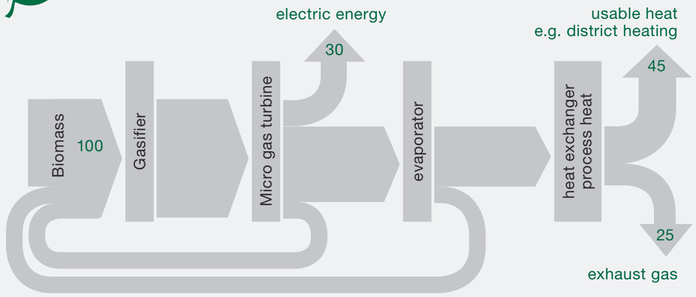
BioGat
Integration of biomass gasifier and gas turbine for decentralized heat and power production with superior efficiency

Sustainable power and heat with biomass gasification

BioGat is a small-scale heat and power generation plant which integrates a biomass gasifier and one or more gas turbines. This setup offers electricity production with superior efficiency, since exhaust gas losses are minimized. The gas is produced from biomass, such as wood chips or sewage sludge, in a bubbling fluidized bed reactor, using a mixture of air and steam as the fluidization medium. The resulting product gas is then directly converted into electrical energy by a gas turbine. In this configuration, no tars have to be removed from the product gas because the gas is not cooled down prior to combustion. This technology is patent-protected (pending).

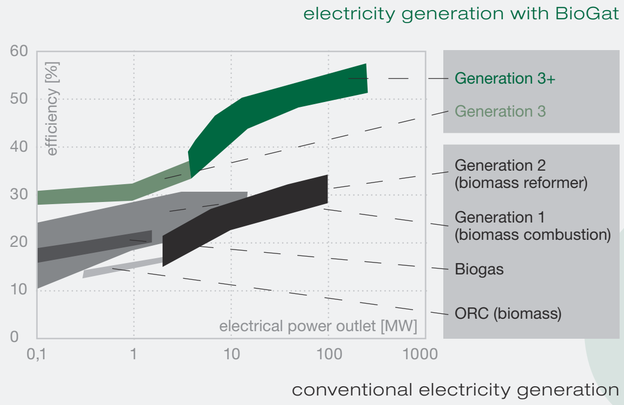
Technical data:

- Electrical power output from 250 kW
- Heat output from 370 kW
- Fuel input from 830 kW
- Electrical efficiency 30%
- Total efficiency 75%



Increased profit through advanced technology

- Increased revenues from electricity production due to superior electrical efficiency
- Low operating costs due to the omission of product gas washing
- Maintenance costs due to the prevention of any tar-condensation
- Low fuel costs due to a high tolerance for heterogeneous fuels
- Low investment costs due to small-scale units



Applications

BioGat is specially designed for decentralized heat- and power-production, thus offering profitable generation even when fuel supply is limited. Typical applications are:

- Local or district heat supply with power generation for communities
- Process heat and power generation for the wood processing industry
- Utilization of sewage sludge in municipal waste-water treatment plants

A plant for municipal heat and power production based on this technology has been sold and is currently under construction.