The development of bioenergy and biomass gasification is particularly requiring specific know-how, skills and experience. With more than twenty years of focused dedication to the furtherance of biomass gasification, BTG offers all that is needed to facilitate the successful implementation of these projects worldwide.

The BTG activities are environmentally, technologically and financially sound, reduce the emission of greenhouse gases, contribute to local socio-economic development and are true showcases and incubators for further commercial take-off. Projects are always co-developed and implemented in close-cooperation with partners. BTG is facilitating and promoting biomass gasification projects and portfolio worldwide and can offer the following:

- Biomass gasification technology expertise on fixed bed, fluid bed, entrained flow, waste and plasma gasification
- Information through several websites prepared and maintained by BTG, its dedicated library and the published handbook on Biomass Gasification in 2007
- Laboratory facilities are available for gasification, and upgrading
- Technical assistance in project development, permitting, design, commissioning, testing, training in operation and maintenance
- Technical services and implementation support
- Performance studies for reactor availability, costs & policy, quick scan studies and carbon consultancy
- Process engineering and project management of complete plants, including legislation aspects (in co-operation with partners)
- Due Diligence for specific clients

Additional activities BTG covers are business development, project development, finance and other commercial services related to their pyrolysis and bioenergy in general.

BTG offers

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Spin-offs

BTG BioLiquids BV
BTG BioHeat International BV
BTG-PTZ Power Systems BV
BTG-Central Europe s.r.o.
BTG-BioEnergy Investment BV

BTG’s Biomass Gasification Expertise

Gaseous Biofuel from Biomass & Waste
Gasification of Biomass & Waste

BTG established its reputation as a world-leading expert in the field of biomass gasification.

### Gasification

The importance of gasification can be seen from the history, the evidence of fuel gas was a catalyst for the development of the gas engine. At one time, we could have run gasoline, even to diesel cars.

Gasification is an escalation of the gasification technology where coal or biomass is converted at high temperature and pressure in the absence of oxygen to produce a fuel gas or synthesis gas. The gasification process can occur in a variety of conditions, including atmospheric, pressure, and supercritical water conditions.

### Advantages

Gasification allows for the production of a clean, homogeneous fuel from a condensate and condensable system. The clean gas can be derived from the transformation of the gas, which is used to fuel the gas engine.

The following advantages can be derived:

- **Flexibility**
  - Gasification can be used in various industries, including the chemical, energy, and transportation sectors.
  - It can be used to gasify a variety of feedstocks, including coal, biomass, and waste.
- **Efficiency**
  - Gasification can be more efficient than traditional methods, such as combustion, in terms of energy output and emissions.
- **Emission reduction**
  - Gasification can significantly reduce emissions, such as CO2 and NOx, compared to traditional methods.
- **Energy recovery**
  - Gasification can recover energy from waste materials and convert it into a usable fuel gas.

### Applications

Gasification of biomass involves a solid feedstock in a gasifier that can be heated to a high temperature in the absence of oxygen. This process can be used in various industries, including the chemical, energy, and transportation sectors.

The following applications can be derived:

- **Low-cost renewable energy production**
- **Power generation**
- **Heat production**
- **Hydrogen production**
- **Synthesis gas production**
- **Chemical feedstock**
- **Carbon capture and storage**

### BTG’s Test Facilities

BTG has several test facilities available, which are used in combination with BTG’s major other core business, projects.

- **Two-stage gasification cell**
  - Test gasification and cell for production of fuel gases.
- **Steam gasification**
  - Test gasification for fuel gases from wood and non-wood biomass.

### Links:

- [www.btg.nl](http://www.btg.nl)
- [www.gasificationguide.de](http://www.gasificationguide.de)
- [www.fuelcells.org](http://www.fuelcells.org)
- [www.emerit.co.uk](http://www.emerit.co.uk)