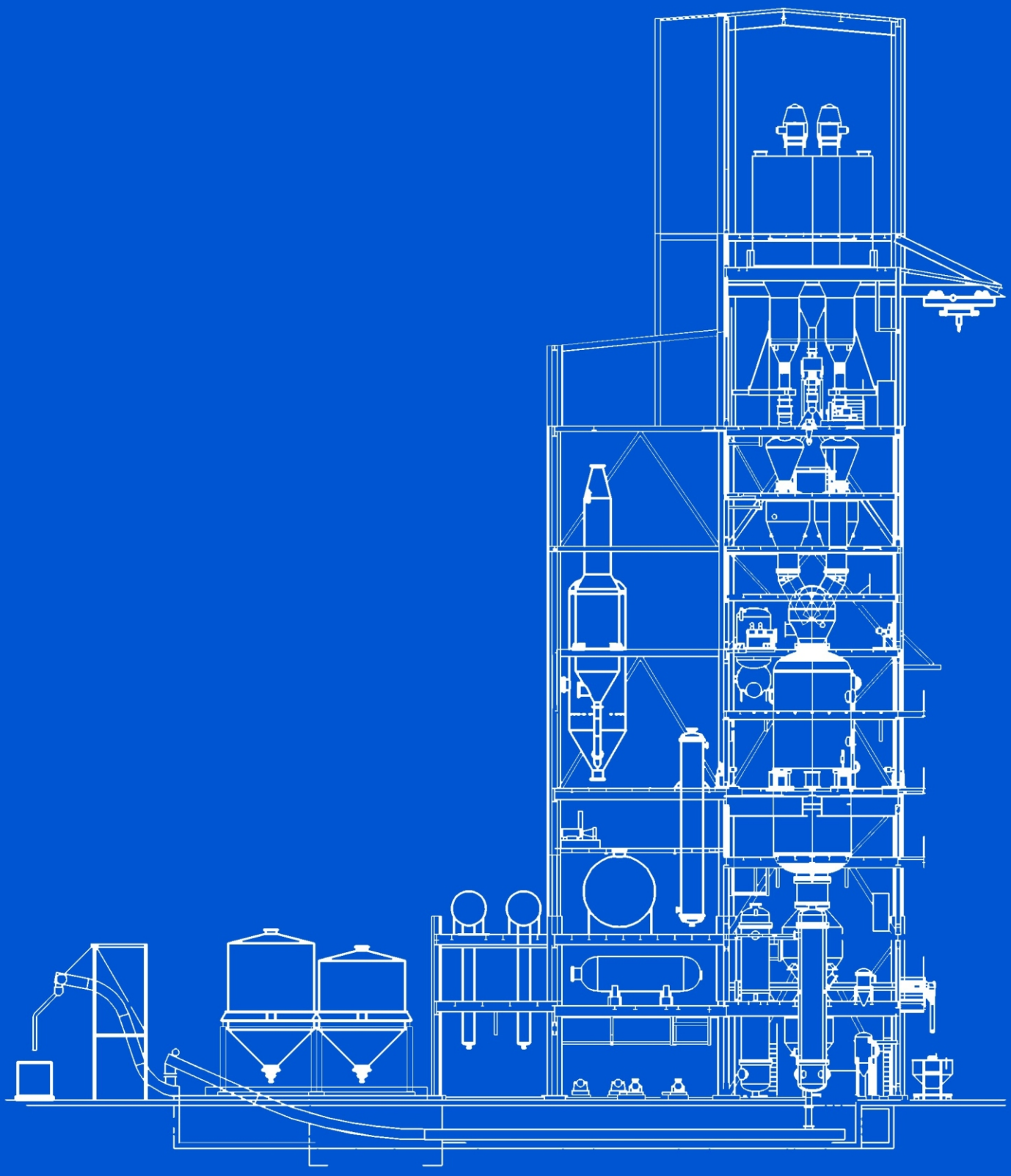
ENVIROTHERM GMBH

Gasification I Dedusting I Incineration



MAI 2004

The Company

Envirotherm GmbH was founded in July, 2003. The company arose from Lurgi-Lentjes AG following the take-over of Lurgi technologies and is based in Essen, Germany.

Envirotherm is an engineering company with its focal points in the fields of the gasification of solid materials, thermal disposal of sludges and hazardous wastes in solid, fluid, pasty or gaseous form and dedusting by means of electrostatic and bag filters including in each case the necessary after-sales and service support. In addition ceramic-based filters are available for use in the cleaning of hot gases.

For the technical tasks that arise in the above-mentioned fields, Envirotherm makes use of proven Lurgi processes and - in its areas of work - continues the longstanding tradition associated with the name Lurgi of offering customized solutions based on the latest technologies. Our staff has many years of experience with the processes offered. In this way we have the know-how and the expertise needed to fulfill the quality demands in plant design and construction.

Our catalogue of services includes:

- Economic efficiency studies and concept planning
- Basic and detail engineering
- Execution and erection of plants including erection supervision and commissioning
- After-sales and service activities

Available to Envirotherm for laboratory investigations or pilot tests that might be necessary are the Lurgi laboratory and test facilities in Frankfurt/Main.

In this way Envirotherm can provide the full range of services needed by its customers.

The Gasification Technologies

Gasification, i.e. the conversion of carbon-containing input materials in solid or fluid form into valuable and easily processed fuel or synthesis gases, has experienced a new upturn in the last few years.

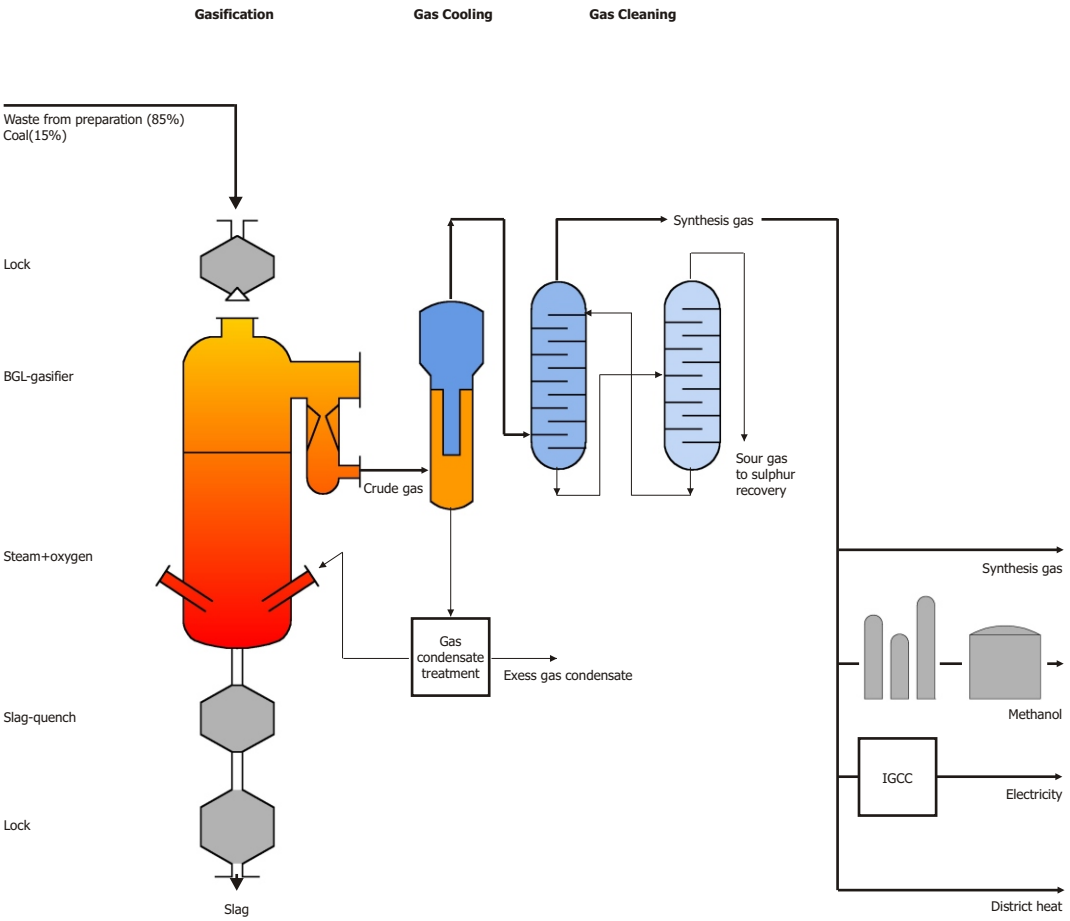
Residues, wastes and biomasses can also be converted into a valuable product, which is used as synthesis gas or as an energy source.

Envirotherm possesses many years of experience in the field of gasification technologies and markets the following types of gasifier:

- Pressurized Fixed Bed (British Gas / Lurgi "BGL"),
- Atmospheric circulating fluidized bed (CFB), and
- Pressurized circulating fluidized bed based on the high-temperature Winkler process principle (HTW).

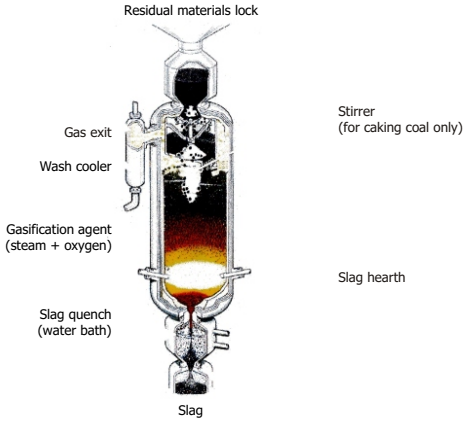
Each gasifier technologie is selected for use in accordance with the input material and the requirements to be met by the gas being produced.

At the Secondary Raw Materials Utilization Centre, Schwarze Pumpe, a BGL gasifier is in operation producing synthesis gas for the production of methanol and power from waste and coal.



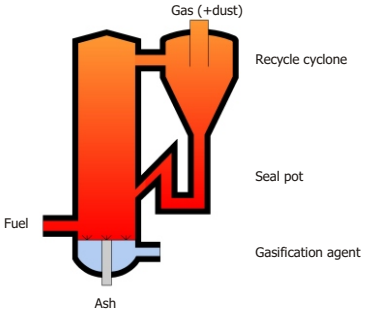
Modern slagging fixed bed gasification system in accordance with the British Gas / Lurgi process (BGL)

- Joint technology British Gas / Envirotherm
- Commercial plant for coal/waste at the Secondary Raw Materials Utilization Centre, Schwarze Pumpe
- Pressurized fixed bed up to 30 bar
- Co-operation with British Gas; co-operation and further development with the Secondary Raw Materials Utilization Centre, Schwarze Pumpe



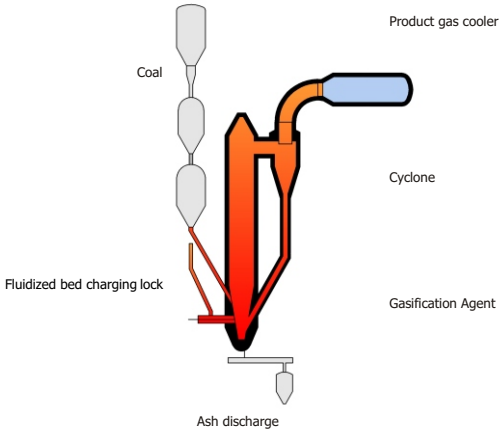
Atmospheric circulating fluidized bed gasifier (CFB)

- Technology developed by Lurgi
- Atmospheric < 1.5 bar
- Reference plants up to 100 MW_{th}
- Co-operation with the cement industry



Pressurized circulating fluidized bed gasifier based on the high-temperature Winkler process principle (HTW)

- RWE-Rheinbraun development
- Co-operation between Rheinbraun, Envirotherm and Uhde (Joint marketing)
- Pressurized > 1.5 to 30 bar



The Dedusting Technologies

Wet electrostatic filters

- Lurgi technology
- Area of application: fossil-fuel power stations, refuse incineration plants and general aerosol and fine particle separation applications
- More than 600 reference plants world wide
- Operating Experience since 1950

Dry electrostatic filters

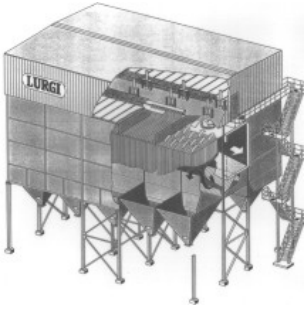
- Lurgi technology
- Area of application: fossil-fuel power stations and refuse incineration plants
- More than 13,000 reference plants world wide
  (Over 4000 in the field of power stations and refuse incineration plants)

Low pressure pulse jet filters

- Lurgi technology
- Cleaning pressure 0.85 bar (g)
- Area of application: fossil-fuel power stations and refuse incineration plants
- More than 100 reference plants world wide
  in the field of power stations
- Highly efficient dust separation with extremely low maintenance expenditure

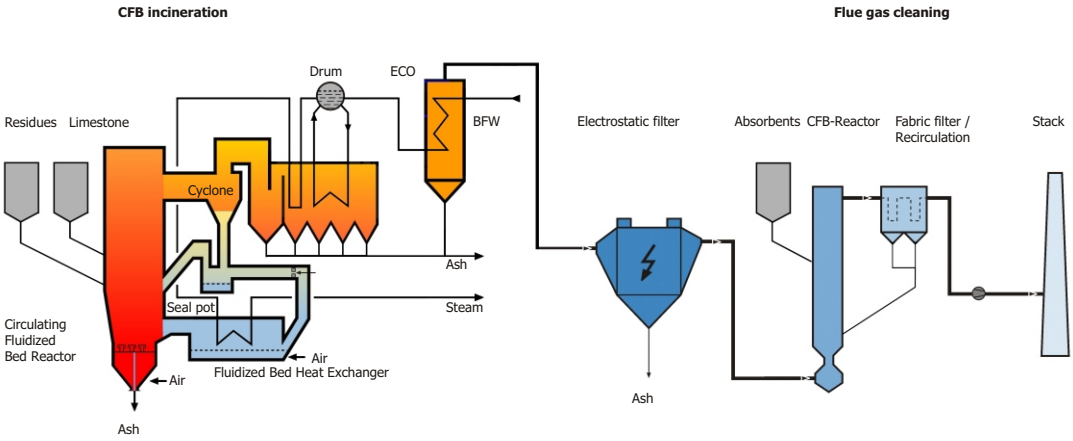
Pulse jet filters

- Lurgi technology
- Cleaning pressure 5 - 7 bar (g)
- Area of application: fossil-fuel power stations and refuse and sewage sludge incineration plants
- More than 100 reference plants world wide
- Highly efficient dust separation



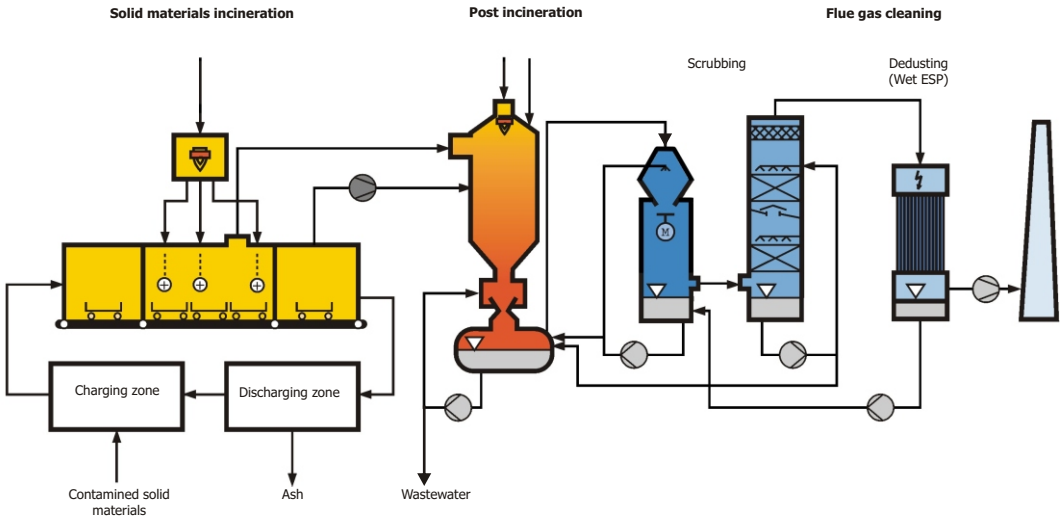
Stationary and circulating fluidized bed systems for the incineration of animal meal / sludges and residual materials including gas cleaning

- Lurgi technology
- Numerous reference plants



Incineration of waste from the disposal of chemical weapons in tunnel typ furnace including gas cleaning

- Lurgi technology
- First plant in Munster / Germany
- First plant in Gorny, Russia
- Successor plant in Russia in the design phase (Kambarka)



The After-Sales and Services (ASS)

Within the framework of its ASS activities, Envirotherm has a broad and comprehensive range of services for its customers:

- Spare parts
- Personnel services
- Conversion / modernization (retrofits) of existing dedusting systems to increase their performance

Knowledge of the different plants necessary for the above work is ensured through the long years of experience Envirotherm staff obtained from Lurgi and the availability of all the data and detail drawings that were held by Lurgi and taken over by Envirotherm.

In this way Envirotherm has at its fingertips all the necessary details on plant history and is in a position to react rapidly and competently to enquiries and to offer high-quality solutions meeting the demands of its customers.

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