

Waste technology + energy concepts

Engineering

Plant management

Energy concepts

- Regenerative energies
- Biogas from renewable raw material
- Utilization of agricultural and biogenic residues
- Economic production of heat and energy



Rytec activities:

- Waste treatment
- Landfill gas collection and utilization
- Biomethanation from renewable raw materials
- Biomethanation from biogenic waste products
- Large-scale photovoltaic plants
- Regenerative energy production
- Energy efficiency in waste treatment
- Thermic utilization of biogenic fuels
- Thermic utilization of waste-based fuels
- General waste concepts and energy studies
- Waste heat utilization / long-distance heat supply systems

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Utilization of Landfill and Sewer Gas (City of Baden-Baden)

Client:

City of Baden-Baden – Environmental agency

Purpose:

Utilization of landfill gas from the site Tiefloch on the five km distant common sewage plant Baden-Baden/Sinzheim

Rytec activities:

concept, design, site supervision (2001-2004)

Arrangements:

- Reconstruction of gas collection points on site
- Extension of the temporary surface sealing
- Modification and modernization of the gas discharging station on site
- Modification, modernization and enlargement of the gas engine plant on the sewer site
- Landfill gas pipelaying from the landfill to the sewer plant (length about 5.5 km)
- Rebuilding of the analysis station, the storage tank for mixed gas and the compression station on the sewage plant

Rytec, your reliable partner

Rytec offers innovative engineering solutions and comprehensive planning services for the development, optimization and upgrade of processing plants in the realm of energy production and waste treatment.

We design custom-made solutions for our clients based on our profound engineering know-how and expertise in the areas of thermic and biological waste treatment, landfill processing technologies, energy technologies, and biogas production from renewable resources and organic waste. On the base of our long-time operating experience we give special consideration to ecological, economic and technical aspects.

Rytec provides plant management for thermic power generators, landfill gas utilization plants, photovoltaic plants and water treatment plants. We also offer expert support and advice helping to identify project financing opportunities.

Some of our projects:

Biogas Plant at the Landfill of Brandholz (Hochtaunus)

Client:

Rhein-Main-Deponie GmbH

Purpose:

Settling of a regenerative energy production plant at the former landfill site, substitution of the declining amount of landfill gas by biogas.

Rytec activities:

Concept, design including licensing and tendering procedures, supervision of construction (since 2004)

Project data:

- Procedure: dry fermentation (Loock-TNS-Procedure)
- Input materials (substrates): about 17.000 t/a of renewable raw materials (silage of grass, corn and complete vegetables)
- Biogas production: about 2.8 Mio. m³/a;
- Power generation of biogas in the existing landfill gas utilization plant, electricity production: about 5.8 Mio. kWh/a
- Agricultural utilization of digestate
- Commissioning May 2007



Hazardous Waste Landfill of Malsch - Photovoltaic Plant

Client:

Sonderabfall-Deponiegesellschaft
Baden-Württemberg mbH

Purpose:

Design and construction of a photovoltaic plant with 600 kWp at the hazardous waste landfill site of Malsch.

Rytec activities:

Concept, design and site supervision together with Peschla & Rochmes Offices

Project data:

- Required area about 15.000 m²
- Application of thin layer-PV-modules
- Installed load: 600 kWp
- Measurement and electrotechnics: Two central inverter modules for conversion of the continuous current flow into a single-phase alternating flow
- station MV/DC/AC with input circuit, modules, central inverter and medium voltage switcher to be linked into the 20 kV-field of the landfill
- connection to the main public power supply network
- Meteo-data sensor-unit allowing to monitor the plant availability and plant production



Biogas Plant - Landfill Flörsheim-Wicker

Client:

Rhein-Main-Deponie GmbH

Purpose:

Settlement of a regenerative energy production plant (biogas) at the former landfill site, environmentally compatible and sustainable utilization of biogenic waste, use of free engine capacities on the landfill gas utilization plant.

Rytec activities:

Concept, design including licensing and tendering procedures, supervision of construction (since 2004).

Project data:

- Procedure: dry fermentation, system Kompogas
- Input materials (substrates): about 45.000 t/a separately collected biogenic waste, leftovers, waste of fruit and vegetable markets
- Biogas production: about 5.0 Mio. m³/a
- Power generation of biogas in the existing landfill gas utilization plant, electricity production: about 10.5 Mio. kWh/a
- Utilization of digestate as recultivation material for the landfill respectively thermal utilization in the biomass plant
- Start of civil engineering: October 2006

