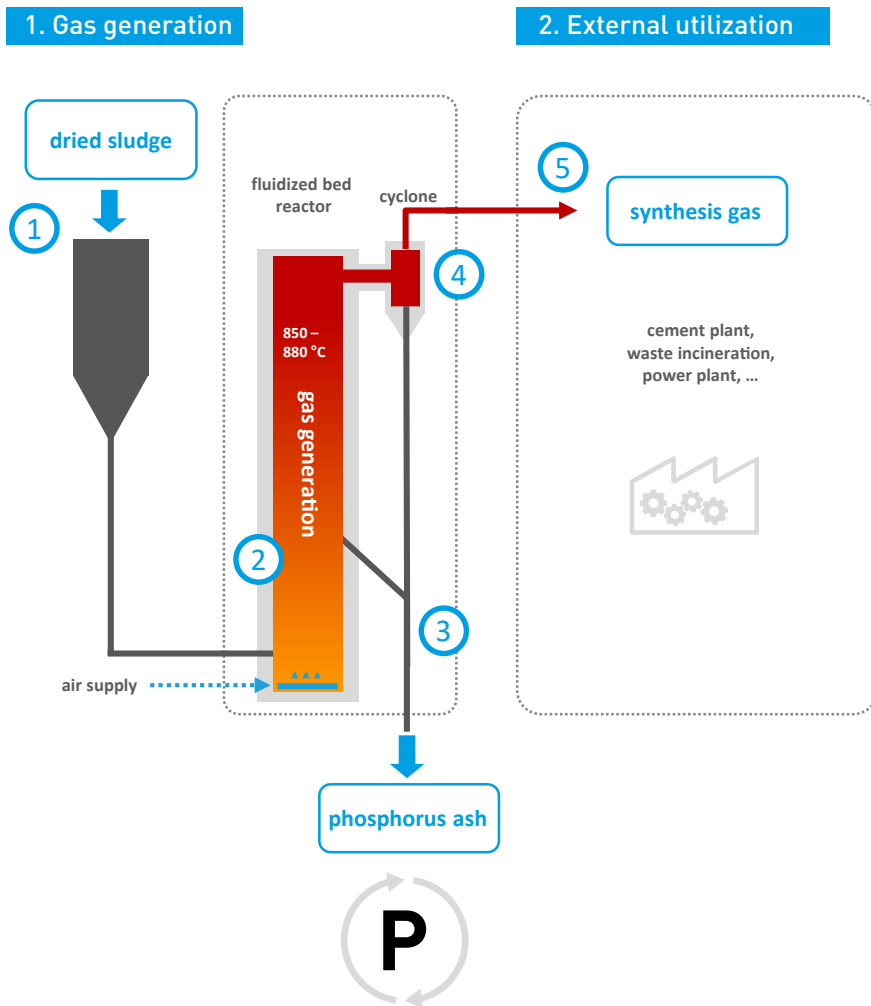


SEWAGE SLUDGE RECYCLING

Fuel gas module for auxiliary firing



SIMPLE APPEARANCE HUGE EFFECT



The SÜLZLE KOPF SynGas process ensures to continue the acceptance and utilization of sewage sludge for auxiliary firing in power and cement plants in compliance with the amended Sewage Sludge Ordinance.

The upstream connection of the fuel gas module enables the separation of the material flows. The phosphorus contained in the sewage sludge is separated with the ash and can be further processed. At the same time an ignitable synthesis gas is produced for further use as secondary fuel.

By integrating the fuel gas module into the existing structures and processes of the cement or power plants, maximum benefit can be derived from sewage sludge with minimum plant size.

In addition, existing partnerships for sewage sludge acceptance can be maintained or even newly established.

PROCESS DESCRIPTION FUEL GAS MODULE

Thermal treatment

- 1) Sewage sludge with a dry content of 85 - 95 %.
- 2) Sub-stoichiometric combustion at 870 °C to produce synthesis gas.
- 3) Discharge and cooling of the phosphorus-rich and almost carbon-free ash granulate.

Synthesis gas scrubbing and transfer

- 4) Coarse dedusting of synthesis gas in the cyclone to increase the phosphorus yield.
- 5) Transfer to consumer and use of existing flue gas cleaning infrastructure.

FLUE GAS CLEANING

Flue gas cleaning takes place together with the exhaust gases from the power or cement plant without any further modification in the existing process. The flue gas cleaning system may even be relieved, since the combustion of the synthesis gas can be much cleaner than the combustion of the solid material.

TECHNOLOGY

- Efficient energetic use of sewage sludge energy
- Separation of material flows to meet the legal requirements for phosphorus recovery
- Utilization of existing infrastructures, operating parameters and permits
- Possibility of sewage sludge drying by existing waste heat
- 15 years of competence and experience in the field of automated synthesis gas generation

SUSTAINABILITY

- Generation of an ignitable gas as alternative to fossil fuels
- Reduction of CO₂ emissions
- Conservation of resources
- Contribution to the circular economy through phosphorus recovery
- Minimization of public investments for new mono-incineration plants

ECONOMIC EFFICIENCY

- Long-term securing of the availability of the secondary fuel sewage sludge
- Securing revenue from sewage sludge acceptance



STEEL ENERGY IDEAS

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