

Project title

Gravity Pressure Vessel (GPV)

Customer

GeneSyst Europe | www.genesyst.com

Sector

Energy Industry

Empowered Solution

- GPV reactor design and engineering
- Well engineering (with SodM standards)
- Drilling/Installation program GPV (Bio Rights)
- Design and engineering GPV installation
- Tendering of the complete GPV system
- (Canvassing opportunities GPV | Since 2016)

Period of Execution

- Start: 2012
- Finish: 2015
- Since 2015 | Project manager R&D GeneSyst EU

Technologies

- Product design
- Mechanical Engineering
- System Engineering
- Drilling Engineering
- Well Engineering
- Well Design
- Geology study
- SHEQ control
- Project management
- Business Development
- Value Engineering

Value added elements

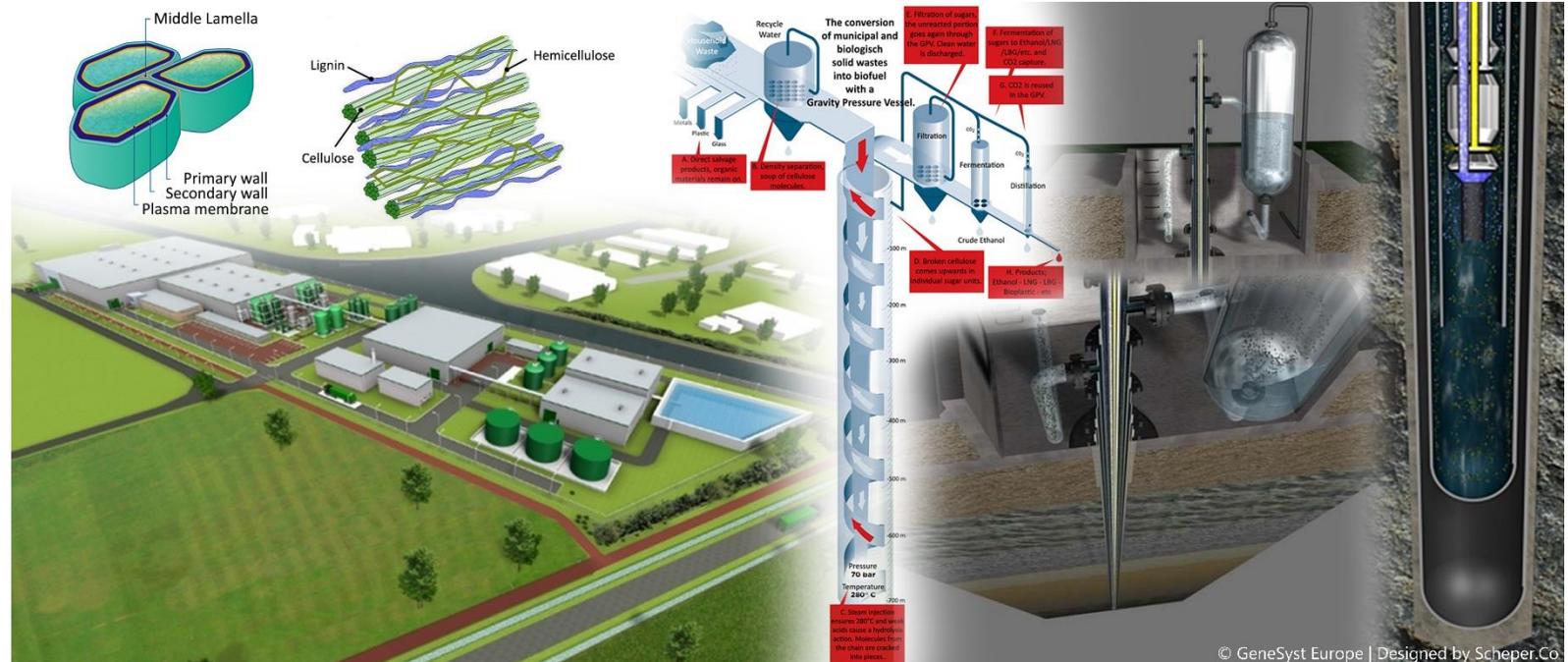
- Drilling companies
- Staatstoezicht op de Mijnen (SodM)
- Construction companies
- Manufacturer special equipment
- System suppliers

Company overview

GeneSyst International, Inc. is the exclusive licensing source for a unique combination of patents and proprietary technologies for converting waste to energy, utilizing the Gravity Pressure Vessel (GPV). Waste can be converted to an asset, not a liability.

Business challenge

Today we can build a cleaner community, by converting wastes into renewable, profitable products, such as bio-fuels, ethanol, butanol, methane, and yeast protein. For this we use biomaterials/ fibres which are not suitable for consumption. In these fibre materials lignin closes the C5 (hemicellulose) and C6 (cellulose). These C5 and C6 (sugars) are located in; inter alia, wood, paper, sheet, manure, municipal waste types, etc. To convert C5 and C6 sugars, the lignin must be cracked. High pressure and high temperature can crack these lignin. The GPV process is highly exothermic, temperatures quickly rises up to 280+ Celsius and the Vessel is freely hanging inside an external shaft under vacuum seal at depths of 750 metre below surface. The challenge, develop a reactor and GPV which is suitable for the required specified conditions. The main facing challenges; vertical straight installed reactor, sustainable and high quality materials that are resistant, meeting operational drilling standards and relative easy maintainable GPV installation.



Why Scheper.Co?

Empower your process with smart designs. Scheper has a deep understanding of alternative drilling/service techniques. Combined with a background in process technology (3mE - TU) and smart ideas for the reactor design forms a solid combination, to convert this concept into an operational prototype. Together with different specialists, Scheper offered a sustainable GPV solution.

How Scheper.Co helped?

Scheper developed a system for the reactor construction (750m depth) and additionally he developed also the GPV (2.0) consists of different (static & dynamic) parts, which can be operated sustainably. This alternative provides better solutions for; cleaning, cheaper and save production and a superior maintenance.

Customer quote

"Profitable, Clean & Sustainable" Scheper did an excellent job for the location of Biorights Hardenberg by the tendering, well engineering and a drilling/installation program. This complete project meets the SodM (Staatstoezicht op de Mijnen) standards and is carried out with smart drilling technologies. Additionally, Scheper developed for GeneSyst EU a GPV 2.0, compiled with smart components and materials that can be exposed at the highly exothermic temperatures, high pressures and chemical process environment.