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Sewage sludge becomes fertiliser.

eco-bis
sewage sludge becomes fertiliser

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From sewage sludge to fertiliser!

Today´s waste water treatment techniques are polluting our environment!

Up to now, waste water treatment plants have focussed exclusively on the treatment of waste water. A large amount of energy is used to convert nutrients such as carbon and nitrogen into CO_2 and N_2. These nutrients are released into the atmosphere unexploited. The sole aim is to produce the smallest possible amount of sludge, which can then be disposed on agricultural land at the lowest possible cost. As a result, many of the nutrients are lost, depriving the soil of valuable fertiliser. For the environment, this method is highly questionable.

Waste water treatment for the future!

Greenlife has developed a completely new and future-oriented technology for waste water treatment plants. The technology is very efficient in pre-cleaning of waste water and dewatering of sewage sludges. The key feature of this innovative technique is the pyrolysis system, which converts the energy-rich and dewatered sewage sludges into a high valuable and marketable carbon-phosphorus-fertiliser. All these systems use less energy than conventional techniques and reduce CO_2 emissions.

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Pre-cleaning: very efficient, less costs!

The separator reduces the COD by up to 70 %!

The separator is a system for the mechanical separation of solids and liquids. The pre-treatment of waste water is carried out very efficient. Much of the turbidity and solids are removed via an ingenious combination of precisely calculated fluid dynamics, turbulence and gravitational forces. The chemical oxygen demand (COD) can be reduced by up to 70 per cent.

Pimp your wastewater treatment plant!

For overloaded waste water treatment plants the separator and its effective pre-treatment saves an expensive expansion and comprehensive structural measures. If a waste water plant is built from new, it can be built smaller.

The benefits:

- efficient solid-liquid separation
- up to 70 % less COD
- less energy demand in aeration
- less operating costs

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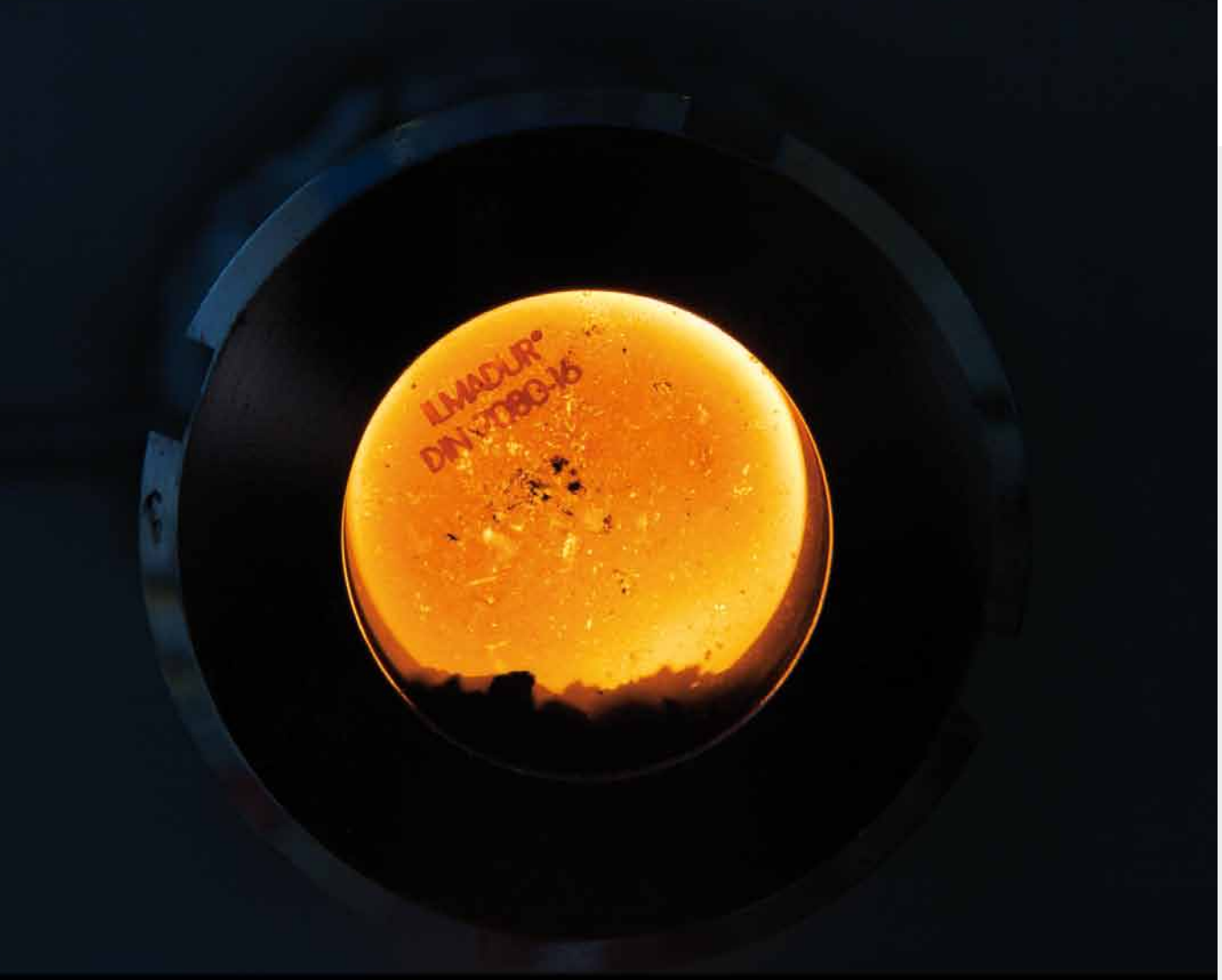
Dewatering: less energy consumption

Economic and ecological dewatering of sewage sludges!

The vacuum filter system consumes significantly less energy than any other known dewatering system. Efficient dewatering is achieved through the use of ultra-fine filters and the vacuum effect. The vacuum filter is virtually maintenance free and requires only few chemical precipitants.

The benefits:

- less than 1 kWh/m^3 energy consumption
- less operating costs
- high dry matter content
- easy maintenance



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Carbonising: recycling of sewage sludges

Turning waste into a marketable product!

In conventional waste water treatment plants nutrients such as carbon and nitrogen are not used as soil fertilisers because they are converted into CO_2 and N_2. If the sludge is burned afterwards, the phosphorus goes by the wayside too. In the future, however, resources are dwindling. The innovative pyrolysis process is saving these nutrients by converting energy-rich sewage sludge into a valuable carbon-phosphorus fertiliser.

Less costs for disposal!

Each pyrolysis plant is converting 4.000 t dewatered sewage sludge (25 % DM) in 500 t marketable fertiliser per year. The costs for sewage sludge disposal can be minimized.

The benefits:

- recycling sewage sludges
- obtaining phosphorus and carbon
- minimizing disposal costs
- biochar: marketable product

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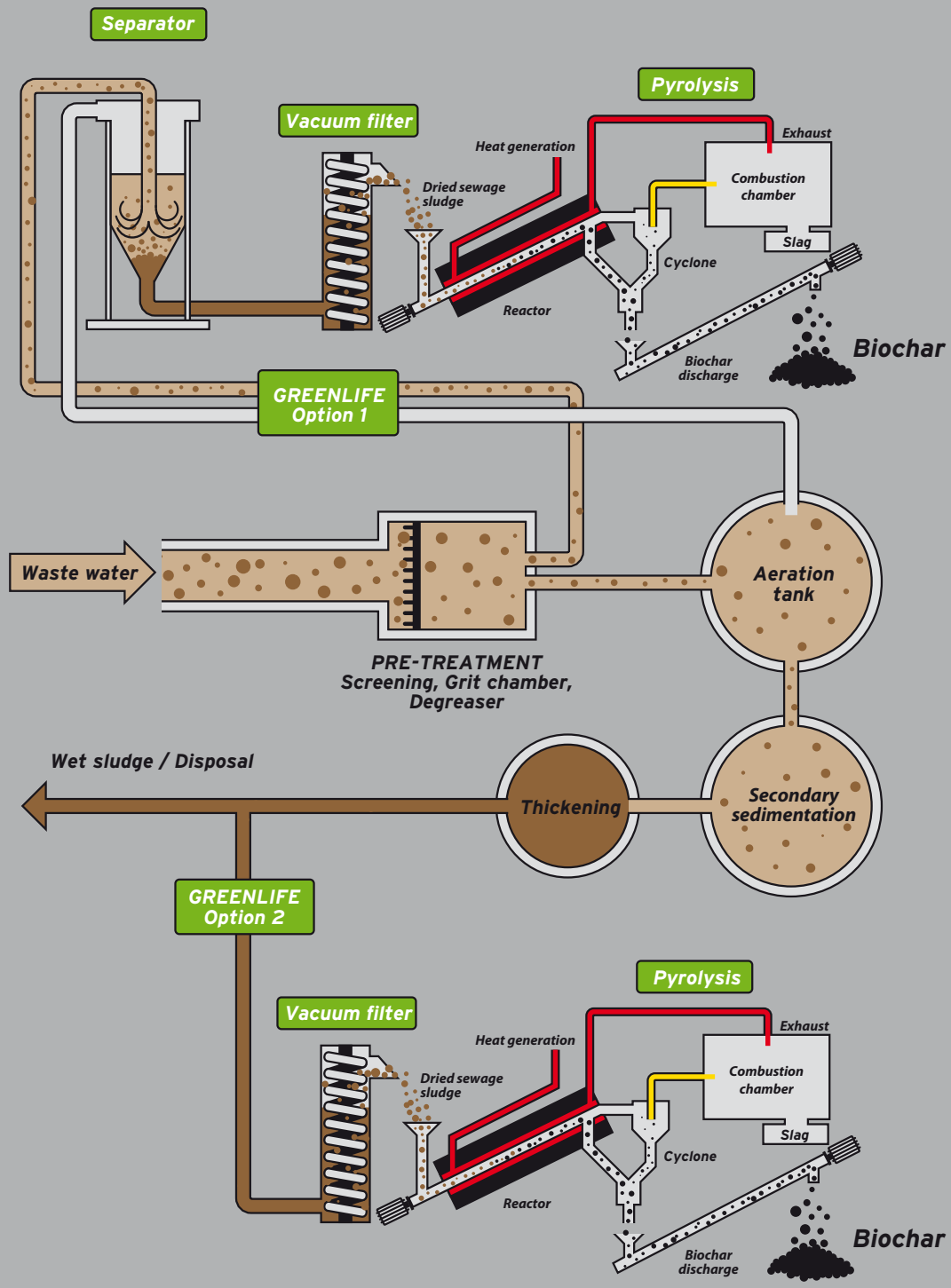
The Greenlife process:

Greenlife is turning waste water into a marketable fertiliser. Three processing steps have to be carried out. Pre-cleaning of waste water with the separator, dewatering of sewage sludges with the vacuum filter, carbonising the energy-rich sludges into carbon-phosphorus fertiliser by pyrolysis process.



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Greenlife Ressourcen GmbH
Habersdorferstraße 21b, A-8230 Hartberg, T: +43 3332/63374, office@greenlife.co.at, www.greenlife.co.at

www.greenlife.co.at