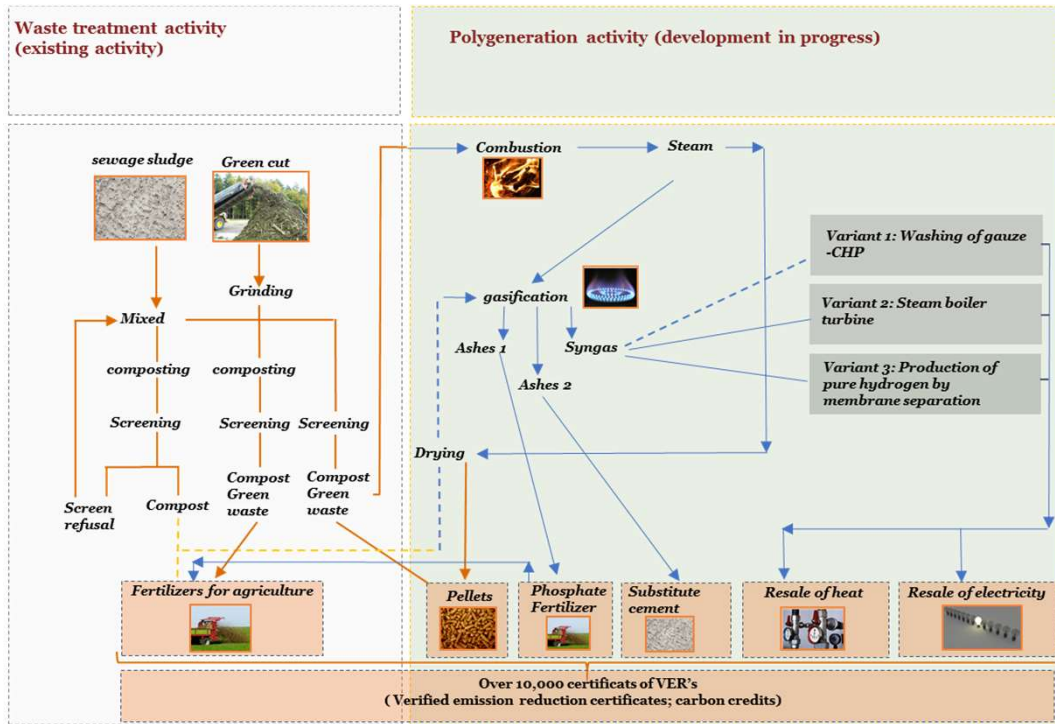
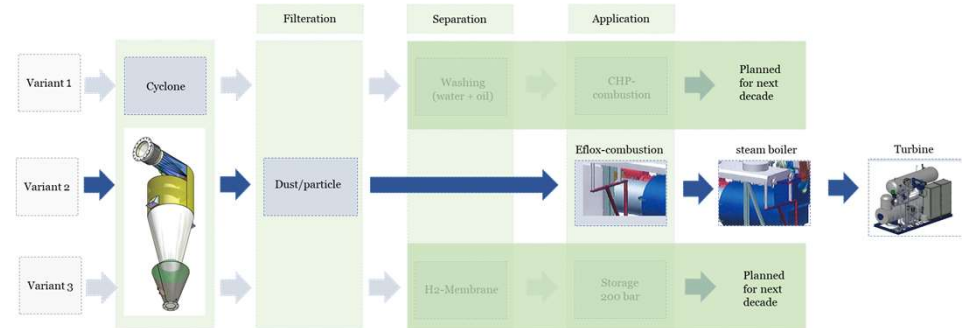


The sewage sludge compost gasification, energy recovery and phosphate rich fertilizer production from ashes.

Our Business



- As a spin-off of the EU SOIL-CONCEPT project, the company SOIL CONCEPT S.A. was created in 1998.
- This company is operating a sewage sludge treatment plant in Luxembourg with a treatment capacity of 10k tons of sludge and additional 10k tons of green waste per year.
- The core business is sewage sludge treatment by composting. In addition, it has developed a sewage sludge and biomass valorisation process to generate thermal and electric energy by fluidized gasification and incineration. The development of the above technologies went through another European research and demonstration project ENERCOM and a national research project VALORTECH.



Interreg Project “ReNu2Farm”

- As an end-product of the incineration process, phosphorus rich bed ashes occur. To use these ashes as a fertilizer, heavy metals need to be removed. To do this SOIL CONCEPT will implement an integrated thermo-chemical-process into the gasification process. Subsequently, cleaned ash will be made available for lab and field tests in the RENU2FARM project.
- SOIL CONCEPT will be responsible for the production of two batches of high quality upcycled biofertilizer, each of 200kg, to be used within the field tests. The fertilizer will be produced in two steps: (i) production of nutrient rich bed-ashes out of sewage sludge and green cuttings by its biomass gasification process. Heavy metals will be removed directly within this process. Different blends of input material will be tested to receive the most suitable basic product; (ii) The ashes will be valorised to produce high quality fertilizer. Based on farmer's requirements, additional nutrients or compost could be added. The structure of the fertilizer could be changed (pelletizing, granulation, addition of sand). Several samples will be produced and analysed to choose the most promising fertilizer product for the in-field tests.
- As a result of this activity a clean (heavy-metal free), market conform, recycled NPK fertilizer at competitive cost will be produced with reduced ecological impact. An appropriate amount of the fertilizer will be sent to project partners for in field testing. To implement the holistic nutrient recovery process at the Soil Concept facility, the installation of additional technical equipment is needed. At the beginning of the project, Soil Concept will be responsible for setting up a specific mixing and dosing system for additives for heavy metal removal to make the project a long-lasting success.
- Soil-Concept is partner of the RENU2FARM project, which financially supported by the European Regional Development Fund provided by Interreg North-West Europe programme. For more information, see www.biorefine.eu/projects/renu2farm.

Other Projects

ENERCOM

The plant is a pilot plant funded by the EU under the EU's Seventh Framework Program. The aim of this research project "ENERCOM" is the demo-energy and the operation of a gasification plant at the site Friedhaff / Diekirch for sewage sludge and green waste for the generation of process energy and electricity for feeding into the public grid. In addition, a substitute fuel is produced in the form of pellets.

Valortech

It is a pilot project funded by the Luxembourg Government under the National Promotion Program of the same name. Participants in the project, in addition to Soil Concept and the representative of the government, are a large number of Luxembourgish companies, who support the project with words and deeds. The aim of this project is the recovery of fly ash as a cement substitute and power generation of the synthesis gas resulting from the gasification.

Both projects involve the thermal utilization of sewage sludge, which is generated in the northern syndicates in Luxembourg

Sewage sludge and biomass treatment process

