One-Pager

Who is AquaGreen?

AquaGreen is a Technology company within the Clean Tech industry. AquaGreen has, together with DTU (Danish Technical University) developed a new and innovative solution for wastewater sludge treatment and for converting low-grade biomaterial resources into thermal energy and fertilizer. The patent pending technology is based on Superheated Steam Drying and Pyrolysis in an energy efficient process, where the calorific content of the sludge is utilized for drying and converting wastewater sludge into a bio-char product.

The thermal energy is recoverable and can be used for district- or process heating or cooling purposes. The residual bio-char is rich in plant-available phosphorus, carbon and nutrients and is suitable as an agricultural fertilizer. Below is the essence of AquaGreens Value Proposition:

Re-think Innovation,

- The patent pending technology is scalable and compact. The compactness of the solution makes it possible to supply a 100 kW solution (can process sludge from 15,000 PE), including both the steam drying- and the pyrolysis process, in two 20" containers.
- The operation is autonomous. The solution is PLC controlled and ensures that the equipment is optimally adjusted according to the volume and the content of the input sludge.

Re-duce Volume and Pollutants

- The weight and volume reduction depends on the dry matter content of the input sludge. As a rule of thumb, the weight is reduced with 90% and the volume with 70%.
- Heavy metals like Mercury (Hg) and Arsenic (As), are captured in flue gas filters, and Cadmium (Cd) extracted from the bio-char via a post-process.
- Pathogens, Xenobiotic and environmental pollutants, including PAH, DEHP, LAS, NPE and micro plastics are removed during the pyrolysis process.
- The end product, is a sanitized, odorless and storage safe bio-char.

Re-turn on your Investment

- The process is an energy and cost saving technology and the ROI is between 2-6 years.
- When the dried sludge is heated up to 600-650 C, the organic content in the sludge is reduced to burnable gases, which provide the thermal energy driving the whole process
- During the process, up to 80 % of the thermal energy is re-gained by condensing the excess steam and converting it into hot water, which can be used for district heating, process heating, heating up nearby buildings or other purposes. The heat can also be converted into electricity or be used for cooling.
- The bio char is a marketable soil improver and fertilizer and can further processed to activated carbon
- As weight and volume of the sludge is reduced with up to 90%, sludge disposal costs are reduced significantly

Re-circulate Energy and Nutrients

- We re-circulate phosphorous and carbon and other nutrients as nutrient-containing bio-char, which also can be used a s soil improver.

The technology was originally developed for the aquaculture industry in Norway, and Municipal wastewater treatment, but AquaGreen is currently expanding their business into new industries and new markets. The technology can be used for various sludge types and industries e.g. Municipal waste, Biogas waste, Food Waste, Oil waste, and a longer list of industries such as Farming, Brewing, Meat processing, Petro Chemical, Pulp and Paper, Marine, Tanneries ++.