BIOSEP², SUSTAINABLE SINGLE HOUSE WASTE WATER TREATMENT SYSTEMS FOR THE FUTURE

Bengt Arnby, Tommy Andersson Akema AB, SWEDEN

Abstract

Rotating Bio char filters

The BIOSEP² system has a proprietary bio char filter with different types of bio coal parts depending of use mounted in a rotating stainless steel carousel rig.

Ban on sewage sludge on farmland in the future

As of now, an investigation is taking place in Sweden regarding how a ban on spreading of sewage sludge on farmland shall be drafted.

Sweden is following Germany in this respect. The ban aims to lower the risk for cadmium-, led-, and micro-plastics contamination of the fields where we grow our food. The ban also opens possibilities, and likely also the need for a circular economy, closer to where the sewage is produced decreasing transportation and increasing local business.

Phosphor

Researchers agree that there will be a shortage of Phosphor in the world in the near future. The main part of the phosphor used today in Sweden is mined abroad and then transported to Sweden, while at the same time the phosphor in the human waste ends up in rivers, lakes and the oceans, causing over fertilization. The suggested ban will help Sweden to mine the phosphor out of the sewage sludge and make the Swedes self-sufficient of phosphor. With the BIOSEP² solution no chemicals or complicated processes is needed to separate the phosphor since it is captured in its natural form, and ready to use in the BIOSEP² tank.

Scalable system

The system is totally scalable: from single households to groups of houses to villages and cities. The difference is only sizes and numbers of filters, tanks and rotation and maintenance intervals.

Keywords: Sustainable, wastewater treatment, circular economy, bio char, phosphor, sewage sludge ban, bio fertilizer, BIOSEP² project