

MARKET POTENTIAL - PHA BIOPLASTICS FROM SEWAGE

Origin:	PHA recovery from primary sludge
Customers:	Plastic processors
Application:	Packaging material Agriculture Construction material



Sewage contains valuable substances that can be used circularly as a raw material for biobased products. However, this potential is currently underused. The European Interreg project WOW! wants to change this by extracting cellulose, lipids and fatty acids from sewage and producing bio-char (activated carbon), biofuel, bio-oil, acetic acid and PHA bioplastics. This factsheet summarizes the results of the Market Potential Study of PHA bioplastics. [Click here](#) to read the full report.

PRODUCTION:

For the production of polyhydroxyalkanoates (PHA), primary sludge from sewage treatment plants (STP) is used. PHA is produced in a biological process and afterwards enriched and extracted. Then the PHA is compounded and processed to an end product.

QUALITY REQUIREMENTS:

The quality requirements represent a challenge for PHA derived from sewage. It must be ensured that the batches produced are of uniform quality (homogeneity of chain length / stable composition of monomers) and quantity. But also requirements including suitability for contact with food, how compostable the material is and its colour have to be considered.

PRODUCTION QUANTITIES WORLD WIDE 2020:

36,000 t PHA/a with a rising trend.

COLLECTABLE QUANTITY AT STP IN NORTH WEST EUROPE (THEORETICAL):

122,000 t PHA/a.

MARKET PRICE FOR CONVENTIONAL PRODUCTS:

3.5 – 4.5 €/kg PHA

DRIVERS:

The main advantage of PHA based products is their ability to rapidly biodegrade in each end-of-life environment, including water. Additional drivers for this market are the European legislation requirements to use more bioplastic.

TEST APPLICATION:

The WOW! Project team would like to hear from companies that are interested in testing PHA from our pilot plant. Please contact: Jappe de Best jh.debest@avans.nl

VISIT PHA PILOT PLANT IN WUPPERTAL,

GERMANY: Please contact: Inka Hobus hob@wupperverband.de