

MARKET POTENTIAL - ACTIVATED BIOCHAR FROM SEWAGE

Origin:	Cellulose recovered using screening
Customers:	Sewage treatment plants, waste incineration plants, swimming pool industry etc.
Application:	Adsorption of pharmaceuticals and chemicals



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 biochar (activated carbon), biofuel, bio-oil, acetic acid and PHA bioplastics. This factsheet summarizes the results of the Market Potential Study of activated biochar. [Click here](#) to read the full report.

PRODUCTION:

For the production of biochar the screenings from fine sieving of sewage are used. In this first step cellulose is recovered, dewatered and then dried. In a thermal degradation process (pyrolysis) the cellulose is converted into biochar, bio-oil and acetic acid. The biochar is activated to activated carbon.

QUALITY REQUIREMENTS:

First results on the elimination performance of activated carbon based on biochar from sieving shows that 65% of the biochar can be activated. The activated biochar has a mineral fraction of 6.9 wt%. The adsorption capacity is lower in comparison to a reference PAC.

PRODUCTION QUANTITIES WORLD WIDE 2014:

1,4 Mio. tonnes activated carbon per year with a rising trend.

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

226,000 tonnes activated biochar per year.

MARKET PRICE FOR CONVENTIONAL PRODUCTS:

1.5 – 2 €/kg activated biochar.

DRIVERS:

The main driver for this market is sustainability. The production of activated carbon in some markets, e.g. in emerging markets is not a clean business. A further advantage is the direct use at the STP for removal of organic micropollutants.

TEST APPLICATION:

The WOW! Project team would like to hear from companies to test activated biochar from our pilot plant in Ede. Interested? Please contact: Mark Lacroix mark.lacroix@pulsedheat.com

VISIT PILOT PLANT IN EDE - NETHERLANDS:

Please contact: Coert Petri CPetri@vallei-veluwe.nl