Baltimore to Host PFAS Destruction Demonstration Using Pyrolysis Technology

May 7, 2025, | Baltimore, MD – A demonstration of high-temperature pyrolysis (HTP) for the destruction of PFAS chemicals in biosolids is set to take place on May 9, 2025, at the Back River Wastewater Treatment Plant in Baltimore. The event is being organized in conjunction with the Water Environment Federation's Residuals & Biosolids and Innovations in Treatment Technology Conference.

PFAS (Per- and Polyfluoroalkyl Substances) are a group of over 10,000 synthetic chemicals used since the 1940s in products like non-stick cookware, waterproof clothing, firefighting foam, and food packaging. They are **often called "forever chemicals" because they do not break down easily** in the environment or human body.

A commercial-scale pyrolysis system to thermally break down polyfluoroalkyl substances (PFAS), a group of synthetic chemicals "forever chemicals" associated with a range of environmental and health concerns.

The demonstration will involve testing a commercial-scale pyrolysis system designed to treat biosolids by thermally breaking down per- and polyfluoroalkyl substances (PFAS), a group of synthetic chemicals associated with a range of environmental and health concerns due to their persistence and resistance to degradation.

The pilot project is a collaboration between the **Baltimore City Department of Public Works (DPW), Synagro Technologies, and CHAR Technologies, the developer of a high temperature pyrolysis technology** that will be used in this test. The system will be evaluated from May to December 2025 to assess its effectiveness in PFAS destruction.

CHAR Technologies is a Toronto based firm that developed **a first-in-kind high temperature pyrolysis (HTP) technology** to process unmerchantable wood and organic wastes to simultaneously generate two renewable energy revenue streams, renewable natural gas (RNG) or green hydrogen and a solid biocarbon that is a carbon neutral drop-in replacement for metallurgical steel making coal. The process is also effective for PFAS.

HTP works by heating organic materials in the absence of oxygen, converting them into byproducts such as biochar and syngas, while also neutralizing contaminants like PFAS. The demonstration represents a growing interest in innovative approaches to managing biosolids and emerging contaminants.

The demonstration is part of broad efforts among municipal agencies and industry partners to address the terrible impacts of PFAS, which are commonly found in industrial waste, firefighting foams, and consumer products.

About: The ***Water Project Report*** provides updates on developments and breakthroughs in the conservation, creation and conversation of water worldwide. It is a publication of the Altru Davos Consortium, a US – Swiss thinktank focused on complex challenges. CHAR Technologies is a member of the Consortium. Visit www.davosconsortium.org for additional information on