Present and perspectives of anaerobic treatment of domestic sewage

F. Fdz-Polanco*, S.I. Pérez-Elvira, M. Fdz-Polanco

Department of Chemical Engineering and Environmental Technology, University of Valladolid (Spain), C Dr. Mergelina, s/n, 47011 Valladolid, Spain
Tel. +34 (983) 423 172; Fax +34 (983) 423 013; email: ffp@iq.uva.es, sarape@iq.uva.es, maria@iq.uva.es

Received 21 April 2008; Accepted in revised form 25 June 2008

**ABSTRACT**

The paper is a general overview of anaerobic processes applied to domestic sewage treatment. After comparing decanter-digester (septic tank) and anaerobic technologies, the organic matter flows in aerobic and aerobic systems are presented. For UASB technology the influence of key operational parameters as temperature, sludge age and hydraulic retention time is discussed and quantified. After discussing some sustainability parameters, technical characteristics of the new plant of Ciudad Sandino (Nicaragua) are presented. The future of anaerobic treatment is related to the new decentralized sanitation and reuse concepts.

*Corresponding author.

Keywords: Anaerobic digestion; Domestic sewage; Sanitation; Reuse

Presented at the 2nd International Congress, SMALLWAT ‘07, Wastewater Treatment in Small Communities, 11–15 November 2007, Seville, Spain