



Technology Description (TD) for Anaerobic Digestion Technologies

Contact Information:

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<i>Date (of filling the TD):</i>	22.03.2017			

Technology Description:

NAME OF TECHNOLOGY	ABR2
ASSIGNMENT OF TECHNOLOGY	High rate AD for particle rich substrates
TECHNICAL READINESS LEVEL	<p>1 2 3 4 5 6 7 8 9</p>
<p>TRL 1 - basic principles observed TRL 2 - technology concept formulated TRL 3 - experimental proof of concept TRL 4 - technology validated in lab TRL 5 - technology validated in relevant environment (industrially relevant environment in case of key enabling technologies) TRL 6 - technology demonstrated in relevant environment (industrially relevant environment in case of key enabling technologies) TRL 7 - system prototype demonstration in an operational environment TRL 8 - system completed and qualified TRL 9 - actual system proven in operational environment (competitive manufacturing in the case of key enabling technologies; or in space)</p>	
TECHNOLOGY/EQUIPMENT AVAILABILITY	
PATENT RIGHTS	YES



METHOD OF MAKING THE TECHNOLOGY AVAILABLE	<i>Licence selling</i>	NO
	<i>Licence granting</i>	NO
POSSIBLE END USERS OF TECHNOLOGY	<i>Please name end users/ contacts that should be invited to project workshops</i>	Farmers

Description of the technology/equipment: The ABR2 is a new design of an anaerobic digestion (AD) process to recover resources from wet organic wastes, such as energy, nutrients and organics from manure, sludge, slurries and wastewater. Anaerobic sludge blanket reactors (UASB) have been used for high rate anaerobic digestion processes but are not suitable for particle rich fluids such as slurries (cf. Tchobanoglous, G., Burton, F. L., & Stensel, H. (2003). *Wastewater Engineering: Treatment and reuse, Advanced Wastewater Treatment, 4th Edition*. McGraw-Hill Series in Civil and Environmental Engineering. Metcalf and Eddy Inc. New York.). An anaerobic baffle reactor (ABR) is described in US patent No. 5 091 315 (McCarty, 1989) was originally designed to take advantage of the UASB principles while being able to handle feeds with high particulates contents but it has not been very successful since it is not as efficient as intended. ABR2 is new design combining aspects of the UASB and the ABR into a new generation ABR ("ABR2"). ABR2 farm pilot treating pig manure:

