

New concept for energy self-sustainable wastewater treatment process and biosolids management

LIFE B2E4SustWWTP

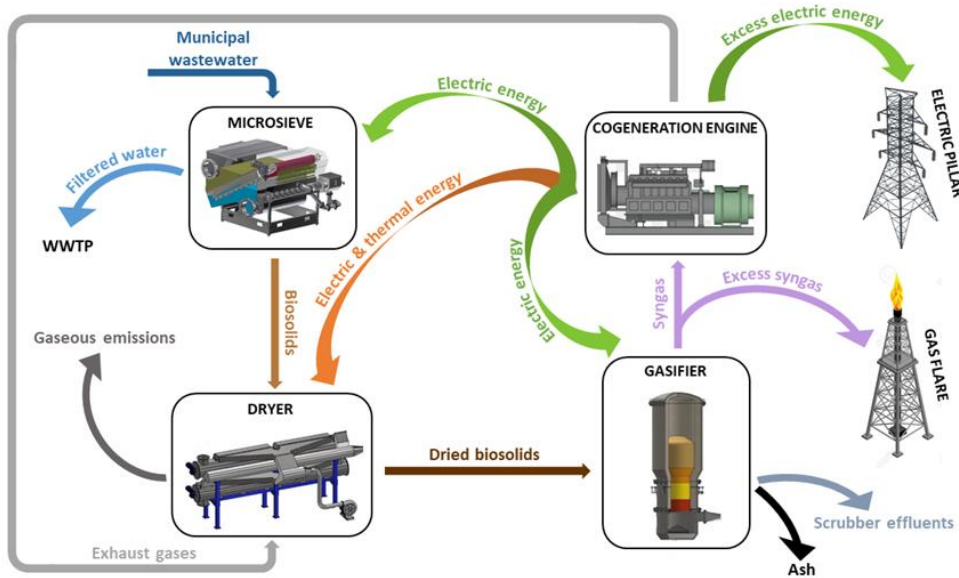
LIFE16 ENV/GR/000298

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www.biosolids2energy.eu



Project outline:

- ❖ Removal of primary biosolids, upfront of the aeration tank, using a microsieve (solids content ~40%)
- ❖ Biosolids are further dried to about 85% solids content
- ❖ Dry solids are gasified to produce syngas
- ❖ Syngas is combusted in ICE to produce thermal energy (used for biosolids drying) and electric energy (for internal consumption and exportation to the grid)

Major project goals:

- ❖ Electric energy production from primary biosolids (renewable energy)
- ❖ Total elimination of organic substances in biosolids (final product is inorganic, of low volume)
- ❖ Totally self sustainable system (thermal & electric energy), with excess electric energy production
- ❖ Significant enhancement of the WWTP performance



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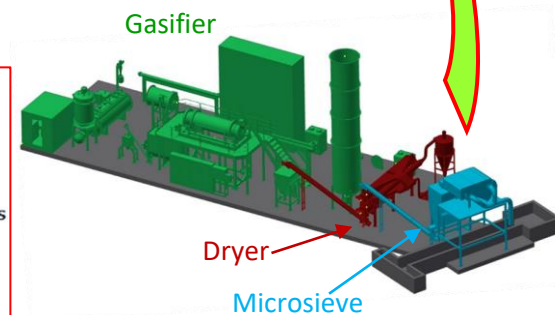
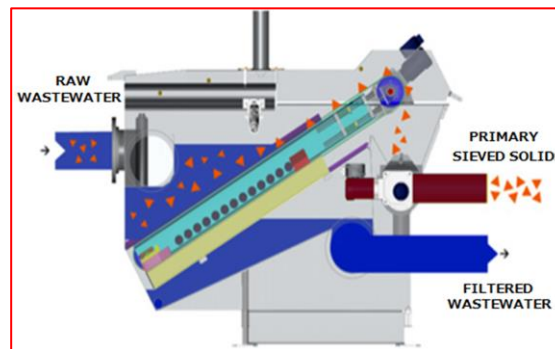
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Municipal wastewater contains 3-6 times the energy required for treatment

Project facts:

- ❖ Coordinator: Prof. Petros Gikas / Technical University of Crete (GR)
- ❖ Assoc. Beneficiaries: ENGINNOV (UK), DEVISE (GR), CETENMA (E), DEYAR (GR)
- ❖ Plant location: Rethymno, Crete, Greece
- ❖ Budget: € 1,993,855.00
- ❖ EU contribution: 60%
- ❖ Wastewater capacity: ~5,000 m³/d
- ❖ Biosolids management: ~1/2 ton/d
- ❖ Syngas production: 1,800-2,400 Nm³/d
- ❖ Net electric energy production: 30-50 kW



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