



Timisoara demo case AQUATIM



Circular solutions for



Materials

Sludge
Carbon / nutrients



Water

Approx. **250 000**
m³/day secondary
effluent

Relevant sectors



Agriculture



Water Treatment



Municipal sector



Industry

Brewery
Detergent producer
Dairy industry

 AQUATIM


Business Development Group

 Fachhochschule
Nordwestschweiz



AQUATIM: public enterprise

- water and wastewater services in the Timis county
- operator of Timisoara WWTP demo case

Business Development Group (BDG):

- management consultancy company
- support demo case and further dissemination in Romania



28
treatment plants

22
WWTPs

1,880 km
supply network

975 km
sewerage pipes

23.9 mil m³
invoiced water amount

43.4 mil m³
processed waste water amount



Timisoara demo case: current status

WWTP: 440.000 p.e. Commissioned in 2011

- Average daily flow rate = 2,400 l/s
- Maximum daily flow rate = 3,000 l/s
- BOD = 22,000 kg/day
- Suspended solids = 28,000 kg/day
- Ammonia = 5.400 kg/day
- Phosphates = 1.600 kg/day





Timisoara demo case: current status

- Conventional activated sludge process
- Nitrification/denitrification, Chemical P-precipitation

Sludge management:

- Aerobic stabilisation of sludge, i.e. no digestion
- Thickening & Dewatering
 - polyelectrolyte dosing
 - to approx. 20-22% DS on 3 belt press
- Solar drying & Landfill

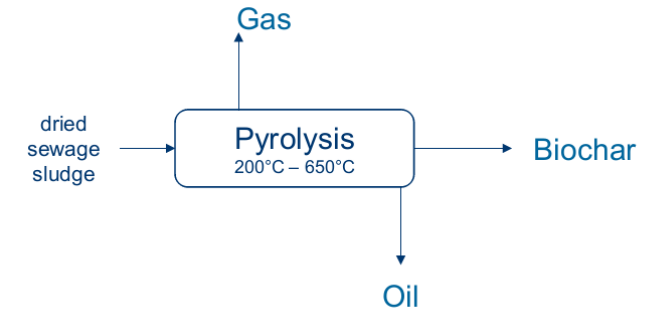




Timisoara demo case: NextGen ambitions

Sludge management with production of by-products and energy.

- pilot-scale testing of thermochemical conversion of sludge
- pyrolysis: produces different output (biochar, oil and gas), which can be exploited energetically as fuel or soil enhancing agent or sorbent.
- economic assessment



Reuse of effluent for urban, industrial and agricultural applications

- feasibility study of water reuse
- matching of water quality and quantities, impact on catchment water balance
- risk assessment

Water in CE implementation potential

- stakeholder engagement, governance conditions, possible business models
- inform the Romanian Strategy on Wastewater Sludge Management and support the UWWTD compliance of Romania
- identifying solutions towards more CE application in the water sector in the region



Timisoara demo case: NextGen tasks

Thermochemical conversion of sewage sludge

- WP1 T1.3.6 (AQT, FHNW) M19-M48:
- Pilot scale testing: access biochar production
- Access fuel/energy production
- WP2 T2.2: economic assessment

Feasibility of water reuse

- WP1 T1.2.5 (AQT, BDG, FHNW) M19-M48:
- A potential analysis of water reuse options
- Feasibility study for identified users
- WP2 T2.2: risk assessment (water quality)

Stakeholder engagement

- WP3 T3.1 CoP meetings

Assess potential for implementation

- WP4 T4.2 governance setting
- WP5 T5.1 business models

Profiling

- WP6 T6.9 Regional outreach event



nextGen

Circular Water Solutions

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The consortium has received funding from the European Union's Horizon 2020 research and innovation program under grant agreement No. 776541.

