

# Workshop on Sludge management in the Danube Region for a greener EU

10 June 2021

**WALUE: Waste to Value for small/medium  
WWTP's**

**András Deli, UTB Envirotec Zrt.**

**EU GREEN WEEK 2021 PARTNER EVENT**

**ZERO** #EUGreenWeek  
**POLLUTION**  
for healthier people and planet



# The Company



**UTB Envirotec**

**Wastewater Technologies &  
Organic Waste Solutions**

## We create value from waste.



# The Company

## Focus



# Sludge Disposal – Current Status

**„... wastewater sludge is not waste that has to be disposed, but rather raw material to utilize and renewable source of energy.”**

**Hungary’s Sludge Treatment and Recovery Strategy (2018-2023)**

**National Water Authority**

**accepted by the Government Decree 1403/2017. (VI. 28.)**

# The Problem

## Scale in Hungary

- 790 WWTPs under 100.000 PE
- 4.5 M PE equivalent
- 100.000 t DS/y



Current disposal cost € 3/y per PE



Sludge disposal represents ca. 30-50 % of WWTP ECS-OPEX (Energy, Chemicals, Sludge)



Disposal has a very high CO<sub>2</sub> footprint

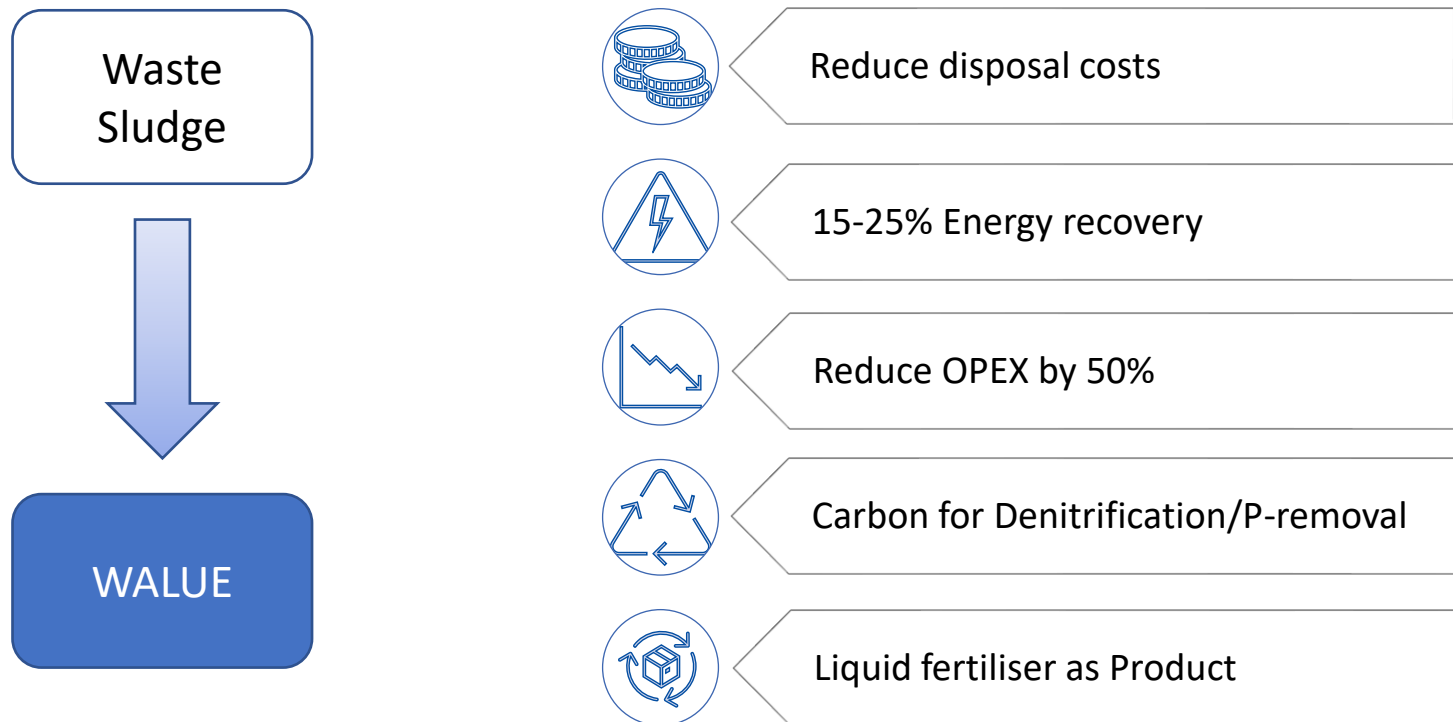


Future legislative barriers will increase costs



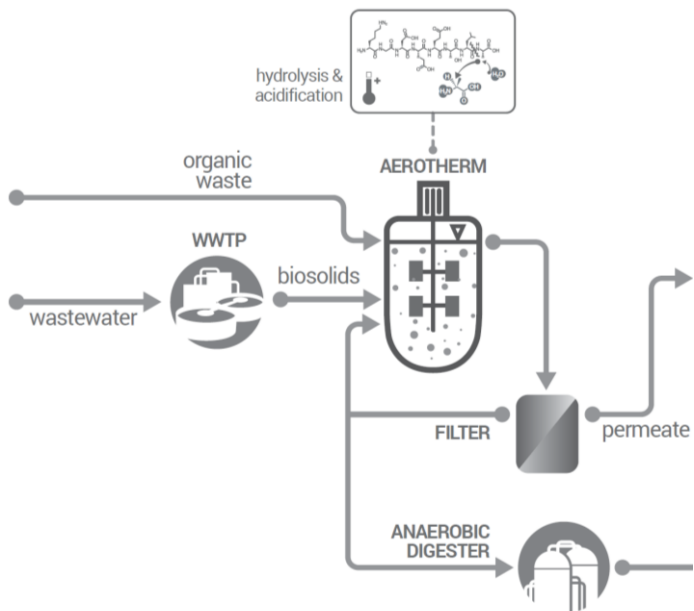
Increase WWTP capacity 30-40% (optional)

# The Solution

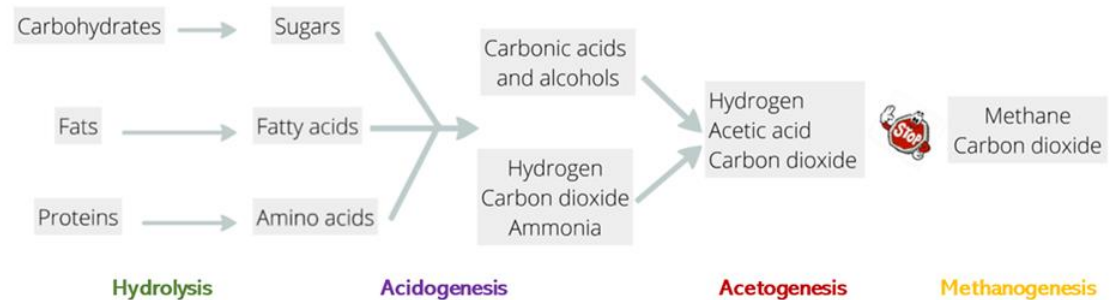




# How does it work?



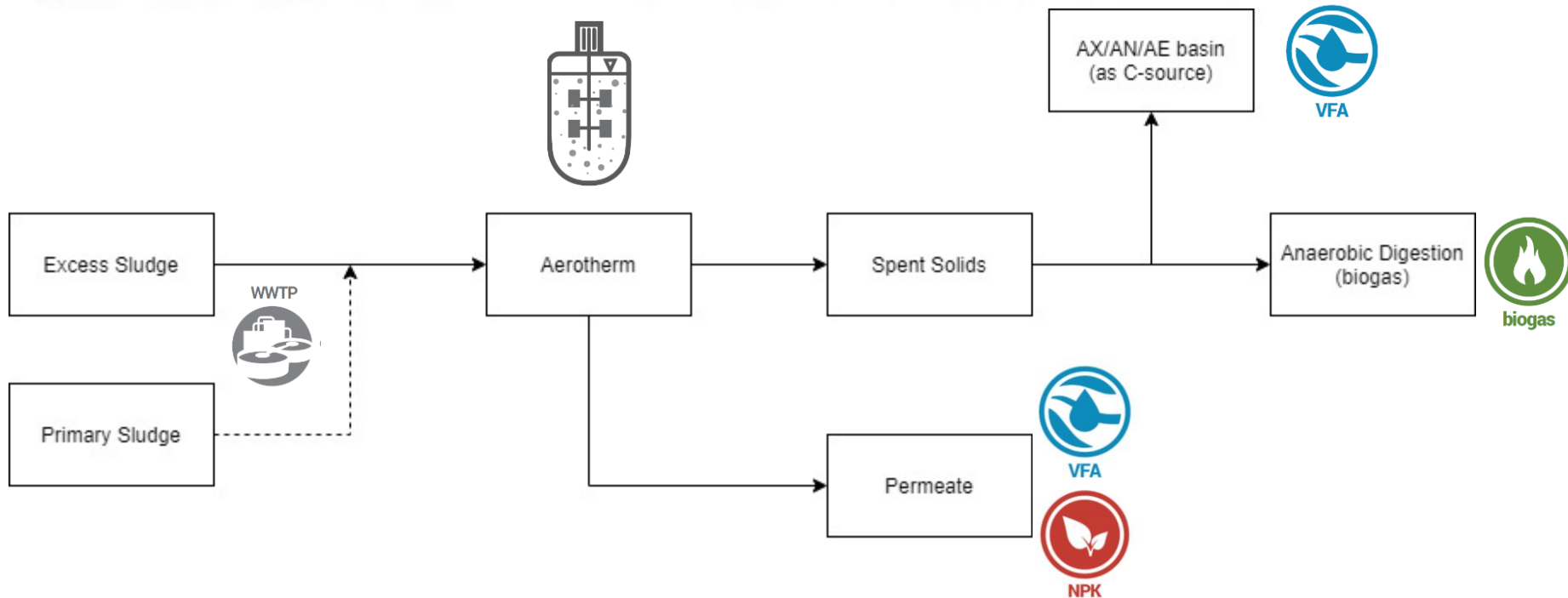
## Anaerobic digestion stopped at the final stage



## Sludge converted to readily biodegradable C-source

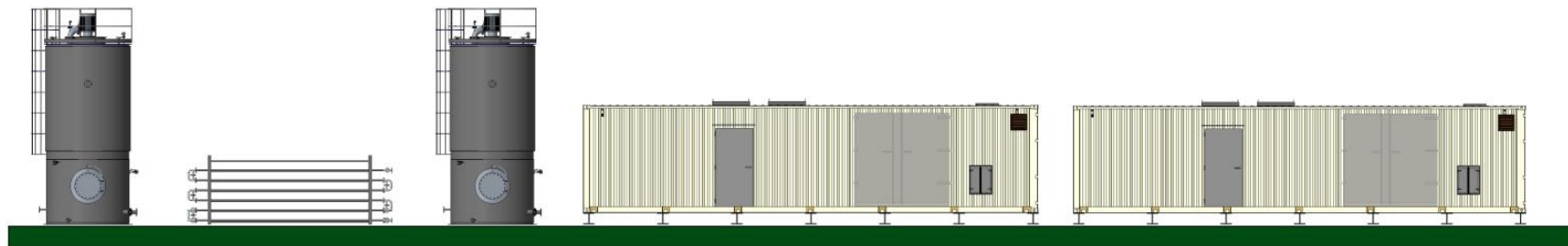
- Reduction in volume and mass
- Easily converted to biogas or
- Enhance denitrification/P-removal

# Process Flow Diagram





# Compact design



Feed Tank

Heat Exchanger

Bioreactor

Equipment Container

MVR Container



Chemical Containers



NPK Tank

VFA Tank

# Operational plant in Budapest



# Mass Balance

## Excess sludge

- Flowrate: 20 m<sup>3</sup>/d
  - Loading: 1000 kg/d
  - DS content: 5%
  - Equals to 5 m<sup>3</sup>/d dewatered sludge



## Dewatered sludge

- 2 m<sup>3</sup>/d

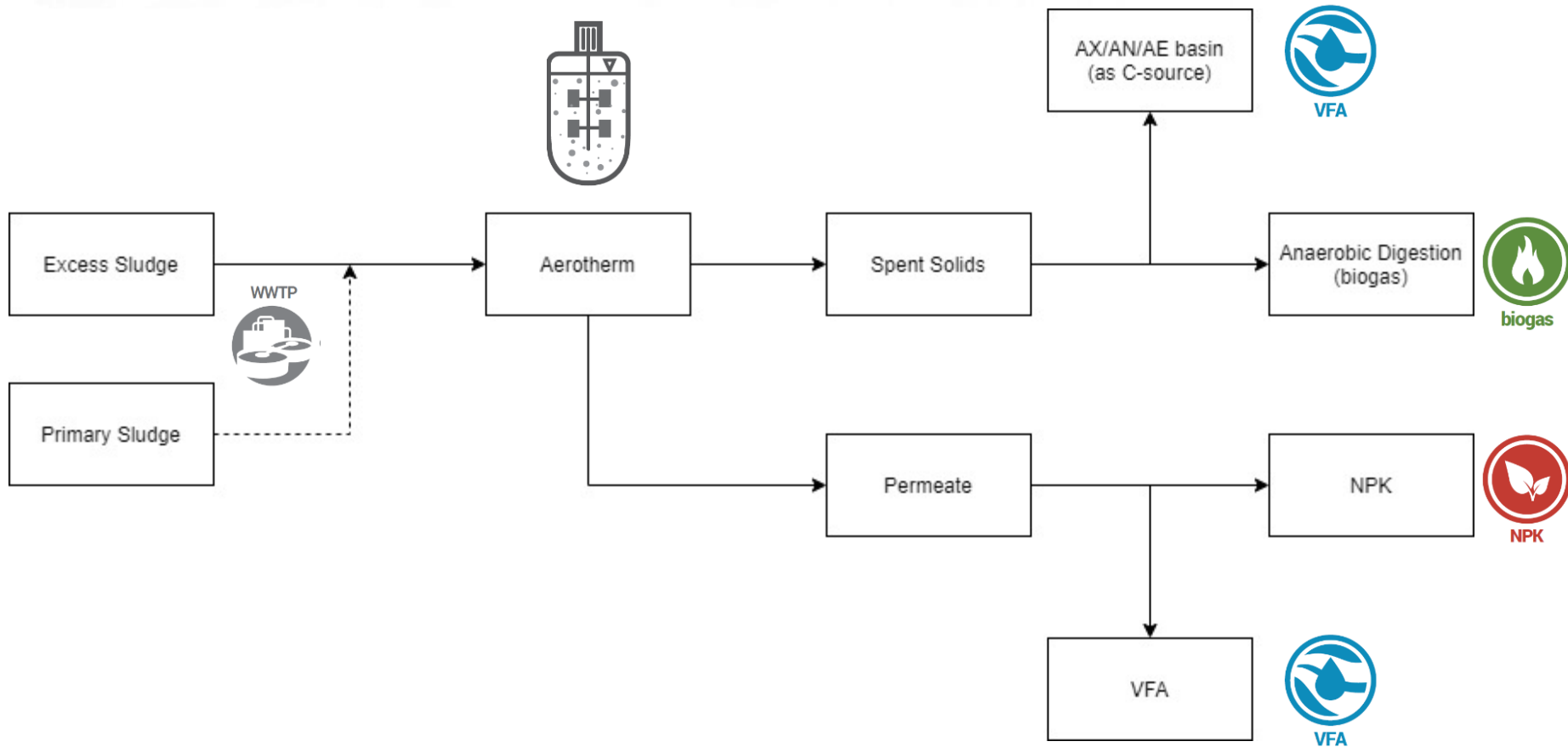
## Permeate

- 6 m<sup>3</sup>/d
- Liquid fertiliser

## Biogas

- 100-150 m<sup>3</sup>/d
- Can be higher if Primary applied

# Next plant in Kecskemét





# As part of the GINOP Project



# THANK YOU FOR YOUR ATTENTION!

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