

Progress Update

Nitrogen Extraction from Water

NEWBIES

by an Innovative Electrochemical System

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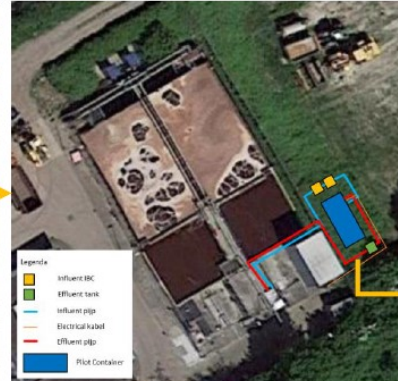
Update Pilot Evides (NL)

Leachate case

Indaver Landfill



PWZI Evides IW



Newbies Pilot



Leachate NH_4^+ = 1.5 g/L

Na^+ = 6 g/L
 K^+ = 0.9 g/L
 Mg^+ = 0.17 g/L
 Ca^+ = 0.15 g/L
 Cl^- = 8 g/L

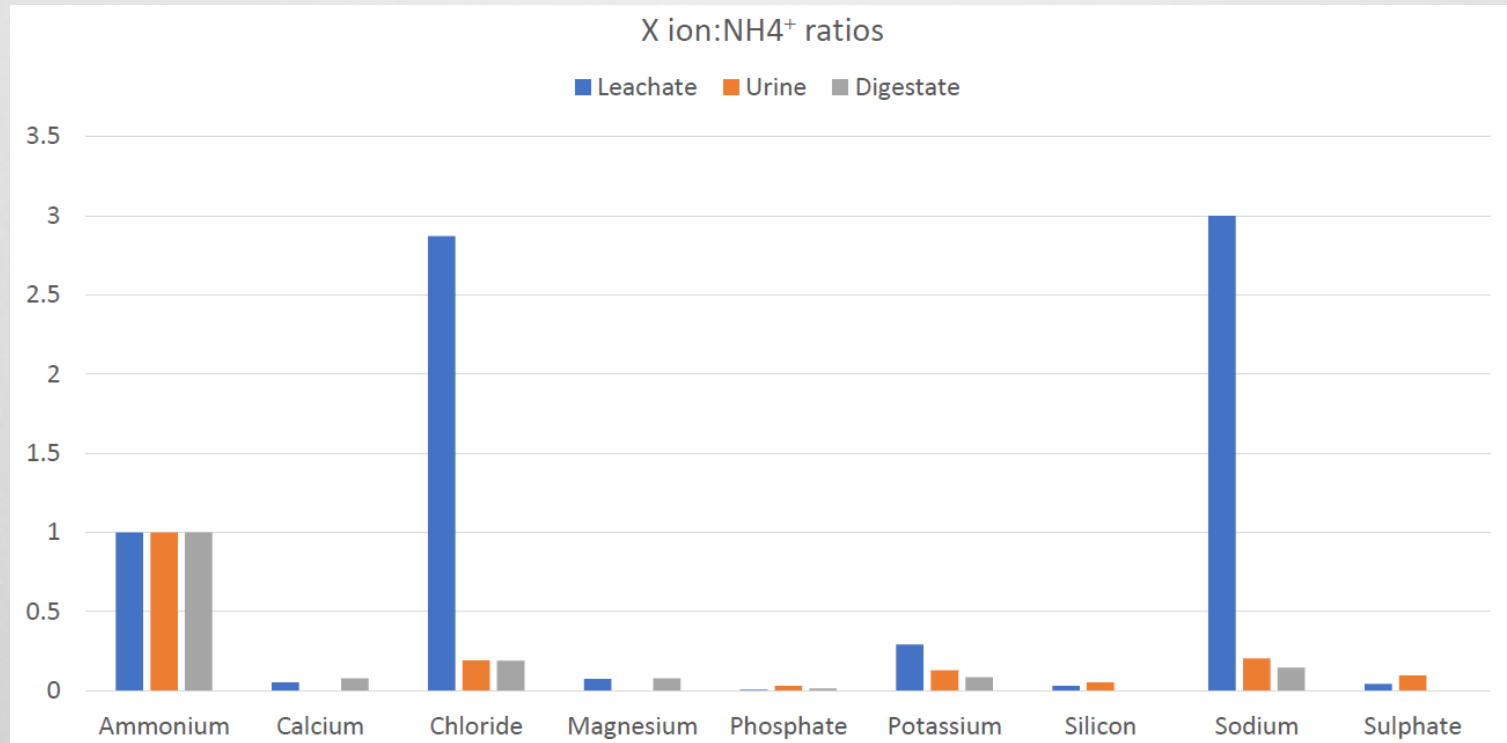
T. Carbon = 1 g/L

↓
Recover NH_4^+



Main Challenge: NaCl rich wastewater

- comparison of Urine, Digestate, and Leachate



Selected result Pilot Evides (NL)

Current density (A/m ²)	N Removal (%)	Product concentration (NH ₄) ₂ SO ₄ (g/L)	Energy consumption (kWh/kg _N)
75	31	191.6	5.6

Preliminary conclusions

- limited ammonia recovery ($\sim 30\%$)
- longer operation possible with automatic Cleaning In Place procedure
- efficiency (Current efficiency) losses due to competition with other cations (wastewater composition)