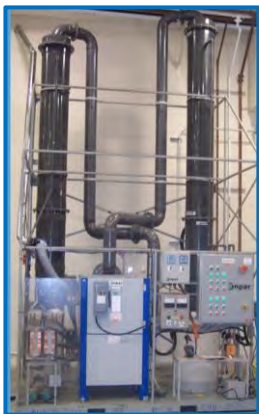


AmmoWAT Series Electrochemical Ammonia treatment

Benefits

The proven **AmmoWAT** technology provides effective ammonia (NH_3 & NH_4^+) treatment for commercial, industrial, and municipal wastewater.

- Converts ammonia to environmentally friendly nitrogen gas while applying the **N⁴O** Approach:
 - No** Nitrate - Carcinogen
 - No** Nitrous Oxide - Greenhouse Gas
 - No** Reduced Water Quality
 - No** Bio-fouling
- Capable of treating high concentrations ($>1,000 \text{ mg.L}^{-1}$) of ammonia wastewater and achieving low concentrations ($<1 \text{ mg.L}^{-1}$) of ammonia in the treated water ($> 98\%$ removal rate)
- Efficient operation in low temperatures ($< 0^\circ\text{C}$)
- Produces industry-grade valuable **green** water disinfectant and caustic soda (sodium hydroxide/ NaOH)
- The AmmoWAT system is low maintenance and fully automated. It operates on DC electricity and can be powered directly by renewable energy sources
- The AmmoWAT technology is a multistage continuous process and comes with two reactor designs: **AmmoWAT** (no hydrogen gas capture) and **AmmoWAT-H₂** (hydrogen gas capture).
- AmmoWAT-H₂ produces and captures a **high-purity hydrogen gas as a byproduct**.



AmmoWAT-HC



AmmoWAT-LC-H₂ system



AmmoWAT-H₂ reactor

Ammonia
contaminated
water

NH_4^+

NH_3

- Toxic to aquatic life
- GHG emissions
- Eutrophication
- Government regulates ammonia discharges

AmmoWAT-H₂ treatment

- Ammonia-free water
- Eliminates GHG
- Gives end-user carbon credits
- Valuable byproducts
 - Green hydrogen
 - Green water disinfectant & caustic soda (NaOH)

Municipal wastewater

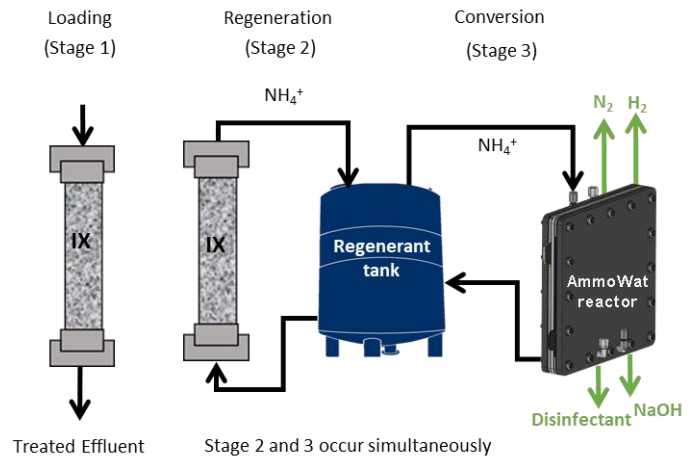
Industrial wastewater

Commercial wastewater

AmmoWAT: A Multistage Process for On-Site Installation or as Mobile Containerized System

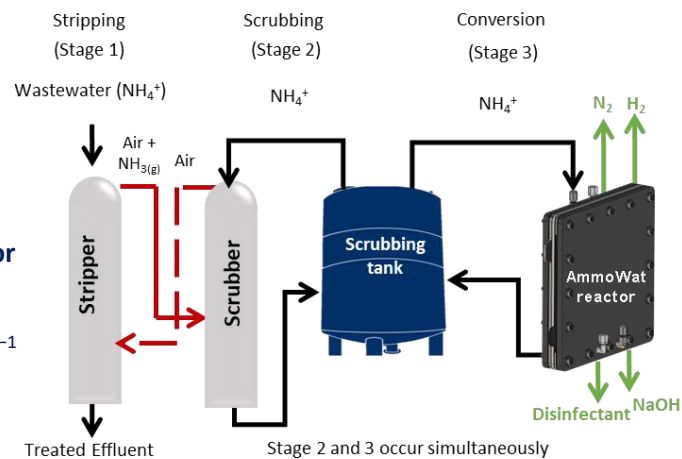
AmmoWAT-LC (low concentration)

- Stage 1: Loading ion exchange (IX) column(s)
- Stage 2: IX column(s) regeneration
- Stage 3: Ammonia-enriched brine treated in AmmoWAT or AmmoWAT-H₂ reactor (hydrogen capture)
- Operational NH₃-N concentration range: 0-1,000s mg L⁻¹
- Products: - Environmentally friendly nitrogen gas
- High purity hydrogen gas (AmmoWAT-H₂)
- Industry grade disinfectant
- Caustic soda (AmmoWAT-H₂)



AmmoWAT-HC (high concentration)

- Stage 1: Stripping ammonia
- Stage 2: Scrubbing ammonia into brine
- Stage 3: Ammonia-enriched brine treated in AmmoWAT or AmmoWAT-H₂ reactor (hydrogen capture)
- Operational NH₃-N concentration range: 100-1,000s mg L⁻¹
- Products: - Environmentally friendly nitrogen gas
- High purity hydrogen gas (AmmoWAT-H₂)
- Industry grade disinfectant
- Caustic soda (AmmoWAT-H₂)



Containerized modular AmmoWAT-LC system



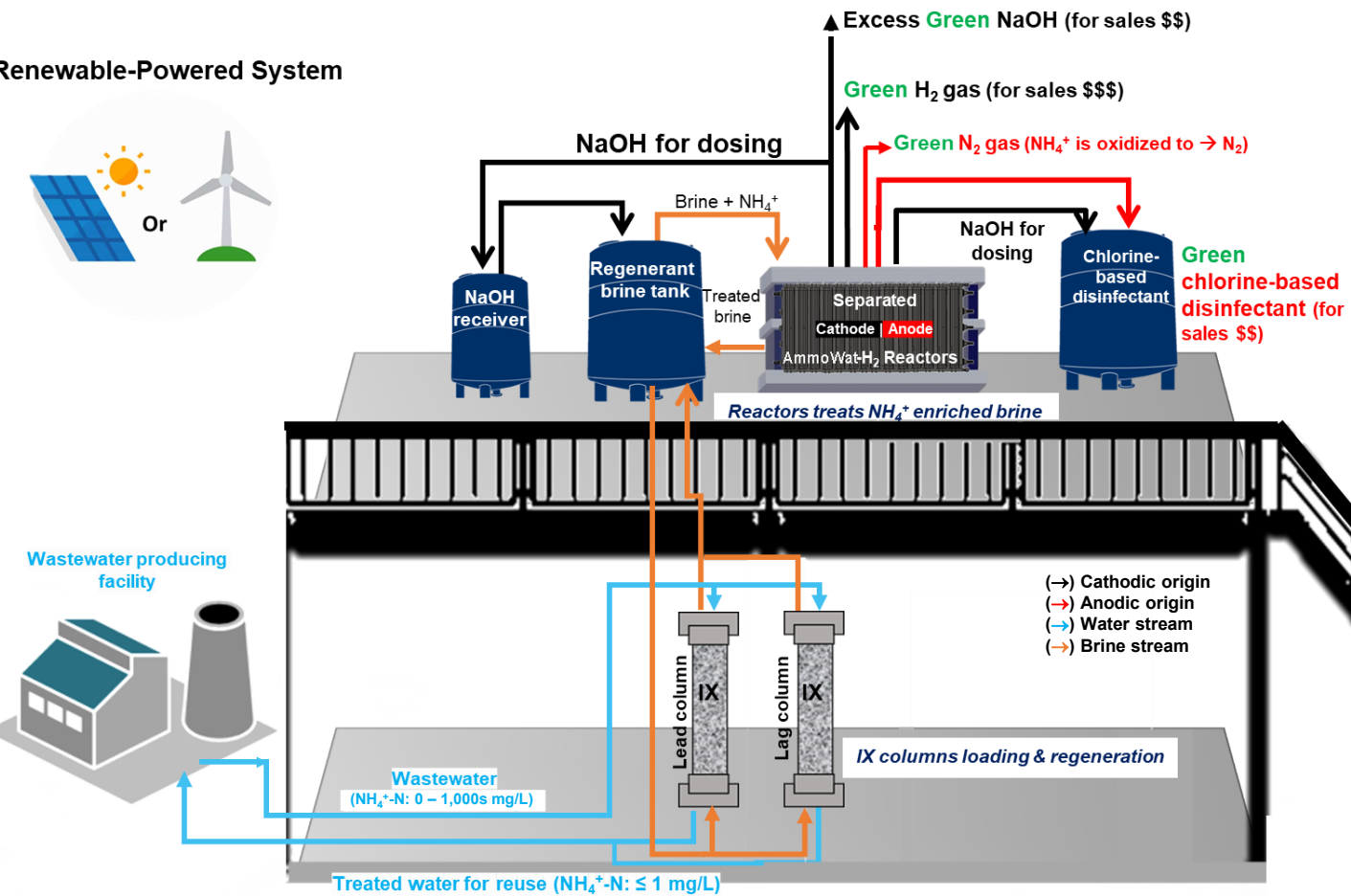
AmmoWAT-H₂ reactors

AmmoWAT-LC-H₂ Green Solution: Revolutionizing Wastewater Ammonia Treatment with Zero Consumables Cost & Significant Revenue Opportunities

Renewable-Powered AmmoWAT-LC-H₂ System Unlocks:

- ✓ Carbon credits
- ✓ Green H₂ rebates
- ✓ H₂ guarantees of origin
- ✓ Green H₂ revenues
- ✓ Green NaOH revenues
- ✓ Green disinfectant revenues

Renewable-Powered System



AmmoWAT-HC-H₂ Green Solution: Revolutionizing Wastewater Ammonia Treatment with Zero Consumables Cost & Significant Revenue Opportunities

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Renewable-Powered System

