



Cobalt
water
GLOBAL

N20Risk DSS Case Studies

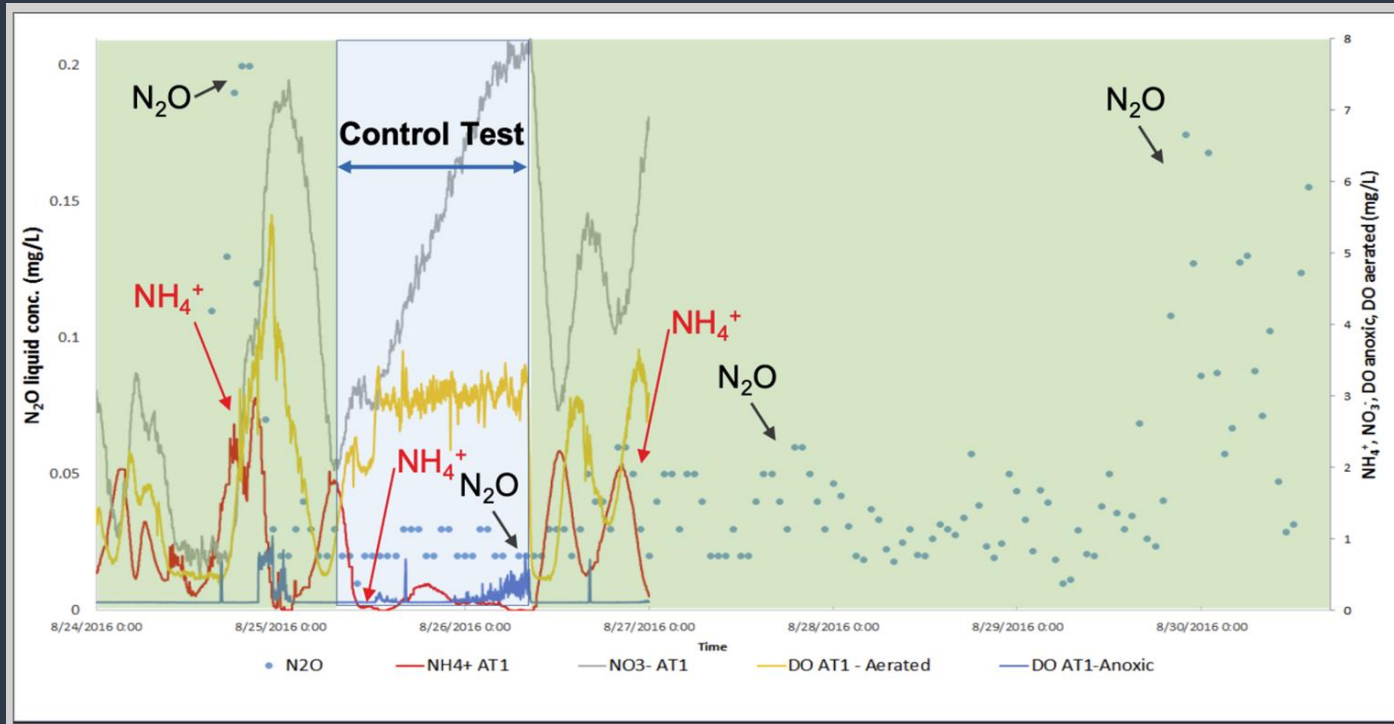
Case Study: Eindhoven RWZI



- Eindhoven, NL
- Water Utility: Waterboard De Dommel (NL)
- Overall WWTP GHG reduction: **40%**
- Potential Savings: **€338k* (£300k)**
- Treatment Plant Capacity: 750,000 PE
- Treatment Plant Configuration: Modified-UCT, carousel
- Methods: *N2ORisk DSS*, process model, and measurements

*Savings over a 20-year period compared to purchasing carbon offsets

Eindhoven WWTP N₂O Mitigation Control Test



Control Actions: Increased low DO set point to lower risk when ammonia peak arrives and set cap on DO after ammonia peak arrives to prevent high N₂O observed during high DO peaks.

Case Study: Eindhoven RWZI

Additional Process Benefits from *N2ORisk DSS*:

- Lower ammonia (NH_4^+) peaks
- No net increase in grid energy consumption
- 90% reduction in N_2O

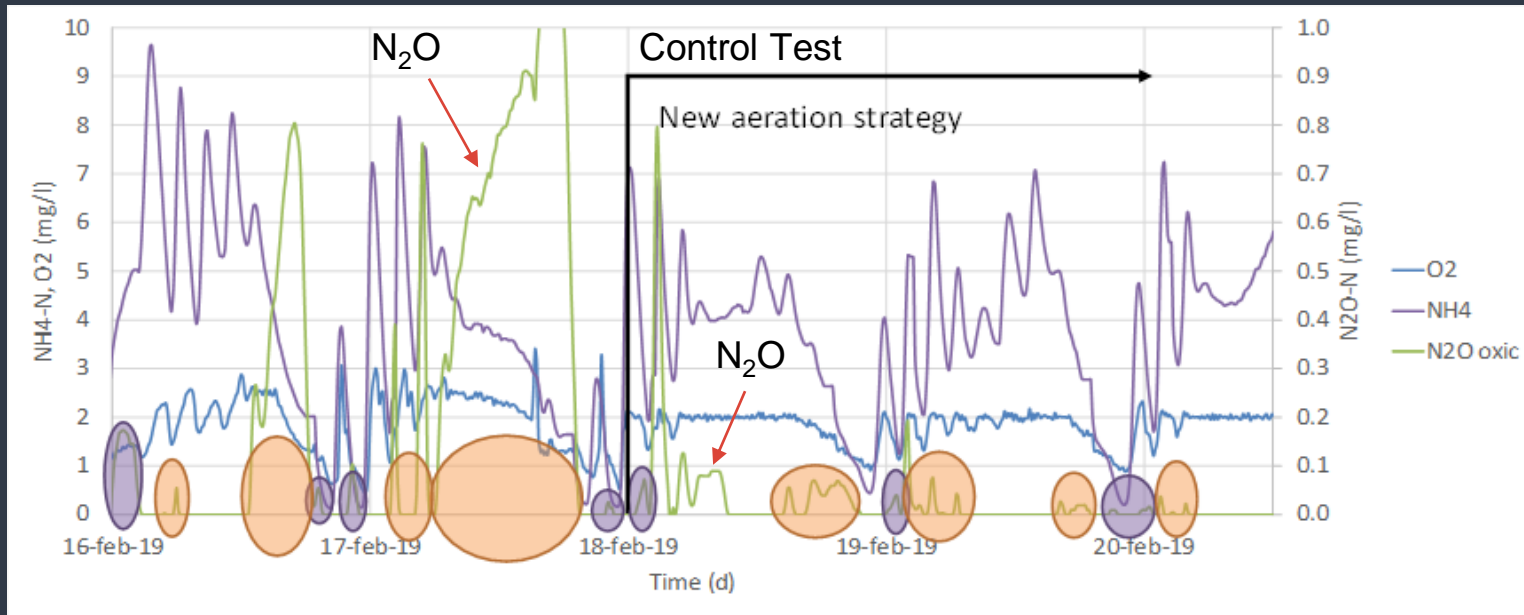
Case Study: Land van Cuijk RWZI



- Land van Cuijk, NL
- Water Utility: Waterboard Aa en Maas
- Overall WWTP GHG reduction: **70%**
- Potential Savings: **€500k* (£450k)**
- Treatment Plant Capacity: 175,000 PE
- Treatment Plant Configuration: Modified-UCT, carousel
- Methods: *N2ORisk DSS* and measurements

*Savings over a 20-year period compared to purchasing carbon offsets

Land van Cuijk WWTP N₂O Mitigation Control Test



Control Actions: Increased low DO set point to avoid low DO risk at the beginning of ammonia peaks and decreased high DO setpoint to avoid high DO risk during ammonia peaks

Case Study: Land van Cuijk RWZI

Additional Process Benefits from *N2ORisk DSS*:

- Improved nitrification (lower ammonia peaks)
- Improved denitrification (lower nitrate)
- Improved biological phosphorus removal (from better DO control)
- **Net reduction in grid-energy consumption**
- 90% reduction in N_2O

Case Studies Summary

- ▶ *N2ORisk DSS* reduced overall GHG emissions by large percentages with virtually **no capital investments**. A **value bomb** for achieving net zero emissions.
- ▶ *N2ORisk DSS* **improved process efficiency** by stabilizing DO and ammonia, making compliance easier, and reducing operator headaches.

N₂O Risk Project Portfolio





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**Carbon-neutral wastewater treatment is the future, our *N₂ORisk DSS* is the future, AI for positive Climate Impact.
Connect with us and help us ensure clean carbon-free water now!**