

Digestate & Manure Treatment



EVAPORATORS INC.

REDUCING VOLUMES.
RECOVERING NUTRIENTS.



**UNLOCKING THE FULL VALUE
OF DIGESTATE & MANURE
THROUGH A CIRCULAR ECONOMY**

Fully valorized digestate
High-value manure recovery



FE⁴ SPECIALIZES IN THE TREATMENT & RECYCLING OF DIGESTATE & MANURE, DELIVERING THE MARKET'S MOST EFFICIENT & SUSTAINABLE SOLUTIONS FOR CONCENTRATION & RECYCLING. COMPLETE & USER-FRIENDLY, THESE SOLUTIONS ARE DESIGNED TO REDUCE OPERATING COSTS.

A GLOBAL SOLUTION FOR DIGESTATE RESOURCE RECOVERY THROUGH A CIRCULAR ECONOMY APPROACH

90%
volume
reduction
on average



An economic solution

- Digestate volume reduction
- Reduced transport, storage & spreading costs
- Maximum valorization of fertilizers, soil amendments & biomethane



A regulatory solution

- Optimized nutrient management planning
- Compliance-driven treatment across all flows



An eco-friendly solution

- N, P & K recovery and separation
- Production of high-value fertilizers
- Nitrogen fertilizers: ammonium sulfate/nitrate & ammonia water
- Organic-based soil amendments



An energy-efficient solution

- Optimized plant performance
- High-performance MVR technology (Mechanical Vapor Recompression)



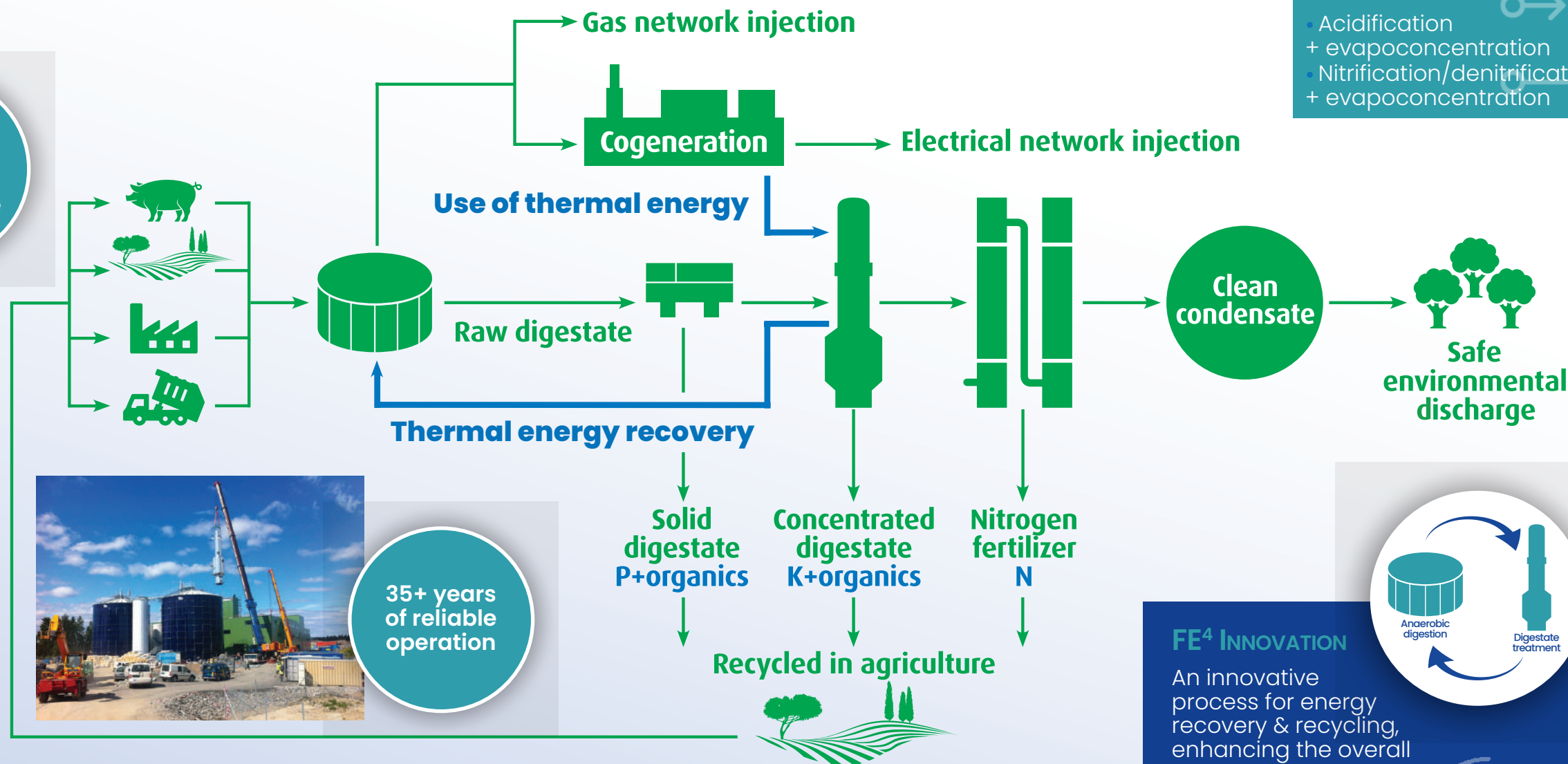
A sustainable solution

- Consistent high performance over time
- Low sensitivity to feedstock variations
- High reliability with minimal downtime



An environmental solution

- Optimized energy consumption
- Maximum by-product recovery
- Complete purification of discharged products



ALTERNATIVE TREATMENTS

- Acidification + evapoconcentration
- Nitrification/denitrification + evapoconcentration

FE⁴ INNOVATION

An innovative process for energy recovery & recycling, enhancing the overall performance of the plant.

- 100% of recovered biomethane injected directly into the grid
- Up to 50% reduction in overall energy consumption

EXPERIENCE & EXPERTISE

Evaporation & Concentration Experts

- Mastering evaporation, concentration & separation technologies: falling film, forced circulation & vacuum evaporation
- Stripping & reverse osmosis
- Energy efficiency: MVR (mechanical vapor recompression) & multiple-effect evaporation

35+ years of proven experience & performance

- A trusted partner with unparalleled market expertise in industrial process solutions
- Energy-efficient technologies delivering long-term value
- Tailor-made systems designed to maximize resource recovery & plant profitability

PROJECT HIGHLIGHT

A MILESTONE IN ENERGY EFFICIENCY

By combining **MVR** technology with **high-temperature heat pumps**, FE⁴ gives a second life to waste heat, converting it into a powerful lever for plant performance & energy efficiency.

A GLOBAL FIRST IN THE FIELD OF DIGESTATE BY FE⁴

RESULTS ACHIEVED

- FOSSIL FUEL - **FREE** OPERATION
- UP TO **50%** REDUCTION IN OVERALL ENERGY CONSUMPTION
- 100%** OF RECOVERED BIOMETHANE VALORIZED
- MAXIMIZED PROFITABILITY THROUGH REDUCED OPERATING COSTS
- ENHANCED PLANT PERFORMANCE & SUSTAINABILITY

End-to-end project delivery

- From feasibility studies to full-scale industrial implementation
- Site audits & process assessments
- Laboratory testing & pilot validation
- Mobile unit rental
- Tailor-made process design & engineering
- Turnkey project execution
- Installation, commissioning & start-up
- Training, maintenance & operational support
- A dedicated point of contact from concept to operation
- Guaranteed alignment of performance, compliance & operational objectives

Operational excellence

- Fully automated systems for effortless operation
- Low-maintenance equipment with optimized operating costs & reduced downtime
- Consistent performance despite feedstock variations

Compact design, smart integration

- Seamless integration into existing facilities
- Minimal environmental footprint
- Flexible configurations for site-specific needs



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