

# Comprehensive Wastewater Facility Upgrades

Process-based, turnkey solutions that reduce costs, generate revenue, and improve quality and compliance

## Deferred Maintenance and Ad-Hoc Projects

Wastewater treatment plants (WWTPs) are trusted with safeguarding public and environmental health. But cost containment is also a key concern for operators, municipal stakeholders, and the public. Budget constraints and limited resources often result in deferral of infrastructure upgrades. When upgrade projects do move forward, they typically focus on remediating specific component failures or non-compliance issues.

Although such ad-hoc upgrades may resolve immediate issues and fit within existing capex budgets, they have several long-term disadvantages:

- Numerous operational disruptions as a result of multiple narrowly focused projects
- Lack of compatibility between interdependent system components
- Increased resistance to recurring requests for infrastructure funding
- Inability to shift from reactive to predictive maintenance
- Inability to create accurate long-term asset management plans

## A Better Approach to WWTP Capital Improvement

Whether your WWTP serves a large geographic region or a small community, OPTERRA invites you to take a longer and broader view of wastewater facility asset management and infrastructure renewal.

- Instead of focusing on the state of individual treatment components, consider overall processes and the optimal holistic plant design that will meet your operational and compliance requirements.
- Instead of comparing solutions based on up-front line-item costs, explore options that defray upfront expenditures and have the potential to cover the entire cost of the capital upgrades.
- Instead of spending time in repeated bid cycles and complicated procurement processes, look to experts who can design, implement, and bring clarity to the long-term return on your infrastructure investment.

As a vendor-agnostic provider of infrastructure and sustainability services, OPTERRA can perform a plant-wide assessment and help create a master plan for upgrades. This includes not only rehabilitating, repairing, or replacing treatment components and controls, but also creating long-term savings from improved energy and operational efficiencies. OPTERRA can implement the entire plan as a turnkey project and act as a single point of responsibility.

## Optimizing the ROI of Modern Wastewater Treatment

Wastewater management must respond to myriad human health, ecological, technological, and financial concerns. That is why OPTERRA offers comprehensive wastewater modernization programs that scale services responsibly, contribute to efficient and resilient operations, and enable revenue-generation opportunities.



### In-depth Assessments

At the outset, we take the time to assess your existing facilities in depth. This enables us to devise a scope and sequence of improvements that are both appropriate for your facility and meet local environmental and regulatory requirements.



### Turnkey Solutions

Proposed projects may include a wide variety of technology and process improvements, some of which are shown below. OPTERRA designs, implements, and manages the entire project as a turnkey solution, minimizing budgeting complexity and the administrative burden on your staff.



### New Revenue Streams

In many cases, it may make sense to upgrade facility equipment to larger capacities. This enables the WWTP to serve additional communities, thereby generating new revenue streams for the local government.



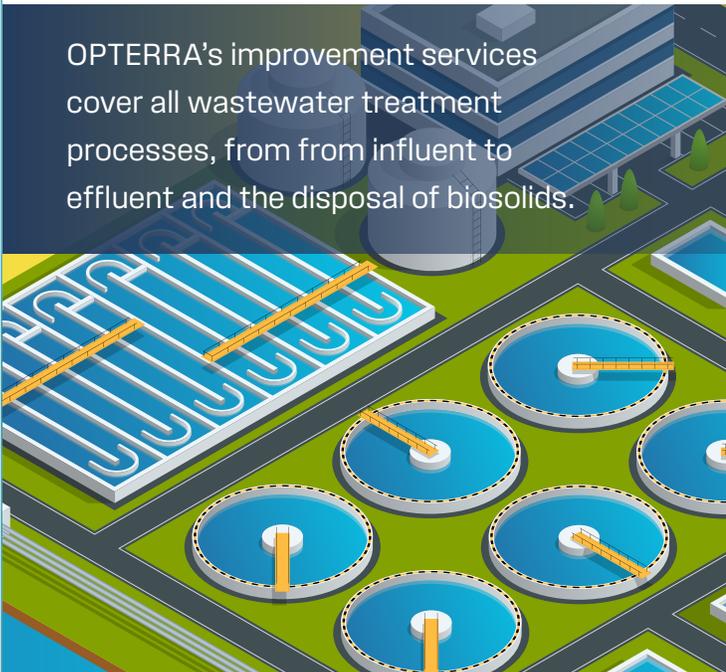
### Energy Savings

Because wastewater treatment is an especially energy-demanding operation, many of the infrastructure improvements will not only boost operational efficiencies and extend the useful life of the equipment, but can also lead to significant energy savings. Regardless of the local cost of electricity, reduction in energy consumption aligns with environmental sustainability goals.



### Performance Guarantees

OPTERRA can show you how to make the most efficient use of your capital budgets to achieve your WWTP modernization goals. OPTERRA uses an energy savings performance contracting (ESPC) approach to guarantee that the operational and energy efficiency savings will cover the finance payments over the initial costs of the installed equipment over its life.



OPTERRA's improvement services cover all wastewater treatment processes, from from influent to effluent and the disposal of biosolids.

#### Aeration Systems

- Coarse to fine bubble diffusers
- High efficiency blowers
- Dissolved oxygen controls
- Mixers replacements

#### Biosolids Handling

- Digesters
- ATAD systems
- Incinerators

#### Additional Revenue

- High strength waste
- FOG (fats, oils & grease)
- Recycled food waste
- Renewable natural gas (RNG)
- Biosolids Production

#### Biogas production

- Codigestion
- Thermal hydrolysis
- Gas cleaning

#### Demand Reduction

- Aeration
- Pumping
- Process optimization

#### Disinfection

- Onsite generation
- Ultraviolet

## OPTERRA is on Your Side

With a long history of providing design-build services for modernizing water treatment facilities, OPTERRA is both a trusted expert and an accessible partner. Impartial to particular technologies, vendors, or processes, we respond to the needs of your facility and your local community.

Contact us today to learn how a partnership could benefit your plant: [opterraenergy.com/contact](https://opterraenergy.com/contact)