

ORGANICA UPGRADES IMPROVE COMMUNITY RELATIONS AND PROPERTY VALUES

CHALLENGE

Due to today's "urban sprawl", many wastewater treatment facilities have transformed from distant buildings into today's close neighbours. As a result, utility responsibilities have expanded beyond wastewater management; they now also have to be "good neighbours" and a positive member of the community.

An example of this dynamic takes place with a 75 MLD facility in China built in 1987 currently utilizing a conventional activated sludge process. Over the years, population growth has resulted in the city building closer and closer, placing the treatment facility in the middle of a residential area. With homes in close proximity to the facility, the utility receives consistent complaints from neighbours over the facility's poor aesthetics, foul odours, and excessive noise, in combination referred to as "psychological footprint".

To improve neighbourhood relations, the utility is looking to upgrade the facility to eliminate odour, reduce noise, and improve the site visually. In addition, it is a good opportunity to enhance effluent quality and minimise operational expenditures.

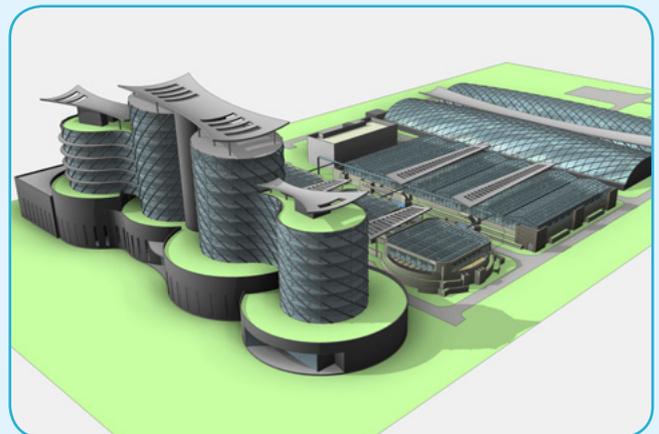
OPTIONS

In China, a common solution is the conventional AAO (Anaerobic-Anoxic-Oxic) process. However, odour control with AAO is challenging and costly, and yet the solution is still visually unattractive. In addition, this option has significant capital and operational costs. As a result, the utility chose to search for alternative upgrade solutions that could satisfy the wider project needs.

In contrast to the AAO alternative, the Organica solution completely solves odour and aesthetic issues. This solution also enables the utility to cost-effectively upgrade the facility, providing CAPEX savings of US\$3.4M over conventional options. Further enhancing the facility's sustainability credentials, Organica solutions require significantly less energy and allow the utility to reduce operational costs by US\$350,000 annually.

Additionally, the eliminated "psychological footprint" enables construction of high-value office spaces on the existing property, generating considerable revenue for the utility.

	MBR-AAO	Organica
CAPEX	US\$22,600,000	US\$19,200,000
OPEX/year	US\$3,400,000	US\$3,000,000
NPV (20 year analysis)	US\$114,400,000	US\$101,600,000



ORGANICA ADVANTAGES

In contrast to the proposed AAO solution, the Organica solution offers numerous advantages:

- ✓ **Odourless and aesthetically-pleasing**
- ✓ **Opportunity for on-site development**
- ✓ **Savings on capital and operational expenditures**

THE ORGANICA SOLUTION

Odourless and Aesthetically-Pleasing

The Organica solution is housed in an odourless, aesthetically-pleasing enclosure, providing a unique botanical garden-like look and feel. With these features, the upgrade eliminates the pre-existing negative impacts on the surrounding environment, largely improving community relations and overall property values surrounding the site.

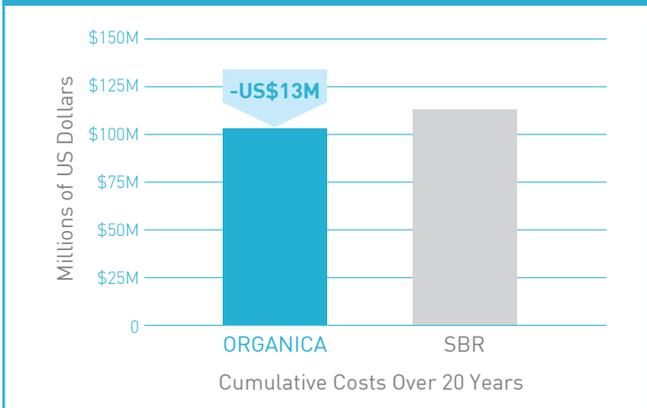
On-Site Development Generates Additional Revenue

By eliminating the “psychological footprint” and liberating scarce land resources, additional property development is possible on the existing site. Organica’s architectural design creates 11,000 m² (120,000 ft²) of new office space and 2,000 m² (22,000 ft²) of public area above the pre-treatment and sludge dewatering buildings. In the dense urban area, this development will generate substantial profits for the utility group.

Lower Capital Expenditures and Operational Costs

Upgrading the facility with the Organica solution provided clear financial advantages over conventional process, reducing the upfront capital investment by 15% (savings of US\$3.4 million). Further, the Organica solution reduces energy consumption by 38%, resulting in 10% lower total operational costs (saving US\$350,000 annually). Due to these savings, utilizing the Organica solution will decrease the Net Present Value (NPV) of the investment by US\$7 million to US\$51 million.

Organica Provides Lifecycle Cost Reduction



Improved Aesthetics



Assumptions: OPEX for both Organica and the alternative wastewater treatment option are assumed to increase at an annual rate of 3%. NPV is calculated over a 20-year time frame using a 10% discount rate.

Disclaimer: Financial estimates used are based on a proposal for a retrofit project in China. Images are sample displays. This case study is created for informational purposes only, and should not be considered as a quote or offer of any kind. Financial data, OPEX, CAPEX, actual footprint, components (including but not limited to water reuse functionality), etc. may vary per project depending on the actual requirements.



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