



For A Cleaner World

"Biological Double-efficiency Process (BDP) is an innovative, stable and highly efficient biological wastewater treatment technology."



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Cover Photo: BDP unit at an Acrylonitrile Butadiene Styrene (ABS)
Wastewater Treatment Plant, CNPC Petroleum Group, Jilin, China

Revolution makes who we are

BDP EnviroTech specializes in developing and applying the most advanced and patented mainstream biological wastewater treatment technology. Biological Double-Efficiency Process (BDP) technology has been carried out the pilot test study in Europe since the late 90s. Our company started to install BDP systems and established the R&D center since 2006. At present, it has become one of the most robust biological treatment technologies in the wastewater treatment industry.



A Global Company

We are a global company with our headquarters in the USA, and subsidiaries in France and China.



State-of-the-art Technology

Published by U.S. Environmental Protection Agency and awarded by California Energy Commission.



Full Scale Applications

More than 30 full scale applications worldwide for both municipal and industrial clients.



A Total Solution

We deliver cost-effective total solutions to resolve environmental issues.

BDP demonstrated a significant readiness for the worldwide market. BDP's unique and proprietary integrated system is being acknowledged by Fortune 500 companies (e.g. British Petroleum and Sinopec) as ahead of its competitors. More than thirty (30) wastewater treatment plants adopted BDP process worldwide, covering industrial wastewater and municipal sewage; either for retrofitting or new construction of treatment facilities. Our largest application is a 53 MGD industrial wastewater treatment facility.



IMET



Institute of Fluorescence



SciTech



EnviroTech


Photo of BDP Headquarters at Baltimore, Maryland, USA

An Important Breakthrough

MICROBIOLOGY: Under unique operating conditions (**DO 0.3 mg/L, MLSS 8,000 mg/L**), the BDP system maximizes the amount of domesticated microorganisms, which can effectively biodegrade the organic pollutants in wastewater, while reducing waste sludge.

CARPET AERATION: The unique diffuser system provides evenly distributed aeration with efficient micromixing. The improved **OTE 52%** allows an enhanced ability for microorganisms to obtain needed oxygen. The distinctive tubular aerator installation enables automated self-cleaning and easy replacement, resulting in minimal maintenance and no operation downtime.

AIRLIFT CIRCULATION: Air is injected continuously near the bottom of a confined space of the all-in-one basin to induce a density-gradient driven circulating flow. The injected air reduces the density of the mixed liquor locally and creates a driving force due to the density difference. The driving force causes the mixed liquor to flow and creates a circulation pattern in the basin.

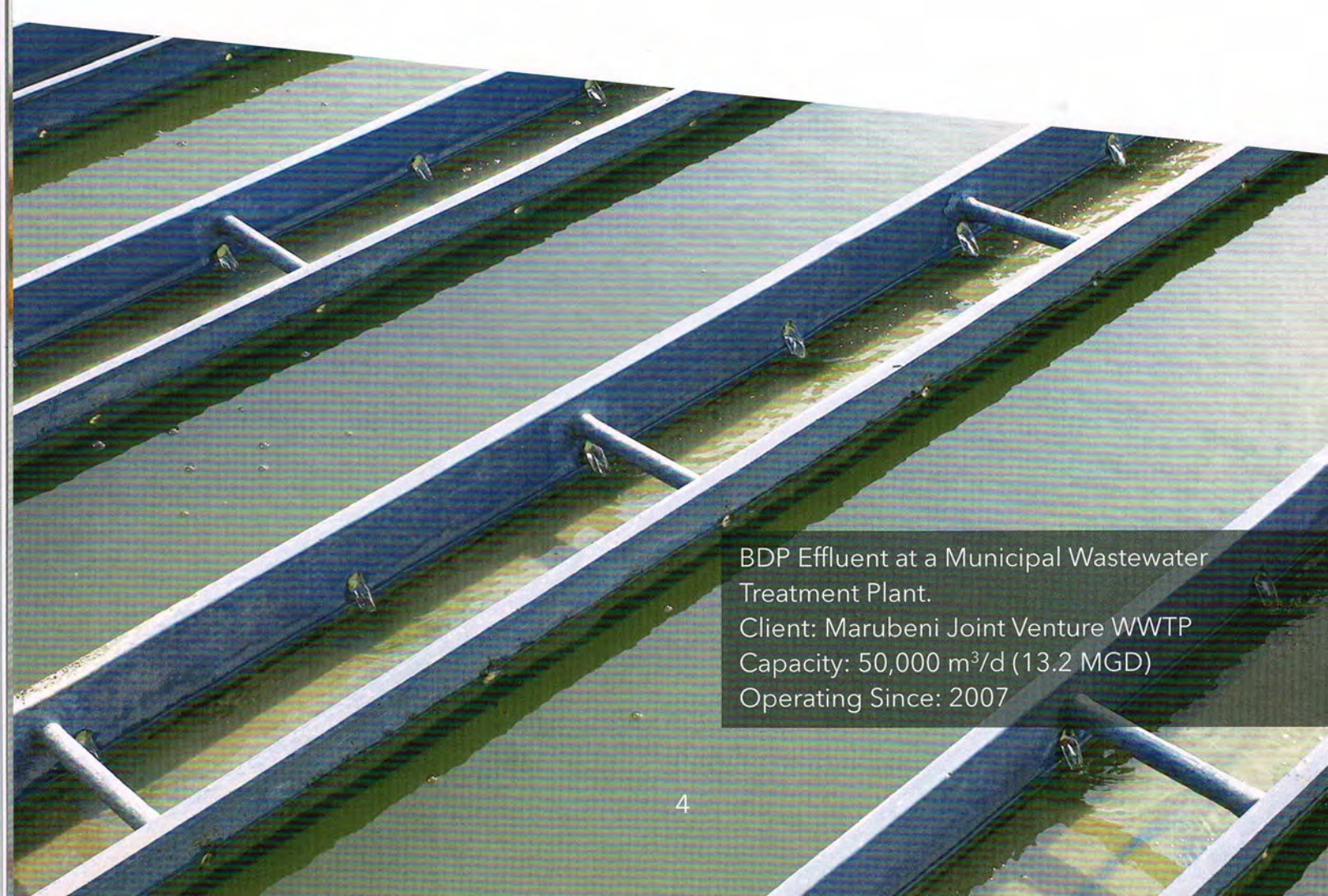


BDP System at a Petrochemical Facility.
Client: British Petroleum Joint Venture WWTP
Capacity: 3,600 m³/d (1 MGD)
Operating Since: 2014

HIGH DILUTING RECIRCULATION: Through the mixing of the circulating mixed liquor and the influent at a very high dilution ratio (20 - 350:1), the concentration of pollutants entering the aeration section is significantly reduced. It provides a stable environment for the growth of microorganisms and increases the impact resistance of the system.

FAST CLARIFICATION: The unique design of high-rate clarification system serves two main purposes: 1) fast separation of sludge/solids and water to ensure low TSS in the effluent; 2) continuously circulating the Mixed Liquor Suspended Solids (MLSS) at the bottom of the clarification area to maintain the steady quantity of microorganism in the aeration tank.

ALL-IN-ONE INTEGRATED BASIN STRUCTURE: BDP technology integrates several unit processes into one treatment basin, which greatly simplifies the process flow, with benefits of 1) plant footprint reduction, 2) lower capital and operating costs and 3) ease of operations, maintenance, and control.



BDP Effluent at a Municipal Wastewater Treatment Plant.
Client: Marubeni Joint Venture WWTP
Capacity: 50,000 m³/d (13.2 MGD)
Operating Since: 2007

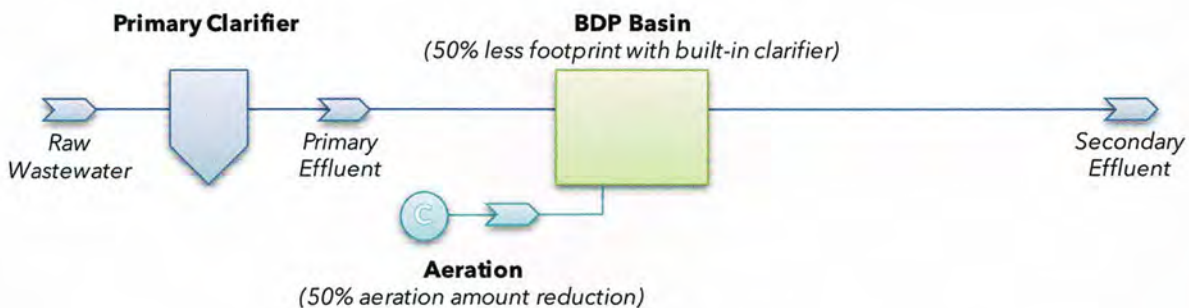
BDP Technology Advantages

CHALLENGE: The most common biological wastewater treatment process for nutrient removal is the activated sludge process. Conventional activated sludge processes, including separated anoxic and aerobic tanks with secondary clarifiers, require high CAPEX and OPEX. The current challenge for wastewater treatment plant operators is to meet the demand from the growing population, to comply with increasingly stringent regulations, and to upgrade aging infrastructure while potentially reducing energy consumptions and increasing water recycling.



Flow Chart of Conventional Wastewater Treatment Process

SOLUTION: The Biological Double-Efficiency Process (BDP) is an important breakthrough for biological wastewater treatment, based on Simultaneous Nitrification / Denitrification (SND) principles. The BDP system combines state-of-the-art, easy to maintain Airlift Circulation and Carpet Aeration system with an integrated, all-in-one bioreactor technology, resulting in substantial reduction of capital and O&M costs, energy consumption and footprint required and water savings benefits.



Flow Chart of Biological Double-Efficiency Process



BDP Aeration System at an Industrial
Wastewater Treatment Facility.
Client: Shaoxing Textile Industrial Park
Capacity: 200,000 m³/d (53 MGD)
Operating Since: 2012

Expecting Excellence

ADVANTAGE: Compare to the conventional biological wastewater treatment process, BDP Technology provides a significant reduction in **Capital Expenditure (CAPEX)** and **Operating Expense (OPEX)** with outstanding contaminant **Removal Rates**.

Save Your Costs

- 50% Lower Energy Consumption
- 50% Less Footprint (or Double Capacity)
- 50% Waste (Surplus) Sludge Handling
- 50% O&M Cost Savings

Excellent Contaminant Removal Rate*

- Up-to 96% COD Removal Rate
- Up-to 99% BOD Removal Rate
- Up-to 95% Total-N Removal Rate
- Up-to 99% Ammonia-N Removal Rate

*Note: Data represents the performance of the BDP biological treatment process only.



BDP Retrofitting Project Site.
Client: Sinopec Petrochemical
Capacity: 2,500 m³/d (0.66 MGD)
Operating Since: 2007

Our Clients

BDP EnviroTech offers industry-focused, partnership approaches environmental solutions coupled with cutting-edge technology and data-driven analytics, we have built a track record of success.



Do Business with Us

BDP EnviroTech always seeks dynamic partners to deliver excellent solutions to our clients. We are a trusted business partner for Private Entities, Distributorships, Public Agencies and Research Institutions.



Private Entities

BDP EnviroTech partners with private entities, environmental engineering, consulting and service companies all over the world to help their clients to improve wastewater treatment performance and reduce overall cost.



Distributorships

BDP EnviroTech, the wastewater technology company, has for the last ten years been developing its operating model and dealer support network. We are currently searching for additional marketing and dealership partners.



Public Agencies

BDP EnviroTech works in close collaboration with the federal government and local agencies such as USEPA, State Water Boards and Local Water Districts, to help the public's awareness and apply our technology to the water industry.



Research Institutions

BDP EnviroTech collaborates with research institutions toward the definitive objective of improving water environment by understanding the mechanism of our technology and educating the next generation water experts.

Applications

MUNICIPALITY



Municipal Wastewater Reclamation



Landfill Leachate Treatment



Waterbody Pollution Control and Management

PRIVATE



Petrochemical
Pharmaceutical
Fine Chemical



Paper & Pulp
Textile & Printing



Food & Beverage
Hotel & Resort



California Energy Commission (CEC) Grant Award-Winning Project Site at City of Rialto, California, USA
(Copyright: Google Map Data)



Aquastar™

Every drop is so precious!

An Authorized Representative

Contact Us

Aquastar Consulting & Engineering Inc. is an authorized representative of BDP EnviroTech. Want to get in touch with us? Give us a short description of the wastewater problem you're having. We'll get you connected to the help you need.

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