

Wastewater Treatment



for reuse and recycle



Dedicated to a Healthy Environment

The rapid deterioration of the environment is a serious problem worldwide. Communities in every country are exerting pressure on public officials, industries, land developers and businesses to clean up the air, land and water.

Committed to maintaining a healthy world environment, American Engineering Services (AES), is providing solutions to water problems both domestically and overseas. Through its advanced technical knowledge and many decades of engineering experience, AES is able to offer proven state-of-the-art wastewater treatment, reuse and recycling technologies.

AES Expertise

AES derives its wealth of knowledge and expertise from its dedicated management and staff. They have established a long record of success for a wide range of clients by providing safe drinking water and purifying wastewater before it is discharged back into the environment or before it is reused or recycled.

Economic Approach

Most wastewater from various sources can be economically purified for reuse and recycle by AES's state-of-the-art technologies and processes. Faced with the scarcity of natural sources of quality water for potable and industrial use, the alternative will be to reuse and recycle treated wastewater. In many cases, the cost of treating wastewater for reuse or recycle is less than other methods of production and delivery of quality water, with the added advantage of preserving the environment.

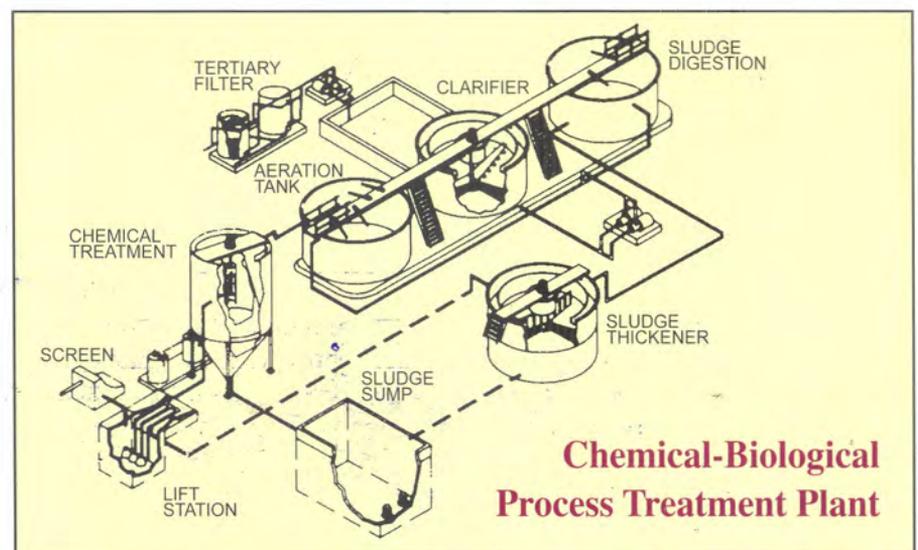


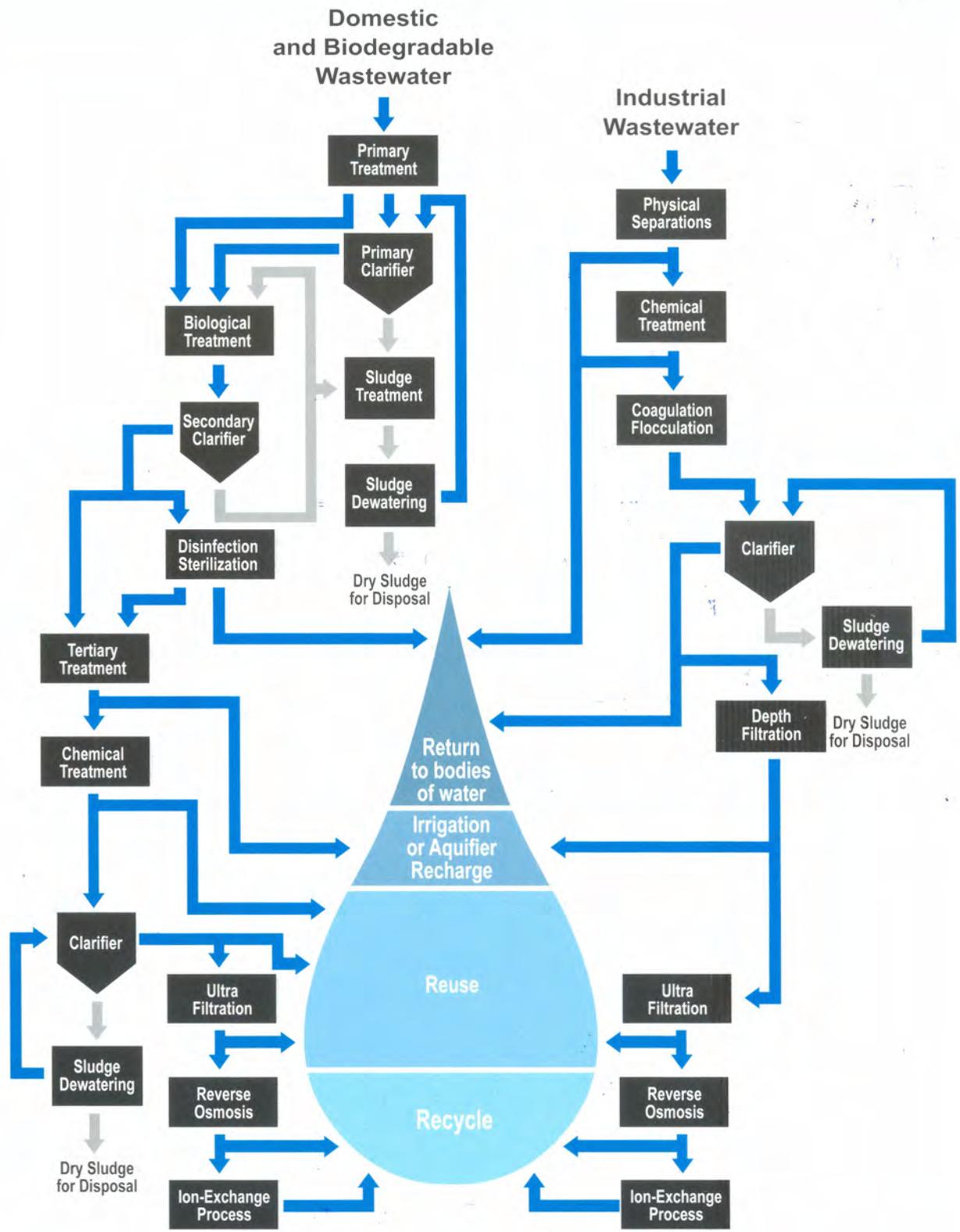
Flexibility to Serve Needs

AES will continue to focus on the environmental issues facing the world. Realizing the diversity of needs, environmental conditions, economics and geography in different countries, AES has developed wastewater treatment plants and systems that range from the simple operation to the large sophisticated arrangement.

AES Treatment Systems

AES combines its proven state-of-the-art water treatment processes such as ion-exchange, membrane separation and thermal processes with the conventional wastewater treatment processes such as physical separations, chemical reactions, physico-chemical treatment, biological processes, tertiary treatment and advanced wastewater treatment. In addition to the wastewater treatment plants and systems, AES has developed a range of chemical formulations to treat wastewater.





Typical Wastewater Treatment Processes for Recycle and Reuse

Wastewater from any source can be treated biologically, chemically, or with a combination of both. Domestic wastewater is treated biologically followed by chemical treatment if the treated wastewater will be for reuse or recycle. Most industrial wastewater requires chemical treatment, while some require further biological treatment.

AES Wastewater Treatment Plants and Systems

- Primary treatment process/screening, comminution, grit removal and primary sedimentation.
- Physical treatment, flotation, skimming, mechanical straining, oil and grease removal.
- Chemical treatment processes, neutralization, oxidation-reduction reactions and electro chemical processes.
- Physico-chemical processes, lime-soda-softening, coagulation and flocculation.
- Biological treatment processes as activated sludge, trickling filters, rotating biological contractors, nitrification, denitrification, nutrient removal, anaerobic and sludge digestion.
- Clarification of effluent and thickening of sludge.
- Disinfection, chlorination, ozonation and ultra-violet sterilization.
- Granular media filtration, pressure filters, activated carbon, iron removal and multi-media.
- Sludge dewatering and disposal.
- Advanced wastewater treatment (AWT).
- Membrane processes as ultra filtration, reverse osmosis and electro dialysis.
- Ion-exchange processes, softening, demineralization and specific ion removal.
- Chemical dosing, preparation and storage systems.

Typical Applications of AES Treatment Plants and Systems

- Domestic Water
- Food and Beverage
- Semi-conductors and Electronics
- Electroplating and Coating
- Metals Processing
- Pharmaceutical
- Pulp and Paper
- Chemical
- Petroleum and Oil
- Hotels, Resorts and Amusement
- Farms
- Power Plants
- Hospitals and Institutions



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Desalination

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Wastewater Treatment

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Skids

AES ARABIA LTD

Environmental & Process Engineering

P.O. Box 105689 Riyadh 11656, Saudi Arabia
Tel. : +966-11-477 2398 - Fax : +966 11 478 5456
info@aesarabia.com - www.aesarabia.com