

Efficient Wastewater Treatment

The majority of the Earth's surface is water in fact, just over 70% of the earth's surface is covered in water. It is, after all, The Blue Planet as David Attenborough reminds us .

Our water is under constant threat with humans representing the biggest factor impacting everything from water quality to actual access. It goes without saying that this most precious resource needs a lot more protection, which unfortunately can be difficult to achieve in practice.

While on the one hand, we all need clean water to survive and prosper, a by-product of our industrialisation, and increased population is the fact that we are contaminating more water be it in the guise of agricultural wastewater, sewage, industrial externalities and pollution.

What is Wastewater Treatment?

Wastewater treatment is a process used to convert wastewater into an effluent (out-flowing of water to a receiving body of water) that can then be returned to the water cycle, with minimal impact on the environment, or can be directly reused. However, a global estimate by UNDP and UN-Habitat is that 90% of all wastewater generated is released into the environment untreated. In many developing countries the bulk of domestic and industrial wastewater is discharged without any treatment or after primary treatment only. (Source: Wikipedia)

We are all too aware of the water problems that are impacting so many people and countries around the world.

Even major global cities like Cape Town have experienced water

shortage problems and struggle to meet the most basic demand of their population. Drastic measures had to be put in place as a short-term fix, and many other municipalities will, unfortunately, follow suit. The issue is not limited to domestic consumption as distressed water situations also impact agriculture, businesses and industrial use. It is not just countries with low annual rainfall that are struggling, as many tourist destinations have also been issuing warnings based on the impact tourists are having on the water supply.



OxyMem are dedicated to providing a wastewater treatment solution which can transform the Industry



What Impacts Wastewater Treatment?

A major factor relates to the ageing infrastructure with low treatment capacity that exists in many wastewater treatment plants. Many of these utilise energy intensive wastewater treatment processes that simply can not meet the growing population demands. They are often located in areas with restricted access to adjacent land on which to expand into. Other major drivers include the ever-growing populations, and the intensification of most industrial processes. As a result, these factors industrial wastewater treatment requires new and more efficient solutions than are currently being utilised.

How Efficient Wastewater Treatment Can Help ?

At one level the solution is a collective one. We all consume and dispose of water on a daily basis. As we'll note from the Cape Town example a collective effort can reduce consumption. However, in terms of Wastewater Treatment, municipalities need to lead the way ensuring that they take advantage of modern wastewater treatments that are more energy efficient, cost-effective, and can be deployed in existing plants. Most plants utilise conventional aeration systems, however, innovations with MABR and bubble-less aeration offer a compelling alternative that overcomes many of

the issues often cited as barriers to adoption for new approaches.

A Membrane Aerated Biofilm Reactor (MABR) deployment does not rely on bubbles to deliver oxygen to the biology that breaks down the wastewater. This makes MABR 7 times more energy efficient than Conventional Activated Sludge (CAS) and 10X more efficient than Moving Bed Biofilm Reactors (MBBR).

Summary

At OxyMem, we are dedicated to providing wastewater treatment solutions which continue to challenge the inefficiencies of the past 100 years. In doing so we enable our customers to build and operate energy efficient biological wastewater treatment plants and allow them to get closer to energy neutral wastewater treatment goals.

Download our whitepaper to learn how MABR can transform your Wastewater Treatment Plant

Whitepaper: How OxyMem MABR Can Transform Your Wastewater Plant

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