

Zero Liquid Discharge (Zld) Systems Market - Growth, Trends, Covid-19 Impact, and Forecasts (2023 - 2028)

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Report description:

The zero liquid discharge systems market is expected to value around USD 6,290 million by the end of this year, and it is expected to register a CAGR of greater than 8% during the forecast period.

The COVID-19 pandemic had a negligible impact on the market. However, the market has been estimated to grow at a steady pace during the forecast period.

Key Highlights

One of the major factors driving the market is the rapidly increasing demand for freshwater.

However, the high capital and energy cost of ZLD system technology are likely to restrain the market.

An increase in investments in the deployment of ZLD systems is expected to provide growth opportunities for the market.

Asia-Pacific region is expected to dominate the market over the forecast period.

Zero Liquid Discharge (ZLD) Systems Market Trends

The Power Generation Industry is Expected to Dominate the Market

Water management is a high priority for power plant owners. Many factors can make it a particular concern, such as stricter environmental restrictions on wastewater discharge, regional water shortages, and the public perception of power plants. Implementing zero liquid discharge (ZLD) can help solve these issues.

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The ZLD process eliminates discharge at the end of the wastewater treatment cycle and allows the processed water to be reclaimed and reused in a variety of advantageous ways

Zero liquid discharge is particularly relevant for the steam electric power industry, as coal-fired power plants have a large water demand and water discharge is more challenging. According to a BP Statistical Review, electricity generation globally increased by 6.2% from 2020 to 2021.

Around 70% of the total electricity generated in China comes from coal-fired power plants. Most of the thermal power plants in China are located in water-scarce regions. This conflict between energy demand and water deficit gives rise to the demand for ZLD in China.

According to the forecast by the World Energy Outlook - International Energy Agency, more than 2,457 gigawatts (GW) of power capacity is likely to be installed worldwide over the next 25 years.

Additionally, the net-zero emissions target by 2030 positioned by the IEA (International Energy Agency) is likely to lay additional gravity on clean energy, which, in turn, is expected to increase the demand for the ZLD market.

Hence, owing to the aforementioned factors, the power generation industry is likely to dominate the market during the forecast period.

Asia-Pacific is Likely to Witness the Highest Growth Rate

The Asia-Pacific ZLD systems market is witnessing significant growth, owing to high demand from countries like India and China. China and India have made several government regulations to install ZLD systems and reduce water pollution by implementing water treatment techniques.

The Indian government issued a policy to install ZLD facilities in all textile plants that generate more than 25 metric cubics of wastewater per day. The Central Pollution Control Board (CPCB) in India has also released guidelines on the techno-economic feasibility of the implementation of zero-liquid discharge (ZLD) for water-polluting industries.

In March 2021, the Indian government informed that an investment of USD 0.01078 million is anticipated in the chemical sector by 2025, with opportunities offered by the increase in demand by about 9% per annum over the next five years, with about 168 investment prospects and about 29 projects under development. This is expected to drive the demand for ZLD systems in the country in the coming years.

China, under its 14th Five-Year Plan (2021-2025), has set the target for coal-power capacity to about 1,100 GW. In the first half of 2021, China planned to build 43 new coal-fired power plants.

In February 2022, the eastern Chinese coastal province of Zhejiang approved the construction of a USD 1.10 billion coal-fired power plant with 2 gigawatts (GW) of generating capacity.

Furthermore, China is the largest producer of crude steel in the world. According to the World Steel Association, China is the largest producer of steel in the world. In 2021, the country's annual production capacity of crude steel stood at 1,032.8 metric tons, registering more than 50% of the global production. The strong growth of steel production in the country is estimated to drive the ZLD systems market during the forecast period.

Owing to the aforementioned reasons, Asia-Pacific is likely to witness the highest growth rate.

Zero Liquid Discharge (ZLD) Systems Market Competitor Analysis

The zero liquid discharge (ZLD) systems market is consolidated in nature. Some of the major recognized players in the market (in no particular order) include Veolia, SUEZ, Aquatech International LLC, GEA Group Aktiengesellschaft, and Evoqua Water Technologies LLC, among others (not in any particular order).

Additional Benefits:

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The market estimate (ME) sheet in Excel format
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