

Mie Plant Green Factory Promotion Efforts

Wastewater recycle system achieves a 40% reduction in water volume by regenerating and recycling industrial wastewater

Even Earth, the “planet of water,” has limited water resources and, as such, the use of both water and air is being reconsidered. The new second 300mm wafer fab at Mie Plant promotes a reduction in water volume by introducing a wastewater recycle system for water that cannot be retrieved as ultrapure water and enables it to be made useful as recycled wastewater in addition to the conventional collection and recycle of ultrapure water.

Water Recycling by Reprocessing Wastewater

Our new second 300mm fab receives 4,000m³ of water per day from waterworks and industrial water facilities. More than half of the ultrapure water used in the clean room is recycled using the purified water retrieval system. The remaining water has conventionally been released into rivers after wastewater treatment. In this plan, 2,000m³/day, approximately half of the remaining water, is to be processed by the wastewater regeneration system for recycling.

The wastewater recycle system separates water that cannot be retrieved as ultrapure water by water quality at the water quality monitoring system and regenerates 2,000m³/day as recycled wastewater.

A dramatic reduction in the use of water resources has been realized by using this recycled wastewater in facilities that can utilize poor-quality water such as exhaust gas abatement systems and toilets. By introducing this wastewater recycle system, we have dramatically reduced the volume of water used from 14m³ on the old production line in conversion to the 200mm wafer unit and 7m³ in the new first 300mm fab to 4m³. This achieves the objective of reducing the volume of water by approximately 40%.

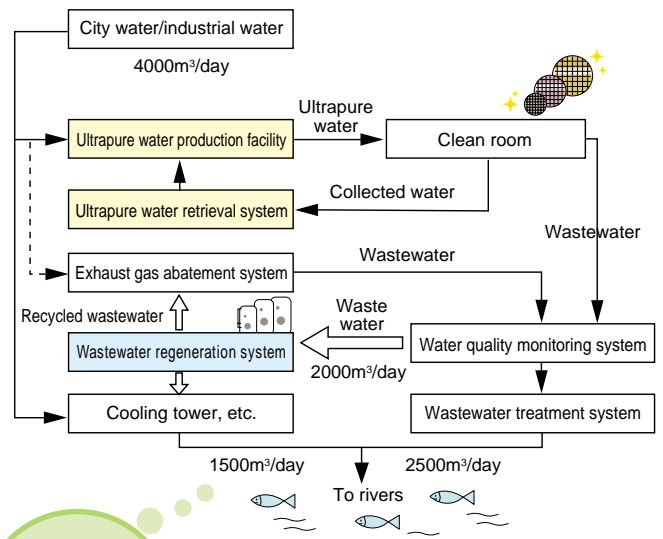


Recycled Wastewater Utilization

Recycled wastewater is produced by a water recycling system that treats and regenerates rainwater and wastewater.

The quality of recycled wastewater is between that of clean water and sewage. It cannot be used for drinking. However, it is suitable as toilet flushing water and cooling water. It can also be released into rivers and irrigation canals, can replenish freshwater lakes, can irrigate plants and gardens, and so forth.

It is currently receiving attention as a useful, earth-friendly method of recycling a valuable environmental resource as it reduces the sludge treatment cost as well as the amount of sludge generated in purification and treatment processes. Systems that can be added to existing home facilities at a low price are also on the market.



Recycling Wastewater through Reprocessing