

# Transforming Wastewater Recycling & Treatment Through an Innovative Service Model

Turbaashu Bhattacharya, Business Head of Mumbai-based company Roserve Enviro Pvt. Ltd. talks to Mayur Sharma about the concept and features of Roserve.



## First, tell us about the background of Roserve Enviro.

**Mr. Bhattacharya:** Roserve Enviro Pvt Ltd (A joint venture between Concord Enviro Pvt Ltd and Danish Climate Investment Fund - DCIF) was set up in October 2016 to cater to the fast-growing industrial wastewater recycling, and treatment sector. Concord Enviro is a leading manufacturer and service provider of industrial wastewater recycling and desalination systems whereas DCIF is a fund managed by IFU, an investment fund owned by the Government of Denmark, with a mandate to invest in the developing countries.

## What is the concept of

## “Roserve”?

**Mr. Bhattacharya:** The concept originates from Reverse Osmosis (RO) + Service = RO-serve. Using the technology of Reverse Osmosis, we recycle wastewater for industries. Roserve provides a blend of advanced technology and financial solutions delivering a 'Pay as you Treat' solution. This unique FinTech Solution shifts the responsibility of wastewater management to Roserve including Investment, Operations & Compliance. Through our wastewater recycle solutions we have been successful in reducing the consumption of freshwater/ groundwater for industries, and have also enabled them to move towards Zero Liquid Discharge (ZLD).

## What are some of the salient features of this approach?

**Mr. Bhattacharya:** Roserve is a truly a “solution-based approach”. In this approach, absolute filtration, using membranes for water recycle and consequent zero liquid discharge, provides the best options from a safe environment impact perspective. The treatment philosophy followed by us is to recycle the wastewater back to the process using the lowest energy and keeping the cost of recycled water to the minimum possible. The cost of recycled water is equal to the cost of wastewater treatment & recycle minus the cost of fresh water replaced. With increasing scarcity and cost of fresh water, and reducing the cost of treatment & recycle, the cost of recycled water will be the lowest in the long-term.

This approach also increases compliance with both local government and customer requirements. The recycling allows our client to meet more than 80% of their total daily water consumption, thereby, reducing their intake of fresh water significantly. It reduces client's dependence on freshwater/ groundwater, thereby, reduces the pollution and groundwater contamination as well.

It gives the lowest operating and capital cost solutions by deploying proven and sustainable solutions for wastewater reuse and Zero Liquid Discharge (ZLD). There is a complete outsourcing of wastewater reuse and zero liquid discharge responsibility. It also has a phase-wise approach to adapt the solutions and achieve zero liquid discharge. And, most importantly,

the Roserve solution enables all industries in achieving the long-term Sustainability thereby ensuring the reduction in carbon footprint while at the same time meeting environmental regulations.

## Which technologies are involved in this model?

**Mr. Bhattacharya:** The technologies which we employ in this model are Straight Tube RO Systems, Plate Frame RO Systems, Waste Heat Evaporators using Membrane Distillation, MVR Systems, Conventional Evaporators, Finishers & Crystallizers, and the Brine Recovery.

## What are the benefits of this unique model for your industrial customers?

**Mr. Bhattacharya:** I can give you several benefits. First of all, there is “Pure Service Concept” as there is no upfront capital investment or investment in non-core assets. The upfront capital investment for the customer is zero and it conserves precious capital for core business requirements. Then there is the “Pay-Per-Use” benefit, as the costs are guaranteed! The customer pays only for what he gets - Capex is converted into Opex.

Each solution is specifically designed, keeping in mind the requirements of the client. There is flexibility to start with part effluent recycle and achieve the ZLD over an agreed target period. Customer buys nothing, just defines the need and scope. The service agreement period can be designed for >1 year to < 10 years.

The pay-per-use model transfers the risk of technology selection to the service

provider. As per the need of the client, Roserve brings the best-suited technologies, such as RO/MEE/Dryers, etc. There is zero asset risk as the residual risk vests with the owner of the asset. The recycle/ ZLD operations handled by Roserve team deployed at customer's premises helps the clients in focusing on his principal business needs. The contracts can be “structured” to meet the client's current operational costs. The rentals are lower due to residual value dependence - the lease period is lesser than the economic life of the asset.

As we manage the entire life-cycle of asset taken on the lease which includes insurance, repair & maintenance, the client only focuses on the best utility of the asset, while complete maintenance and service upkeep is taken care of by us. The client also has the flexibility to purchase the asset, go in for another release of the asset or return the asset to the Roserve as per terms mentioned in the service agreement. The O&M (Operations and Maintenance) contracts can be continued even after the end of the contract period if the customer decides to purchase or renew the lease.

## Anything else you would like to share?

**Mr. Bhattacharya:** We believe that Roserve is very much a business concept for the future as we move ahead into a service-oriented structure, with a total “Pay Per Use” type model. We are very confident that such an option would find traction at our customers' end for the solutions related to the recycling of wastewater at their manufacturing facilities and plants.