



GEMI[®]

Collecting the Drops:

**A Water
Sustainability
Planner**

Case Example

The Dow Chemical Company: Providing an Innovative Reclamation System for a Petrochemical Plant in Taiwan

The surge in economic development the Asia Pacific has brought with it demand for process water and need for solutions to supply shortages. Design of these solutions must respond to the needs of the business, as exemplified in this instance, where a system designed by The Dow Chemical Company proved instrumental in the success of an integrated membrane-based water reclamation system.

China American Petrochemical Co., Ltd. is the largest purified terephthalic acid (TPA) producer in the world for a single site. Because the plant is located in a water-limited area with recurring seasonal droughts, water rationing has caused operational difficulties. In addition, the total dissolved solids (TDS) concentration of the water supply has been increasing due to saltwater intrusion to feed water sources.

To solve the water shortage during droughts and prepare for future expansion, the company's plant in Taiwan installed a water reclamation system using FILMTECTM BW30-400 elements. Under the appropriate pretreatment, the thin-film composite reverse osmosis membrane (BW30) has had no flux decline and no rejection losses for nearly three years operation. The reclaimed water quality is better than that of municipal water, extending the regeneration frequency of the ion exchange demineralizer system.