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**Collecting the Drops:**

**A Water  
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## Case Example

### **Abbott Laboratories: Wastewater Recycling, Freshwater Savings — and Now Reusing Water for Cooling and Steam**

*Abbott's bulk pharmaceutical manufacturing facility in Puerto Rico is a U.S. plant that continues to benefit from water management practices long in place, and that still finds ways to conserve and reuse resources.*

An Abbott bulk pharmaceutical manufacturing facility located in Puerto Rico has had several successes over the past decade implementing water-recycling projects. In general, these projects strive to maximize the reuse of treated wastewater from the facility's on-site wastewater treatment plant processing approximately 2.5 million gallons per day (MGD). The reclaimed water now is used within various plant systems that require large amounts of water. Collectively, these projects avoid in excess of 1.3 MGD of groundwater extraction and reduce wastewater discharges to the local publicly owned treatment works by an equivalent amount.

Specifically, in the mid-1990s, a project was completed to recycle treated wastewater from the secondary stage of the facility's biological wastewater treatment plant. The recovered water now provides 100 percent of the make-up supply to a process wet scrubber air emission control system at the facility. This wastewater-recycling project yielded a water savings of over 900,000 gallons per day.

In 2001, the facility completed a project that uses polished effluent from the facility's wastewater treatment plant for make-up water in a plant cooling tower system. The make-up water is first treated at a reverse osmosis system installed in the treatment plant's tertiary stage. The freshwater savings from this project amounts to approximately 450,000 gallons per day.

The above two projects result in approximately 65 percent of the facility's daily wastewater flow volume being recycled and yield a total water savings of over 1.3 MGD.

Most recently, the facility has started up an ultra-filtration treatment system upstream of the wastewater treatment plant's reverse osmosis system. When fully operational, the additional treatment will result in the recycling of up to 80 percent—about 1.6 MGD—of the facility's wastewater. The recycled water will be reused as cooling water and for steam generation.