



SUCCESS STORY

Al-Baha Chlorine Plant Significantly Reduces Water Usage and Costs

Modest investment in water sub-meters helps pinpoint areas of greatest potential savings.



Sub-meters were installed throughout the plant.

The facility will cut its use of water by almost 40% (equal to approximately 36,000 m³ per year, based on 2012 water consumption rates) and significantly reduce wastewater generation.

The Al-Baha Company for Caustic Chlorine Industry facility, located in Jordan's Al Hallabat Industrial Park, made a fairly small initial investment that has yielded great results. Installing 10 water meters throughout the plant allowed Al-Baha to tell how much water is used in different parts of the manufacturing process and thus identify water-saving options with particularly high potential for savings.

The sub-metered areas are monitored by the quality department and the information is recorded regularly. These meters cost about 3,000 JOD, including parts and installation, as well as operations' stop-time cost. Manager Dr. Khazal Al-Janabi noted that the meters had opened up "many opportunities for water saving and better water management practices. Water balance is better established at the facility, to track water-in-product and wastewater quantities for each process."

For example, the sub-meters revealed that the facility was consuming a significant amount of water in the daily washing down of equipment. This daily washing was necessary because the water brought in via tankers was of poor quality. The facility management team therefore decided to install a reverse osmosis (RO) system at the facility-owned water well. The higher quality water from the RO system could then be used for all the facility's industrial water needs, so flushing and washing were required only weekly or biweekly rather than daily.

Additional environmental benefits were also achieved by reducing diesel fuel emissions, since there was less need to transport water to the site via tankers.

Al-Baha Company for Caustic Chlorine Industry is one of 30 industrial partners working with USAID to reduce industrial pollution and conserve scarce water and energy resources – in ways that benefit the bottom line. The Water Reuse and Environmental Conservation Project examined water and energy use, material and waste flow, production processes, quality control, and other aspects of each facility's operations. The assessments suggested options for minimizing pollution and saving water, energy, and money. Costs and payback periods for various options were also analyzed.