Northern Chile and Peru: a hotspot for desalination

Richard E. Dixon
Xylem Water Solutions, Alcalde Guzman 1480, Quilicura, Santiago, Chile
Tel. +56 2 562 8660; email: richard.dixon@xyleminc.com

Received 6 March 2012; Accepted 15 June 2012

ABSTRACT

Northern Chile and Southern Peru are areas that are rich in mineral resources, but where water is very scarce. The Atacama Desert, while not the hottest desert in the world, is the driest. The first Mining projects in the region used water from underground aquifers containing brackish water. The overexploitation of these water resources has led to depletion of the aquifers, and there is now intense pressure on Mining companies to look elsewhere for water resources. Mining projects are often located at high elevations and great distances from the coast. There are currently more than ten large projects with a very aggressive timeline due to the high price of metals. The desalinated water supply for most of these projects will involve hundreds of millions of dollars and will be very challenging to execute, as they involve infrastructure requirements that cost a lot more than the desalination plants, such as pipelines and power supply and will require a consortium approach. The full paper will discuss the background of the most important projects and then focus on community and environmental issues, technical aspects, project delivery modes (EPC/EPCM/BOO), and the timing for their execution, and the positions of the different stakeholders.

Keywords: Mining; Desalination; EPC; EPCM; BOO