In 2019, the seawater desalination market is set to experience its most significant growth in the last 20 years, according to the new IDA Water Security Handbook. The handbook was published by the International Desalination Association (IDA) and Global Water Intelligence (GWI) in January 2019. Accruing a new level of investment over the last 3 years, the overall desalination market has remained steady; however, several factors are driving the surge in new desalination projects. These include rising demand for clean water, decreasing capital and operational costs of desalination, and the need to replace lost capacity in the desalination market, among others. At the same time, water reuse has become an increasingly important part of water resources management around the world. The global water reuse capacity has doubled since 2010, with cumulative contracted capacity increasing from 59.7 million m/d in 2010 to 118 million m/d in 2017.

According to the 31st desalination inventory, which covers July 2017-June 2018, the total global installed desalination capacity stands at 97.4 million cubic meters per day (MCM/d) while the global cumulative contracted capacity is 134.7 million m/d. As of June 30, 2018, more than 20,000 desalination plants had been contracted around the world. IDA Secretary General Shannon McCarthy relates this industry growth to global trends. “As climate change continues to impact our world, along with industrial and population growth, the demand for clean water increases. Desalination and water reuse: non-conventional, environmentally sound water supply solutions are in keeping with the circular water economy and offer solutions to water scarcity. The trends we are seeing point to a broad recognition that these advanced water treatment solutions are essential to the health and well-being of people and economies around the world, both now and in the future.”

Desalination costs down

“The biggest breakthrough in the past year has been the cost of desalination,” says GWI Publisher and Editor-in-Chief, Paul Gargano. “One of the key factors of the recent desalination projects is the low cost of the desalination plant. Factors such as membranes and materials, which are more highly efficient, have contributed to the plant’s cost reductions. Costin explains. Lower salt water prices have reduced the cost of the desalination plant components, many of which are manufactured from oil-derived materials, such as membranes and membranes. Additionally, energy savings has been realized through advances in membranes that require less energy for desalination. The reduction in energy costs leads to lower volume of discharge as well as lower overall costs. Lower water costs also mean lower volumes of discharge and lower overall costs. Lower water costs also mean lower overall costs.”

Desalination projects totaling over 1 million m/d in additional new capacity in the region. No single factor is catalyzing the boom of desalination projects in GCC countries, says IDA President Miguel Angel Sanz. “The boom of desalination projects is also due to the lagging market in the world. By the end of 2017, the majority of the capacity is made up of large wastewater treatment plants China and India.”

From a geographic perspective, countries in the Middle East—the largest market for desalination—will see 26 percent of the total capacity in 2017 compared to approximately 15 percent in 2016. The majority of this capacity is made up of large wastewater treatment plants China and India. “The majority of this capacity is made up of large wastewater treatment plants China and India.”

In the Americas, 2018 was the year with the highest level since 2012 and a 26-percent increase over 2016. The majority of this capacity is made up of large wastewater treatment plants China and India. “The majority of this capacity is made up of large wastewater treatment plants China and India.”

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Industrial desalination grows 21 percent

The industrial desalination market grew by 21 percent in contracted capacity between 2016-2017, according to the IDA Water Security Handbook. Increased activity in upstream and downstream oil and gas accounted for more than one third of contracted industrial capacity in 2017 while rising commodity prices have reduced desalination activity in the mining industry, with 201,000 m/d of new capacity contracted in the first half of 2018 alone. Rapid growth in the microelectronics industry is also creating opportunities for desalination technologies, with contracted capacity in this sector rising from 16 percent.”

IDA Director and Managing Director of Aquafina Desal Sharma says the boom of desalination projects in the Gulf and Egypt has been driven by a number of factors. “As a solution to the world’s growing water problems, water is driving growth in the use of desalination and other forms of advanced water technology in industry.”

The Asia-Pacific desalination market grew in 2017; primarily due to the Chinese desalination market which advanced water capacity reached its highest level since 2010. In the Americas, the 2018 was the most active year for desalination since 2013. In sub-Saharan Africa, Kenya and the UAE have both doubled their desalination capacity at two projects, 100,000 m/d and 30,000 m/d, respectively. The growth of desalination is happening in small and emerging market countries. Nineteen percent of desalination capacity contracted in 2017 employ new desalination processes with the use of thermal technologies for large-scale projects remaining the predominant technology. This growth in the water reuse market is driven by growing environmental regulation demanding lower values of discharge as well as higher purity of wastewater, driving the need for water reuse, particularly in emerging market countries. “All of this, coupled with the increasing demand for water reuse and higher purity, is creating an interesting and emerging market need for better advanced water technology. Water is a widely used raw material in industry, and the way in which it is treated can have a significant impact on process efficiency. In certain cases, it takes more water to make the same element than it did in the past, and end-users are also finding opportunities where higher purity of water in the process results in better production yield. This is also evident in the oil and gas industry with the advent of smart water processes that adjust the water quality to the geology in the well to minimize scale and metal fouling or precipitation, all of which serve to maximize yield.”

“Removing dissolved salts from water and other technologies, which turns low-quality wastewater used for industrial process water, will be an important driver of industrial efficiency moving forward.”

Global water reuse market trends

The importance of water reuse as a solution to the world’s growing water problems has escalated significantly over the past few years. Increasingly, many regions are looking to wastewater reuse over large-scale desalination as a solution to drought-induced water scarcity. For example, the state of California and the United States are reusing potable water reuse of wastewater, and reuse is a major driver of the industry’s growth. Water reuse is a solution to the world’s growing water problems has escalated significantly over the past few years. Increasingly, many regions are looking to wastewater reuse over large-scale desalination as a solution to drought-induced water scarcity.”

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The 2019 IDA World Congress will be held on October 20-24 in Dubai, UAE. For more information, visit www.ida-deal.org.