

Water/wastewater resilient in challenging market conditions

COVID-19 is impacting specific valve markets, for example, oil and gas for mobility, more severely than others. Water and wastewater will be gaining market share over the next few years, given the need for rejuvenating ageing water/wastewater infrastructures and constructing new ones in emerging markets.

By Bob McIlvaine



Municipalities and investor-owned utilities account for 18 per cent of worldwide valve purchases. Process applications account for 45 per cent of valve revenues. The industry spends 37 per cent of total valve purchases on its water and wastewater applications. For valve manufacturers who already provide products for industrial water and wastewater, there are many applications where existing products can be used. There is a difference between those valves used to deliver municipal wastewater to treatment plants and those used within the plant. Huge specialized valves are used to transport wastewater long distances to treatment plants. A few companies concentrate on these large applications.

Sewage to biogas

Treatment processes within municipal wastewater plants typically utilize filter presses, belt presses and centrifuges for dewatering. The same equipment is used for dewatering in mining, steel, food, chemical processing applications and industrial wastewater treatment. In many cases, industrial plants have to decide whether to discharge wastewater into the

sewer and pay substantial sums to municipalities or to provide the equipment themselves. Some large wastewater utilities such as the Chicago Water Reclamation District seek out sewage from food plants to make biogas from the sewage.

Several large food processors are doing the opposite. They own municipal treatment plants in small rural cities and treat the city sewage as well as their waste. They frequently convert the sewage to biogas for onsite power. As a result, the valves which are employed in industrial wastewater treatment, are the same valves used in municipal treatment.

Investments in infrastructure

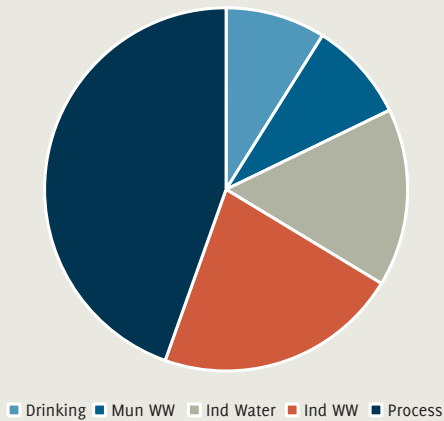
In 2020, the US-market for valves for water and wastewater applications has been negatively impacted by the coronavirus. There have been some temporary shifts as residential water use has increased while industrial and commercial use has decreased. Utilities in the U.S. have lost revenues due to non-payment of fees by those in financial distress. There has been some postponement of projects. Democratic presidential nominee Joe Biden has rolled out a variety of clean energy and

About the Author

Robert McIlvaine is the CEO of the McIlvaine Company which publishes Industrial Valves: World Markets. He was a pollution control company executive prior to 1974 when he founded the present company. He oversees a staff of 30 people in the U.S. and China.
<http://www.mcilvaine.com>



World Valve Revenues



infrastructure plans. Most recently, on July 14 he unveiled a four-year, \$2 trillion plan to reinvigorate the U.S. economy by investing in infrastructure. Related to water utilities, Biden’s plans to focus on investing in water infrastructure and addressing drinking water contaminants. As COVID-19 spreads across the globe, the consequences of chronic underinvestment in water and sanitation services for billions of people are becoming abundantly clear. Right now, the global focus is on helping families to survive this disease outbreak. But the United Nations advises that, even as we get on top of the pandemic and save as many lives as possible, we need to build resilience for the future.

More investments needed

Without action, we remain dangerously vulnerable to a range of growing threats, such as a sky-rocketing demand (residential, agriculture, industry, energy) for water. Meanwhile, many water sources are becoming more polluted, and the impact

of climate change on water resources, making these scarcer and more unpredictable, wreaking havoc and displacing millions of people.

There, the United Nations Secretary-General has called for a comprehensive multilateral response amounting to a double-digit percentage of global gross domestic product (GDP). This is intended to address the financial shock of the recession. The economic case for investments in drinking water, sanitation and hygiene services is clear. In urban areas, every U.S. dollar (USD) invested in basic sanitation returns USD 2.5 in saved medical costs and increased productivity. For drinking water, the average return is USD 3.0.

In less affluent geographical areas, it will be a significant challenge to provide adequate funding. In water-scarce areas, desalination will be highly desirable but also expensive. China has invested in desalination in a big way. The value of this investment has been proven in Israel, where desalination supplies nearly all the water needs.

Brighter future

The future of the valve industry is made brighter by the movements toward desalination, water reuse, and tertiary water treatment. The investment in valves for drinking water from wells or lakes is small by comparison to that created by water reuse. Desalination requires a substantial investment in corrosion-resistant valves. Whereas many valve suppliers are struggling some U.S. based suppliers are doing well. John Ballun, CEO of Val-Matic, when asked for his outlook on the market. “With the onset of Covid-19 in North America during 2020, the U.S. municipal valve industry saw a significant drop in

activity starting in March and hit bottom in May. As the industry reacted and learned to do business under pandemic conditions, we have seen a steady recovery throughout the year and have seen new order levels return in September. Looking ahead, we track the Construction Spending statistics from the U.S. Census Bureau. We found that, after hitting bottom on January 2017, the combined Water Supply and Sewerage seasonally adjusted construction statistics have climbed from \$29 billion to \$45 billion. This development represents the pent-up demand for infrastructure spending, based on robust funding of the State Revolving Funds and WIFIA loans by the Trump Administration. As a result, we expect strong demand for waterworks valves well into 2021.”

Advancements in actuation and control

We also asked John about the importance of product development. “Product innovations have always played an essential role in the municipal valve market. A few years ago, we launched our AWWA ball valve for use on pump discharge and severe velocity applications like pipeline blow-off valves. When used on pump discharge, a quarter-turn ball valve not only prevents pressure surges by controlling changes in fluid velocity but it also has a negligible head loss and therefore pays for itself many times over in reduced pumping costs.”

To provide greater versatility for this valve, Val-Matic has been developing a metal-seated version of the valve for applications with higher pressures to 300 psi (2100 kPa) and fluid velocities up to 35 ft/sec (10.7 m/sec). “There have been further advancements in actuation and control as well. Valve actuators can be equipped with smart features such as adjustable timing designed to prevent surges and remote system monitoring and diagnosis of valve and pumping system operation. Pictured is an AWWA ball valve in Waco, Texas delivering reuse water from a WWTP to a nearby power plant.”

Concluding, the water and wastewater valve market has not had the spectacular surges experienced in oil and gas. On the other hand, water/ wastewater has been. It will continue to be a substantial and growing market for valve suppliers, especially given the increased demand and scarce supply, which drives investments in water treatment and more efficient water usage throughout the supply chain.

Relative Valve Cost per MGD

