

Tortoise QuickTake Water Podcast



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Welcome to the Tortoise QuickTake podcast. Thank you for joining us. Today, Tortoise provides a timely update on trending topics in the market.

Nick Holmes: Welcome to the Tortoise podcast series on the water sector. Thanks for listening. I am Nick Holmes and I'm joined by Evan Lang. We are the co-portfolio managers of the Tortoise actively managed water strategy. Recently, Evan was in Denver at the American Water Association's ACE19 Water Industry Conference and Expo. We wanted to catch up with Evan following the trip to discuss his key takeaways from the conference and discuss notable trends in the U.S. water sector.

Evan, can you tell us a little bit more about what you were doing in Denver?

Evan Lang: Sure, as you mentioned, I attended that annual American Water Works Association trade show in Denver on an RBC-hosted trip that included a water facility tour, meetings with management teams of our portfolio companies and a full day of booth tours at the expo. We had a great trip at the well-attended conference that featured over +470 exhibitors. We had a number of insightful conversations and it is always a useful exercise to see, touch and feel the innovative offerings, as well as speak to those in the field selling the products and services.

Nick Holmes: Sounds like a fantastic trip. Talk a little bit about what stood out to you during your meetings in Denver.

Evan Lang: I continue to be amazed by the innovation and creativity in the water sector as the industry embraces technology and transitions from analog to digital. This is all occurring in the backdrop of a significant opportunity in the U.S. Let's take a moment to frame the opportunity set. Water infrastructure in the U.S. is in a state of despair following years of underinvestment. The last period of significant investment followed World War II and now much of the infrastructure needs to be replaced or upgraded. Some cities even use water pipelines that entered into service in the late 1800s! As result of the over-aged infrastructure, the American Society of Engineers consistently grades U.S. water infrastructure with a letter-grade of "D".

Nick Holmes: Wow, it's really hard to believe it's been that long since major investment has occurred in the U.S. water sector. Is that why we see frequent water main breaks, boil warnings and flooding on the news?

Evan Lang: Yes, that's exactly right. The amount of water lost due to poor infrastructure in the U.S. is eye-popping. We have a major water main break every two minutes along the one million miles of pipelines across the country. We currently lose 20-30% of all water supplied due to leaks, which equates to over 2 trillion gallons of water every year. Which is enough to supply water to nearly six New York Cities! On the wastewater side of the equation, 900 billion gallons of untreated sewage is discharged into rivers and streams because of insufficient water infrastructure, some of which eventually makes it into the water supply you drink on a daily basis.

Nick Holmes: That's a scary thought. What does that mean in the context of the water crisis we've discussed in past podcasts?

Evan Lang: Yeah, that's a good question. As you noted, the world is facing a water crisis today, as over 30% of the population does not have access to clean water and sanitation services. While most in the U.S. have access to clean water at any given moment, this is not the case everywhere in the country. Within the past few years alone, we have faced a severe water shortage in California, a water quality crisis in Flint, Mich. and overrun water infrastructure along the Gulf Coast and Northeast. Dilapidated infrastructure is found almost everywhere in the U.S. Looking forward, a growing population, rising industrial water usage and extreme weather is expected to drive further stress on water systems.

Nick Holmes: Interesting. So how do we fix this issue?

Evan Lang: We simply need more investment. Estimates show that \$700 billion to \$1 trillion is required over the next decade to improve the infrastructure in the United States to achieve a state of good repair.

Nick Holmes: That's a big number! I'd imagine that it will be difficult given approximately 90% of water infrastructure is owned by the government entities, especially in light of stretched local balance sheets and lack of expertise in managing water assets by government officials. How do we achieve that level of investment to improve our water infrastructure in the U.S.?

Evan Lang: Yeah, it will certainly be a challenge. We believe the answer is two-fold. First, we believe private sector capital, including investments in public listed securities, will play a critical important role in solving the funding gap. The second driver is technology, which brings us back to the trade show I attended last week.

The technology on display last week was incredibly impressive, especially around new "smart water" offerings. We believe new "smart water" offerings will play a key role in the pursuit of solving the water crisis largely through its ability to reduce water loss. Implementing "smart water" offerings is faster to implement and much cheaper than building or replacing steel pipelines. For a capital-constrained sector that needs quick response times, these benefits are awfully compelling.

Nick Holmes: I continue to hear the phrase "smart water" more and more. Can you explain exactly what that means?

Evan Lang: Absolutely, "smart water" is essentially an integrated network of sensors that collect, transmit and analyze data in real-time. Think "internet of things" meets the water sector.

Let me try to describe it through an example of what I saw at the conference. In demonstrating "smart water" offerings at the trade show, companies exhibited a dashboard that featured a display similar to Google Maps that highlighted all the water sensors installed on water infrastructure in a town. On this dashboard, the display showed key operating statistics of each sensor on the side of the map, much like where you input directions in Google Maps. The metrics on the dashboard includes stats such as water pressure, pH levels, water temperature and water quality. The real-time communication of these stats allow utilities to quickly identify leaks, modify the water treatment processes and adjust the flow of water remotely. Some "smart water" offerings are even implementing sophisticated algorithms that use machine learning to predict water main breaks and determine the most efficient use of maintenance capital.

Nick Holmes: That's fascinating. Do you know of a specific example where this technology has been implemented in the U.S.?

Evan Lang: Definitely, a great example is a project conducted by Xylem for Dallas Water Utilities in Texas. Located in a region that faces water stress from severe droughts, Dallas is laser-focused on managing water loss in order to provide water to its ~1.3 million inhabitants. To mitigate water loss, Dallas Water Utilities adopted a comprehensive leak detection program using a collection of Xylem's smart water offerings. The results have been impressive, with the technology locating and repairing 120 leaks, leading to a 17% decrease in main breaks and an estimated water savings of 7.2 million gallons per day, with a cost 20% below new water resource development.

Nick Holmes: Sounds like the technology is making a significant impact in Dallas. On the flip side, you mentioned wastewater treatment earlier, and I wanted to follow up on that opportunity. Are smart water offerings also being implemented in this area of the water value chain?

Evan Lang: Yes, absolutely. This is an attractive area of growth, and the benefits are substantial. I'll share another example to highlight these benefits. This example takes place in the City of South Bend, Ind. where the city faced a billion dollar consent decree from the EPA for combined sewer overflows. In order to meet the consent decree, the city turned to a combination of sensors and artificial intelligence to provide real-time data and system control. The result of implementing the

technology is astounding. The city reduced sewer overflow by over 70% and lowered E. coli concentrations in the St. Joseph River by 50%. The technology also cut the capital required to comply with the consent decree by more than \$500 million.

Nick Holmes: Pretty impressive results. How is Tortoise positioned for this investment opportunity?

Evan Lang: Sure, great question. As noted earlier, we believe the private sector, including investments in publicly listed securities, will play an expanded role in meeting the investment needs of the industry. This is where Tortoise can step in as we are positioned in our active and passively managed water strategies to align the capital needed to improve domestic infrastructure and provide clean water and proper sanitation across the U.S.

We are big believers and supporters of the innovative technology discussed today as it offers the most economic solution to address the needs across the water sector. We believe we are in the early innings of the technology adoption cycle, providing a line of sight to attractive earnings growth going forward. Companies with higher-end technologies garner premium multiples due to above-average growth opportunities, leading profitability and engineering barriers to entry. As a result, we believe we may see the industry multiple re-rate as companies adopt technology offerings. Visible earnings growth plus potential multiple expansion presents an attractive investment opportunity in our mind.

Nick Holmes: Great. How is Tortoise's actively managed strategy capturing the growth in technology offerings in the water sector?

Evan Lang: Sure. Our actively managed strategy reflects our constructive outlook on the technology revolution in the water sector. Through our tested investment process and value chain approach, we believe our strategy delivers best-in class exposure to water technology providers.

We also believe public investments are the best vehicle to play the technology growth, given publicly traded technology providers have a leading market share, scale with a high-quality customer base and balance sheet capacity for R&D programs and acquisitions of start-ups with promising technology but not the scale needed for commercial success.

Nick Holmes: Thanks Evan that was a great update. However, I do believe we are all out of time for today. We appreciate your insights into the water market and thoughts around your trip to Denver..

Evan Lang: Absolutely, I am always happy to discuss the exciting outlook in the water sector. I appreciate the time, and thank you to our listeners for joining us today. We will talk again soon.

Thank you for joining us. And stay tuned for our next cast. Have topics you want covered or other feedback to share? Write us at info@tortoiseadvisors.com.

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