The $12.6 trillion cost of water security in 2034

The world of water through the eyes of GWI publisher Christopher Gasson.

How much is the water industry worth? I put a number on it this week for our forthcoming white paper, *Investing in a Water-Secure Future* (published in association with XPV Water Partners). The total should include all the money invested in water solutions and technology companies, all the money tied up in utilities and related infrastructure, the value of all of the world's irrigation systems and appropriative water rights, and the amortised cost of all the systems that industrial water users hold on their balance sheets. The figure I came up with was $3.8 trillion. It is a huge number which reveals the iceberg nature of the water sector. $3 trillion of that capital employed is tied up in public sector assets. Only $800 billion or so is privately held.

The idea of the white paper is to think about how investment in the water security theme will develop over the next decade, as climate change brings new extremes to the water cycle. That is when the numbers start to get seriously large. Our forecast model suggests that the capital employed in the water sector could reach $12.6 trillion by 2034. That expansion would justify the claim that water will be the biggest global investment theme over the next decade, but is it credible?

A number of assumptions go into the model. The first is that in each year between now and 2034, we will continue to set new records for the extremes of droughts, floods, and storms. This is not unreasonable. Last year, average global temperatures reached +1.48°C over the pre-industrial norm. We have to assume that the +1.5°C target will be missed, and that we will struggle to hold temperatures below the +2°C limit, at which point the impacts of climate change become dangerous and cascading. It means that over the next decade, the world will have to completely re-engineer its water security infrastructure, or face mounting and catastrophic losses. This applies as much to businesses as it does to cities and agriculture; and it is over and on top of what is needed to maintain and extend utility services.

The model suggests that investment in stormwater and flood resilience will need to increase 20x, while spending on addressing water scarcity-related solutions will need to increase 15x. It also anticipates the development of a new market: water infrastructure for wildfire management. It is completely unimaginable that these expenditures can be delivered on the basis of the existing financing models for water. Tariffs are too low, and public balance sheets are too weak.

Source: **Water Intelligence Magazine (January 2024).**

That is not to say that the world won't change. The increasing frequency of water-related crises will steadily change attitudes towards paying for water. We predict that average tariffs will rise in real terms from $2.36/m3 in 2024 to over $7.00/m3 in 2034. This sounds extreme, but even at that level, the average global household bill for water and wastewater services will still be less than half the average household energy bill.

At the same time, we will see an opening of opportunities for private investment in water infrastructure: the proportion of urban water infrastructure financed off the public balance sheet will fall from 90% to 76% under our model. This is something that the development finance sector has been campaigning for, but which will only be possible if new financial models emerge which satisfy public concerns about private governance of water assets.

Our model also assumes that corporate water users will significantly up their rate of investment in water security as a result of pressure from investors. We anticipate the evolution of the environmental, social and governance (ESG) investment theme to place a greater emphasis on water security.

All this investment is likely to have a multiplier effect on the water solutions and technologies sector. The opportunity, profitability, and valuation of these companies is likely to rise considerably over the next decade – assuming that it can deliver the required innovations.

The most difficult assumption is around interest rates. There is no way of avoiding the fact that water investment is easier when interest rates are low. We saw it last year in the extraordinary underperformance of the US investor-owned utility sector compared to the water solutions and technologies sector. If interest rates return to their pre-pandemic levels, the acceleration in infrastructure investment will be a lot easier to carry off than if they remain at their current level.

All this suggests that we can begin 2024 looking forward to a strong future for water investment. That future will only be delivered if politicians, business leaders, and investors are aware of its cogency compared to the alternatives. Communicating that is the reason why we are publishing the white paper. If you want to receive a copy of it, sign up here. Also register for the Global Water Summit, where we will be discussing its findings.

Source: **Water Intelligence Magazine (January 2024).**