Title: **The economic imperative for investing in water**

By: Massimo Falcioni, Chief Competitiveness Officer at Abu Dhabi Investment Office (ADIO)

When I arrived in the UAE in December 2011, I was fully inspired by a speech given by His Highness Sheikh Mohammed bin Zayed Al Nahyan, President of the United Arab Emirates, who stressed that water is more important than oil for the UAE, as the region now faces this serious and highly critical issue.

"We are preoccupied by this major issue… I believe the problem lies in the fact that the population of the Arabian Peninsula is incessantly growing while the region today does not possess a lot of resources," [1] His Highness commented, following a lecture on the world's fresh water at his court by Dr. Peter Gleick, co-founder and president of the California-based Pacific Institute for Studies in Development, Environment, and Security.

2023 was the hottest year on record, and this was confirmed recently by the World Meteorological Organisation at the United Nations.[2] This grim milestone was attributed to the impacts born out of climate change. One of the many takeaways from this stark analysis is that a warmer planet will inevitably mean a dryer planet – and water, one of our most vital natural resources, must be safeguarded at all costs.

In fact, 2 billion people around the world do not have safe drinking water and the global urban population facing water scarcity is projected to double from 930 million in 2016 to 1.7–2.4 billion people in 2050.[3]

While it's fair to acknowledge the seriousness of this global challenge, this moment also brings with it a unique opportunity to pioneer and invest in innovative solutions related to water security. I believe that investing in these innovations is as much economic priority as it is environmental one. This is especially the case in the Middle East as many industries have unique and complex water requirements. For instance, the energy industry here has some of the world's largest refineries and processing plants with a demand for water that could best be described as immense.

Another interesting case study emerges when you explore the solar sector in the region, which has notably experienced a transformation in recent years, particularly in the UAE. High-quality water is needed to maintain solar installations, and to ensure that we can maximise the potential of our abundant sunshine. With demand for solar set to increase, there's ample opportunity for the development of the ultrapure water necessary for the solar production process.

There are several emerging solutions related to water technologies that offer much promise, like minimum and zero liquid discharge as these can help industrial and commercial facilities achieve a

[1] https://www.emirates247.com/news/government/water-is-more-important-than-oil-for-uae-mohammed-bin-zayed-2011-12-13-1.432657

[2] https://news.un.org/en/story/2024/01/1145457

[3] https://www.unesco.org/en/articles/imminent-risk-global-water-crisis-warns-un-world-water-development-report-2023

significant reduction of water waste by recycling water. The result is that operators are able to reclaim valuable by-products during the process and simultaneously reduce their water and carbon footprints.

Another great example is Gradiant, an organisation which offers innovative digital solutions for water and wastewater facilities, with several of their technologies harnessing the power of AI. It has developed a solution called SmartOps which helps to optimise asset management of treatment systems using machine learning and artificial intelligence.

Gradiant has announced its plan to open its European and Middle East (EMEA) Headquarters as well as an innovation centre here in Abu Dhabi, which in my view, is a testament to the Emirate's forward-thinking approach to supporting solutions that seek to solve global challenges.

With the economic future of the Middle East so intertwined with advanced water technologies, it's perhaps more important than ever to understand and forecast industry demands, at the same time it's equally important to tailor investments towards these developments.

Again, this is where Abu Dhabi can play a prominent role in ensuring sustainable water management, but also robust economic growth. The Emirate is well placed to lead as a pioneer of solutions geared towards making water innovations scalable.

Within Abu Dhabi's enabling ecosystem made of up of diverse stakeholder groups, I believe we can forge exciting and successful collaborations, individuals and institutions alike, to engineer and reengineer solutions for overcoming some the challenges related to water across the value chain.

We can also drive constructive international conversations on the future of water innovation and technologies, specifically looking at overcoming obstacles related to feasibility, in addition to highlighting investment opportunities that ensure the right type of technologies are uncovered, developed, scaled, and exported.

At ADIO, we are fully committed to attracting investments from foreign investors to develop technologies related to water treatment solutions, empowered by AI, aimed at reaching lower capital and life-cycle costs, improving the operations and safety of water treatment equipment- all whilst ensuring full alignment with Abu Dhabi's sustainability goals.

With concerted effort, Abu Dhabi can help to shift the global investment mindset on water innovations as being less about an existential challenge, and more about a monumental opportunity.