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Saudi-Singapore Water Forum took place at the Mandarin Oriental, Singapore, where over 120 participants from both nations gathered to exchange knowledge and explore collaborative opportunities in the water sector. The forum served as a strategic platform for knowledge exchange, investment opportunities, and partnership development — focusing on key areas such as water resource management, desalination advancements, smart water solutions, and climate resilience.

Saudi Arabia, an arid nation, faces significant water challenges due to limited natural resources and high water demand, which have created opportunities for innovative solutions, including desalination and water reuse, to ensure sustainable water management and food security.

SWA Insights - Why Saudi Arabia Matters

Saudi Arabia presents a range of challenges and opportunities, many of which are similar to those faced in Singapore. This creates a valuable opportunity for SWA member companies to learn how local businesses in Saudi Arabia are addressing national water challenges. Companies with experience supporting end users overcome water-related issues in Singapore can also contribute their expertise to strengthen Saudi Arabia's water sector and support its industrial users.

Challenges:

- **Arid Climate and Scarcity:**

Saudi Arabia is an arid region with low rainfall, high evaporation rates, and a lack of permanent water bodies, leading to severe water scarcity. As climate conditions continue to evolve, technologies and innovation in the water sector are crucial in ensuring a continued and stable supply of water for Saudi Arabia.

- **Reliance on Non-Renewable Groundwater:**

A significant portion of the water supply comes from non-renewable groundwater, which is being extracted at an unsustainable rate. Without proper management and conservation efforts, these critical resources could be exhausted over time, posing a risk to long-term water security and highlighting the need for more sustainable alternatives.

- **High Water Demand:**

Population growth, industrial expansion, and a large agricultural sector contribute to high water demand, straining the existing water resources.

- **Water-Intensive Agriculture:**

Population growth, industrial expansion, and a large agricultural sector have significantly increased water consumption, placing immense pressure on existing resources. Without effective management strategies, this rising demand could further stress supply, underscoring the need for sustainable water use and conservation measures.

- **Climate Change Impacts:**

Climate change is projected to intensify water scarcity in Saudi Arabia by altering rainfall patterns and reducing overall water availability. These shifts could further strain existing resources, emphasizing the importance of adaptive strategies to enhance resilience and sustainability.

Opportunities:

- **Desalination:**

Saudi Arabia is a pioneer in seawater desalination, and this technology plays a crucial role in meeting the country's water needs.

- **Water Reuse:**

Treating and reusing wastewater for irrigation and other non-potable purposes is becoming an essential part of water management, helping to reduce the strain on freshwater resources.

- **Water Demand Management:**

Implementing water-saving technologies, promoting efficient irrigation practices, and raising water prices can help reduce water consumption.

- **Sustainable Agricultural Practices:**

Adopting water-efficient crops and improved irrigation methods can help reduce water consumption in the agricultural sector.

- **National Water Strategy 2030:**

The National Water Strategy 2030 provides a framework for integrated water resource management, aiming to ensure the sustainability of water resources and achieve the goals of Vision 2030.

- **Renewable Energy Integration:**

Integrating renewable energy sources with desalination plants can reduce the energy costs and environmental impact of desalination.

Further Insights From Our SWA Council:

Our SWA Council members Vinod Singh, Marcus Lim and Robin Wong participated in the Saudi-Singapore Business Forum, representing fellow SWA member companies and engaging in meaning discussions to strengthen ties with Saudi Arabia, Below are some key takeaways from the council.

“The Saudi-Singapore Business Forum offered a valuable introduction to the Middle East region and provided deeper insights into Saudi Arabia’s water sector and ecosystem. I am excited about the opportunities uncovered and look forward to future collaborations between SWA member companies and partners in Saudi Arabia. SWA remains committed to facilitating continued engagement, meaningful partnerships and exploring business opportunities in the region.”
- Mr. Robin Wong, SWA’s VP (Finance)

Understanding Saudi Arabia's Water Sector

Structure of Saudi Arabia's water sector



Overview of the KSA water sector and infrastructure

The KSA water sector is comprised of many stakeholders



3

Figure 1 Stakeholders of the KSA water sector and infrastructure – Saudi Water Authority



Overview of the KSA water sector and infrastructure

Due to the vast size of KSA, the water infrastructure is extensive



4

Figure 2 Overview of the extensive water infrastructure of KSA – Saudi Water Authority

3



Contact of Stakeholders

Legislation & Policy: Ministry of Environment Water & Agriculture | <https://naama.sa/> | e-services@mewa.gov.sa

Regulation & Strategic Enablement: Saudi Water Authority | <https://www.swa.gov.sa/en/> | CMP@SWA.GOV.SA

Water infrastructure across urban, agricultural and industrial:

- Saline Water Conversion Corporation | <https://www.swcc.gov.sa/en> | info@swcc.gov.sa
- Water Transmission Company | <http://wttco.com/> | wccm@wtco.com.sa
- Saudi Water Partnership Company | <https://www.swpc.sa/en/> | info@swpc.sa
- National Water Company | <https://www.nwc.com.sa/en>
- Saudi Irrigation Organisation | https://www.sio.gov.sa/Home/Index_en | info@sio.gov.sa
- Marafiq | <https://www.marafiq.com.sa/>

Investment: Ministry of Investment (MISA) | <https://misa.gov.sa/> | InvestorCare@misa.gov.sa

Pillars of the water sector and challenges in Saudi Arabia

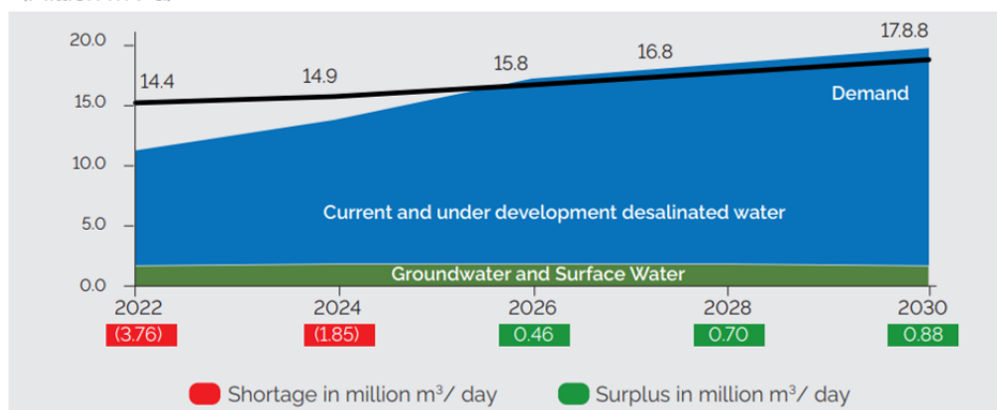
Water Sector Pillars and Practical Challenges			
Water Production	Water Transmission	Distribution	Water Treatment and reuse
<ul style="list-style-type: none">▪ High energy consumption in SWRO.▪ Water production rate in SWRO (< 12-14 LMH/bar).▪ Minerals extraction (Rb, Sr, Mg+, K+, Na+) from brine▪ PFAS/PFOS/B removal from water	<ul style="list-style-type: none">▪ Biofilm formation in pipelines▪ Inaccurate Leak Detection▪ Corrosion issue in pipeline▪ Hydraulic integrity issue	<ul style="list-style-type: none">▪ Significant losses in the water distribution system & Energy intensive.▪ Lack of real time water distribution data.▪ Water quality standards development in distribution & storage.▪ Water storage monitoring issue	<ul style="list-style-type: none">▪ Hydrocarbons and industrial discharge▪ Irrigation facilities corrosion by chlorine disinfection▪ Pathogenic microorganisms and algal growth▪ 40-50% of its total municipal wastewater is being treated

Figure 3 Pillars of the water sector and challenges in Saudi Arabia
— Saudi Water Authority

Value Proposition - Sector Growth and Water Market Boom

KSA Desalination Supply, Demand and Gap

(Million m³/d)



Source: MEWA

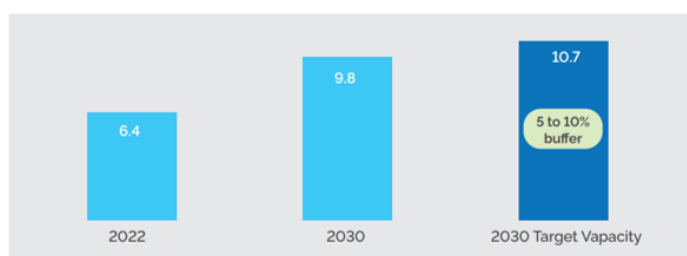
55% increase
From 11.5M m³/d to 17.8M m³/d

Within the 43+ projects in coming years up to 2030

Figure 4 Demand and Supply of Desalination in Saudi Arabia
- Ministry of Investment of Saudi Arabia

Wastewater Collected for Treatment and Required Capacity

(Million m³/d)



Source: MEWA, NWC

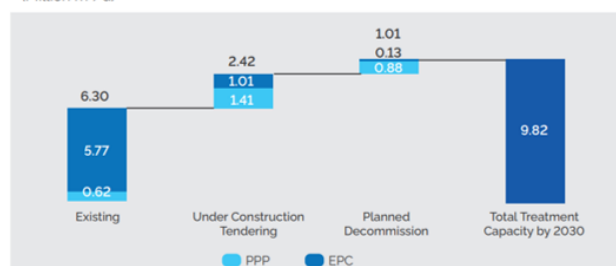
67% increase
From 6.4M m³/d to 10.7M m³/d

Within the 43+ projects in coming years up to 2030

Figure 5 Increase in wastewater collected for treatment, showing actual progress and 2030 target - Ministry of Investment of Saudi Arabia

Total Wastewater Treatment Capacity by 2030

(Million m³/d)



Source: MEWA, NWC

55% increase
From 6.3M m³/d to 9.82M m³/d

Within the 43+ projects in coming years up to 2030

Figure 6 Increase in wastewater treatment capacity by PPP & EPCs to reach its 2030 target - Ministry of Investment of Saudi Arabia

Strategic Targets

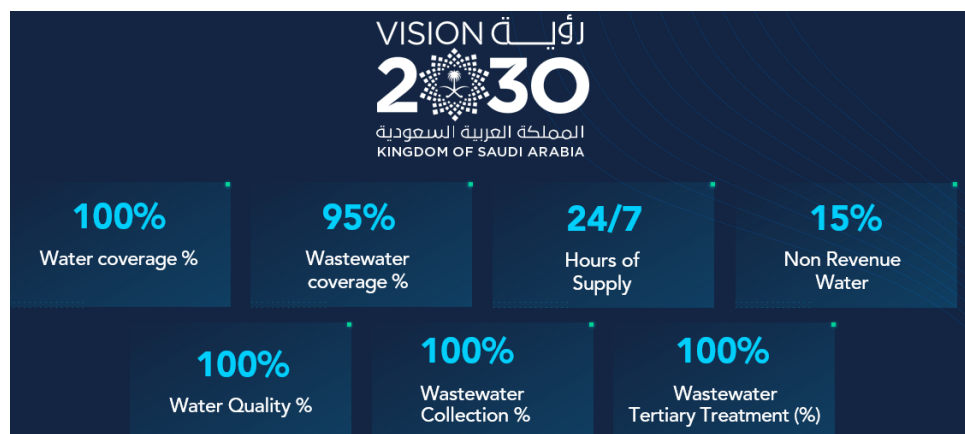


Figure 7 Water targets of Vision 2030 – National Water Company

Example of Potential Investment Opportunities

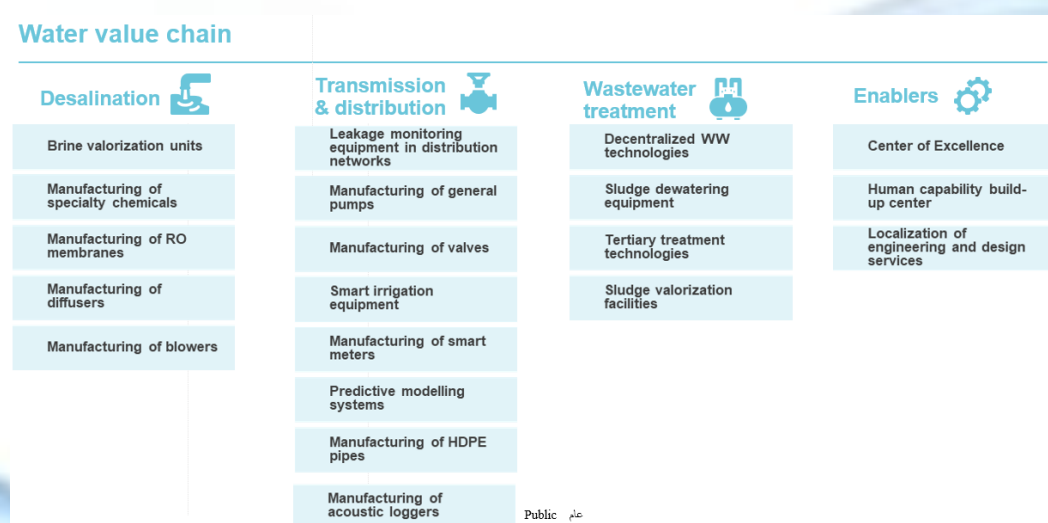
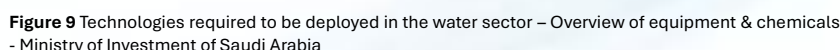


Figure 8 Example of Potential Investment Opportunities – Ministry of Investment of Saudi Arabia

- Potential for localization and innovation to be identified for each



Member companies of the Singapore Water Association (SWA) signed multiple Memoranda of Understanding (MoUs) with key stakeholders to foster collaboration and drive innovation in the water sector. These agreements mark a significant step toward enhancing water security, improving resource management, and developing sustainable solutions. Through these strategic partnerships, SWA and its members are committed to addressing industry challenges and advancing shared goals for a more resilient water future.

- MediSun Energy
- Darco Water Technologies
- Memsift Innovations
- Blueocean Memtech
- Envirocare

S/N	Company	S/N	Company	S/N	Company
1	Aquarden	6	Liquinex Group	11	Sunmas Group
2	Aprisium	7	Mempure/Century Water	12	TeamSolve
3	Ecosoftt	8	Pinnacle Infosys	13	Tigernix
4	HSL Group	9	Sanli	14	Turing
5	Hydroleap	10	ST Engineering	15	Waterlux



Figure 10 Roundtable Discussions, led by Saudi Water Authority

Let's Hear From Our Members

Member Company A

A Singapore-based water technology startup specializing in Reverse Electrodialysis (RED) for desalination, signed an MoU with the Saudi Water Authority (SWA) to drive innovation in sustainable water solutions. With Saudi Arabia being the world's largest producer of desalinated water and the Middle East facing rising water demand.

This partnership aims to explore RED technology's potential in enhancing energy efficiency and reducing operational costs. The collaboration aligns with the Kingdom's Vision 2030 and the broader Middle East's push for sustainable and cost-effective desalination solutions.

Member Company B

A Singapore based start-up is working with Saudi Water to bring intelligent, real-time monitoring to desalination and water treatment operations—helping reduce chemical, energy, and membrane costs through data-driven optimisation. Their autonomous analysers provide early insights at the source, enabling more efficient, reliable, and sustainable water management.

"Given the shared challenges of water scarcity and high treatment costs across the Middle East, we see a powerful opportunity to scale this solution regionally. Our goal is to support governments in enhancing water security, lowering operational expenditures, and positioning the Middle East as a global leader in sustainable water innovation."
- CEO, Member Company B

Moving Forward

Five of our SWA member companies signed an MoU with various stakeholders from Saudi Arabia. Among them, two have since taken the next step by signing an NDA to facilitate deeper collaboration and future partnership.

The roundtable sessions provided a rare platform for industry stakeholders and players to engage in large-scale dialogue, exchange insights, and discuss the latest industry trends. It also served as a networking avenue, where our member companies forged new connections, expanded their professional networks and explore opportunities for future collaboration.

Conclusion

Due to its geographical location, the Middle East faces unique water challenges, including an arid climate and limited freshwater resources. These challenges create abundant opportunities for SWA members to expand beyond Saudi Arabia and into the wider region. Currently, large-scale projects in Saudi Arabia are primarily led by multinational corporations (MNCs). However, this also presents as an opportunity for our SME member companies to observe how these MNCs have built long-term relationships to deeply understand the local water landscape and successfully deploy tailored solutions.

We would like to highlight that there are several key industry events in the region, creating opportunities for SWA members to showcase their expertise, connect with potential partners, and explore new markets.

Here are some key industry events in the region, creating opportunities for SWA members:

- **WETEX**¹
- **Global Water Exhibition**²
- **World Utilities Congress**³

Additionally, SWA facilitates members' growth and serves as an integral linkage to the global water network. We actively engage with partners, industry associations, foreign chambers of commerce and embassies to connect end users with the most effective and impactful water technologies for their needs. For member companies interested in exploring opportunities in Saudi Arabia or other regions, SWA can provide support through dedicated mission trips, specially designed to help you better understand the local business environment and build the networks essential for successful market expansion.

For further information regarding the Saudi-Singapore Business Forum, please contact enquiry@swa.org.sg.

¹ <https://www.wetex.ae>

² <https://www.globalwaterexhibition.com/>

³ <https://www.worldutilitiescongress.com/>

Appendix

Presentation from Saudi Water Authority - Introduction



Saudi Water
Authority.pdf

Presentation from Saudi Water Authority - Shaping The Research & Innovation Efforts Towards Industrial Needs



Saudi Water
Authority - Shaping TI

Presentation from Saudi Water Partnership Company



Saudi Water
Partnership Company

Presentation from Ministry of Investment for Saudi Arabia (MISA)



Ministry of
Investment for Saudi ,

Presentation from National Water Company



National Water
Company.pdf