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VWB Insights

SAUDI ARABIA'S NATIONAL WATER STRATEGY

Investing for a
Sustainable Future



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Ventures Without Borders: Facilitating Private Equity Investment in Emerging Markets

Ventures Without Borders (VWB) specializes in guiding global investors and local companies through private market investments in emerging markets. By leveraging our deep market insights, extensive network, and strategic expertise, we help investors identify lucrative opportunities while managing associated risks. VWB offers end-to-end advisory services, from market entry strategy and due diligence to deal structuring and post-investment management, ensuring that our clients can succeed emerging markets with confidence.



MarketGlide: The First Integrated Investment Platform for Emerging Markets

Currently under development by Ventures Without Borders, **MarketGlide** is the first integrated investment platform specifically designed to transform how private market investments in emerging markets are sourced, analysed and executed.

MarketGlide not only streamlines investment processes but also places a special focus on its vibrant community of investors, local partners, and project developers. This platform is tailored to enhance connectivity and leverage the growth potential within these regions. Features include:

- **Curated Investment Opportunities:** Gain access to a carefully vetted selection of high-potential infrastructure projects across key sectors such as transportation, energy, and telecommunications.
- **Advanced Analytics:** Utilize our comprehensive analytics and data insights to assess investment viability, risk, and expected returns with greater precision.
- **Collaborative Community Tools:** Our platform facilitates seamless collaboration, enabling investors to connect, share insights, and work together with local partners and project managers.
- **Regulatory Compliance Support:** Receive guidance about complex regulatory frameworks with tools designed to ensure full compliance and operational transparency.

By integrating these essential functionalities, MarketGlide empowers global investors to make well-informed decisions and capitalize on the substantial growth opportunities that emerging markets offer.

Join our community to connect with like-minded professionals and explore the frontiers of investment in some of the world's most promising regions.

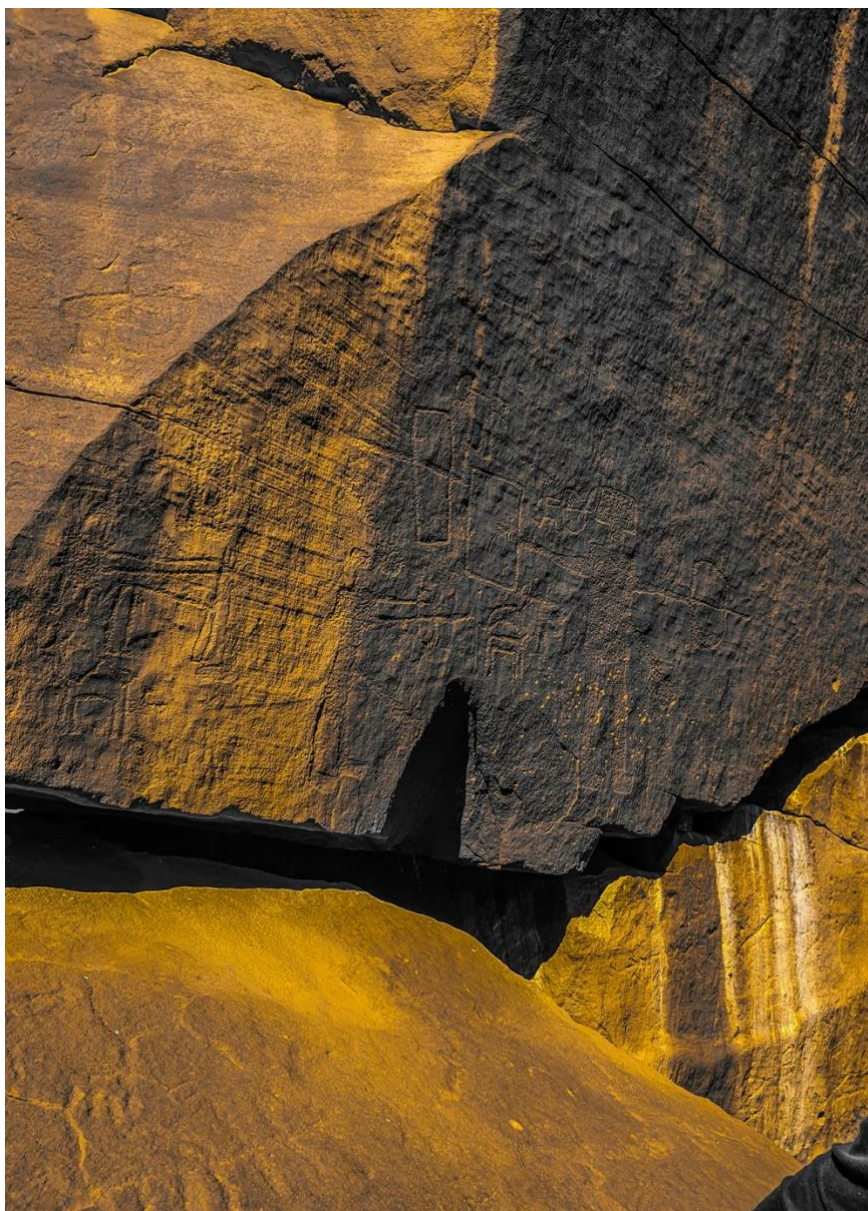
Executive Summary

- Saudi Arabia faces critical water scarcity with only 89.5 cubic meters per capita annually, driving the urgent need for sustainable water management.
- The National Water Strategy prioritizes expanding desalination capacity and enhancing water distribution networks to ensure reliable water access.
- Efforts include promoting water-saving technologies and implementing pricing policies to optimize water use across sectors, aligned with Vision 2030 goals.
- Ventures Without Borders, and our innovative MarketGlide platform, facilitate international partnerships and investments in innovative water technologies, crucial for supporting Saudi Arabia's National Water Strategy and achieving Vision 2030 objectives.

Introduction

Water scarcity is a concern that has plagued many nations, yet none are as exposed as Saudi Arabia. With only 89.5 cubic meters of water per capita, per year, Saudi Arabia is far below the absolute water scarcity level of 500 cubic meters. This marks a serious concern for Saudi Arabia, a country intent on promoting economic development and social well-being.

Hence, Saudi Arabia has devised an ambitious National Water Strategy, tackling the issue of water scarcity with innovative solutions aimed at ensuring sustainable water management for the future. This strategy is a pivotal element for achieving Saudi Arabia's Vision 2030 plan, which aims to diversify the economy, reduce dependence on oil, and enhance quality of life for its citizens.



Overview of Saudi Arabia's National Water Strategy

The Saudi National Water Strategy addresses key challenges and reform to the water and wastewater sector in Saudi Arabia. The strategy has five specific objectives, holistically aimed at promoting sustainability and longevity in the sector.

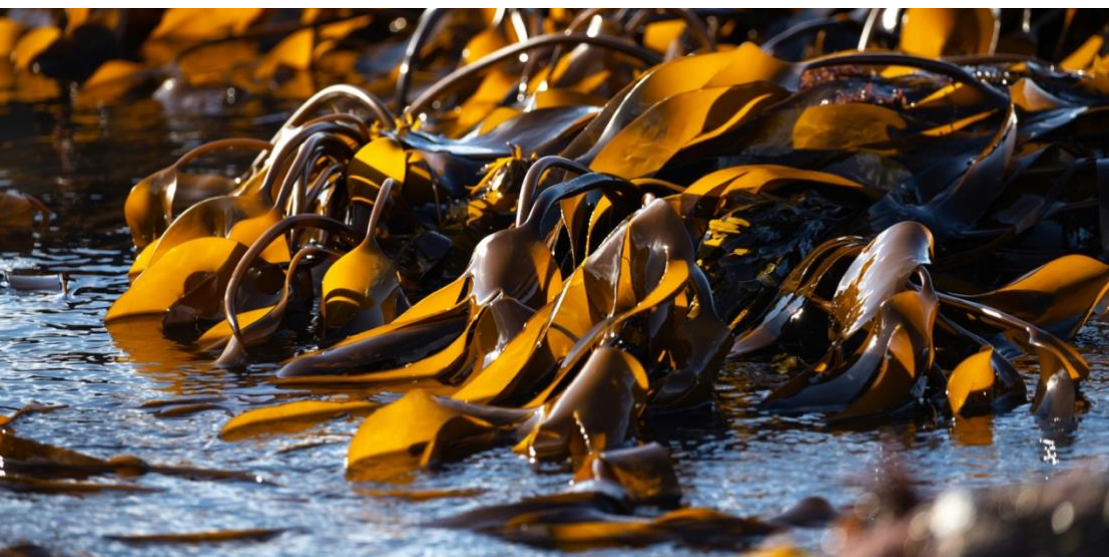
Ensure Continuous Access to Safe Water

Access to safe and reliable water is fundamental to the health and well-being of any population. In Saudi Arabia, this has become a top priority due to the country's arid climate and having no permanent rivers or lakes. Therefore, the National Water Strategy has initiated several key initiatives to address this challenge and secure Saudi Arabia's water capacities for the future.

Expansion of Desalination Capacity

Desalination is the process of removing salt from seawater, utilized by countries that have coastlines but no readily available fresh water sources, such as rivers and streams. Desalination is a cornerstone of Saudi Arabia's water supply strategy. Saudi Arabia already possesses some of the largest desalination plants in the world, and plans are in place to further expand this capacity. Therefore, Saudi Arabia intends on constructing new desalination plants, upgrading existing facilities, and incorporating advanced technologies to increase efficiency and reduce environmental impact.

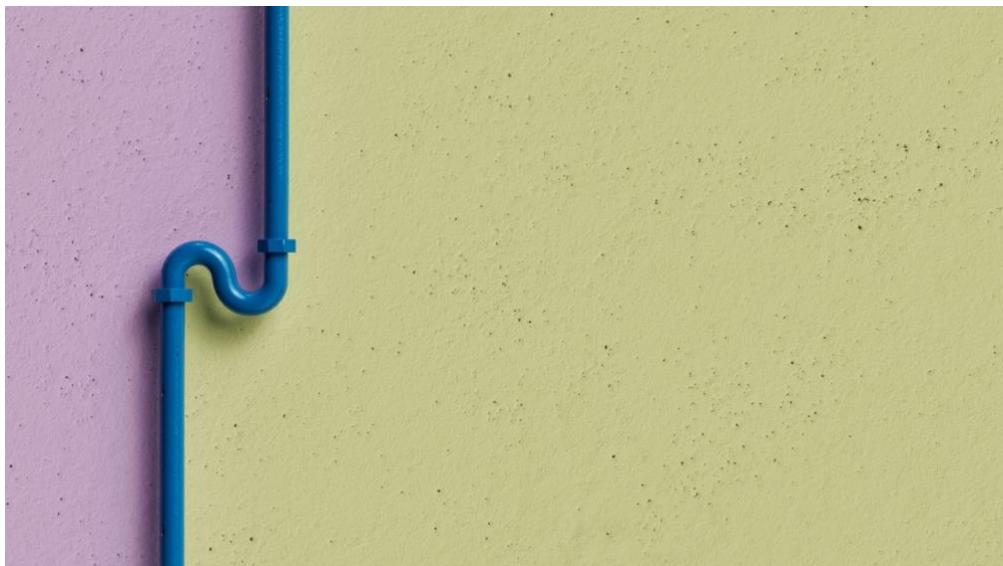
Notably, the Red Sea Desalination Project aims to utilize renewable energy sources, such as solar and wind, to power desalination processes. This ensures a steady supply of potable water, but also aligns with Saudi Arabia's broader Vision 2030 goals of reducing carbon emissions and promoting environmental sustainability.



Improvement of Water Distribution Networks

Efficient water distribution is imperative to ensuring that the water produced reaches citizens optimally. The National Water Strategy includes plans to modernize and expand the water distribution infrastructure, with ambitious plans to implement smart water management systems that use real-time data to monitor and manage water flow. Moreover, Saudi Arabia has plans to repair and expand legacy infrastructure, with the replacement of aging pipelines, and the reduction of leakages in the current system.

The primary investments that Saudi Arabia is making into this effort is into advanced metering infrastructure (AMI), which will allow for better detection of leaks and unauthorized water use. This ensures that water is used efficiently and reaches those who need it most. This improvement will reduce water loss significantly and enhance the reliability of the water supply system. As data is central to this initiative, we see a concerted effort to streamline the maintenance and expansion process, enabling swift reaction to potential faults in the system.



Development of Alternative Water Sources

In addition to desalination, the Nation Water Strategy aims to develop alternative water sources, such as rainwater harvesting and the use of treated wastewater for non-potable purposes. Saudi Arabia aims to diversify the water sources available to it, preventing reliance on a single supply method. For instance, rainwater harvesting projects are being implemented in urban and rural areas to capture and store rainwater for various uses. Rainwater harvesting involves the collection and storage of rain, rather than allowing it to run off and dissipate. Rainwater is collected from a roof-like surface and redirected to a tank, cistern, deep pit (well, shaft, or borehole), aquifer, or a reservoir with percolation. Rainwater harvesting is not the only alternative method used, with plans to use treated wastewater for agricultural irrigation, industrial processes, and landscape irrigation. This conserves fresh water for potable use, maximizing Saudi Arabia's capacity to provide potable water sources, and manage water most sustainably.

Enhance Water Demand Management

Arguably, the most important aspect to Saudi Arabia's National Water Strategy is effective water demand management. As Saudi Arabia suffers from significant water scarcity issues, enhancing water demand management is a key component to resolving these issues. Therefore, Saudi Arabia has developed various potential strategies to best enable efficient water demand management.

Water Use Efficiency Programs

Water use efficiency programs are a central focus of Saudi Arabia's National Water Strategy. The Saudi government has begun to launch these initiatives in residential, industrial, and agricultural sectors:

- **Residential Sector:** Initiatives such as the distribution of water-saving fixtures, public awareness campaigns on water conservation, and incentives for households that reduce their water usage. This involves the rollout of smart water meters, which allow consumers to monitor their water consumption in real-time to identify and address inefficiencies.
- **Industrial Sector:** Regulations and incentives to encourage industries to adopt water-efficient technologies and practices. This includes recycling and reusing water within industrial processes and implementing advanced treatment methods to reduce water consumption.
- **Agricultural Sector:** Agriculture is one of the largest consumers of water in Saudi Arabia. The strategy promotes the adoption of modern irrigation techniques, such as drip and sprinkler systems, which significantly reduce water usage compared to traditional methods. Training programs for farmers on best practices in water management and crop selection are also part of the initiative.



Implementation of Water Pricing Policies

The National Water Strategy includes the introduction of tiered water pricing, where higher rates are charged for excessive water usage. This approach incentivizes consumers to reduce their water consumption and adopt conservation practices. This is not unique to Saudi Arabia but acts as a novel approach which integrates water-saving technologies, education, and even culture to promote conservation practices. Saudi Arabia aims to generate additional revenues from water pricing measures, which can be reinvested into the water infrastructure and support future water conservation initiatives. Moreover, pricing policies ensure fairness so that water remains affordable for basic needs, whilst discouraging wasteful practices.

Leak Detection and Reduction

Reducing water losses due to leaks in the distribution network is essential for effective water demand management. The strategy involves extensive leak detection and repair programs to address this issue. Advanced technologies, such as acoustic sensors and satellite imaging, are being used to detect leaks early and accurately. Regular maintenance and upgrading of the water distribution infrastructure are prioritized to minimize losses. Public awareness campaigns also encourage consumers to report leaks promptly, ensuring timely repairs and reducing overall water wastage. This reinforces the importance of water-saving technologies and education, as the next section will explore.



Water-Saving Technologies and Education

The adoption of water-saving technologies is being actively promoted to enhance water demand management. This includes:

- Smart irrigation systems which use weather data and soil moisture sensors to optimize irrigation schedules, ensuring that water is used efficiently and only when necessary.
- Encouraging the use of high efficiency washing machines, dishwashers, and other appliances that consume less water.
- Promoting the use of greywater recycling systems in homes and businesses to reuse water from sinks, showers, and laundry for non-potable purposes, such as irrigation and toilet flushing.

Alongside these efforts are crucial initiatives to promote public awareness and education surrounding water conservation. Educational campaigns are being conducted through various media channels, schools, and community programs to inform citizens about the need to conserve water and the methods they can use to do so. For instance, the Saudi Government has organized workshops and seminars to educate different segments of the population; primarily farmers, industrial workers, and household consumers on efficient water use practices. Their primary aim is to develop a culture surrounding water conservation and sustainability, ensuring that water demand is best managed for longevity and efficiency.

Regulatory and Policy Framework

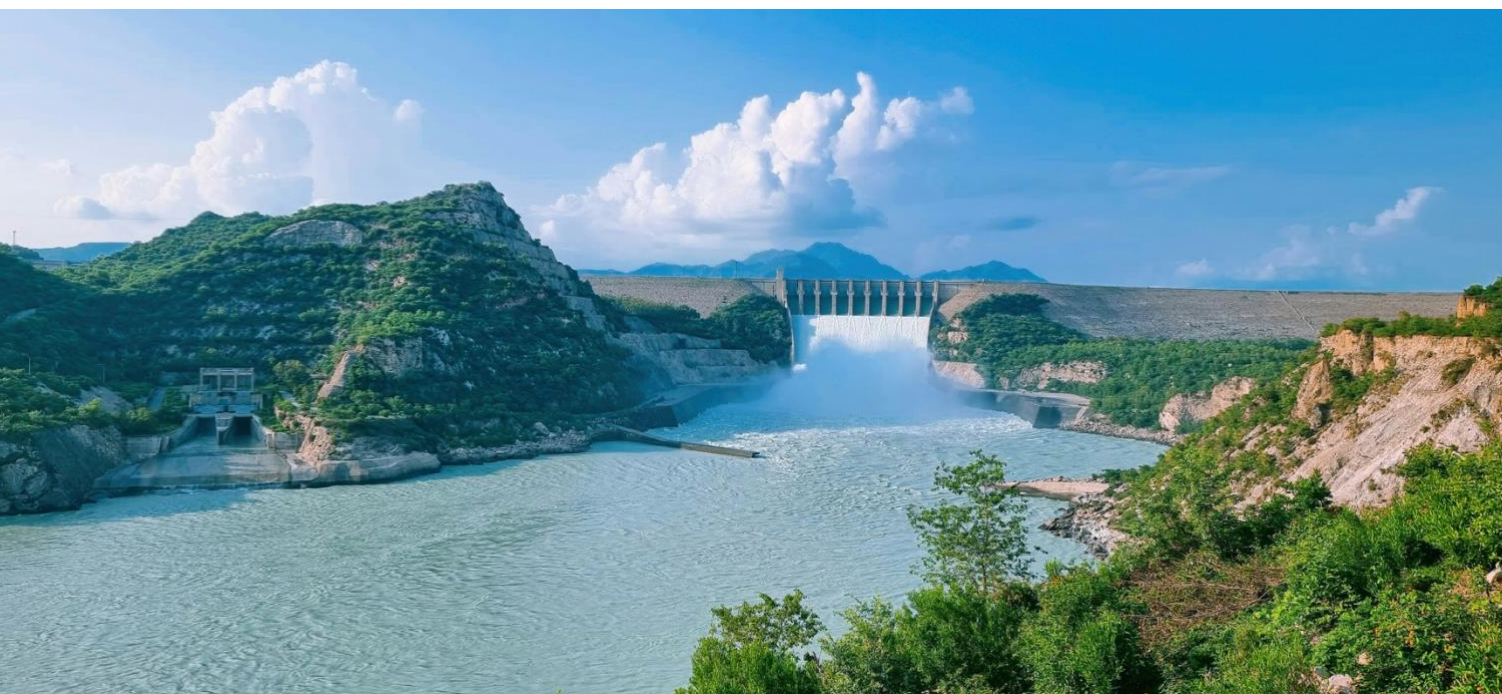
The Saudi government is making a concerted effort to promote active participation from the private sector in these initiatives. It is imperative that private companies are receptive to the government's strategy and are actively involved in research and development processes. Saudi Arabia has undertaken significant regulatory reforms to support its National Water Strategy. The introduction of strict water use standards for industries, agriculture, and residential sectors ensures that water consumption is optimized, and waste is minimized. For example:



- **Agricultural Water Use Regulations:** The government has set guidelines for efficient irrigation practices and water use limits for different crops. These regulations are enforced through regular inspections and monitoring. The adoption of modern irrigation technologies, such as drip irrigation, is mandated to reduce water wastage in agriculture.

- **Industrial Water Use Standards:** Industries must implement water-saving technologies and practices. For instance, the petrochemical industry, a major water consumer, must adhere to stringent regulations on water recycling and reuse within their operations. Considering Saudi Arabia's reliance on water intensive industries, promoting suitable business practices are crucial to ensuring that water supplies are used most efficiently and ensure longevity in Saudi Arabia's water strategy.

The Saudi government will utilize economic incentives to promote such sustainable practices. For instance, the implementation of subsidies for water-saving technologies, to promote investment into key areas of technological development. For example, the Saudi Water Authority has launched the Saudi Green Initiative to promote water reuse and the development of innovative technologies for treating and utilizing water in irrigation and industry. The government's efforts can be seen in the Green Riyadh initiative which aims to increase Riyadh's green space per capita from 1.7 to 28 square miles, whilst also boosting overall green coverage from 1.5 percent to 9 percent. Additionally, key industries will receive subsidies for the accelerated adoption of these efforts in the private sector. For instance, Saudi farmers receive subsidies for installing drip and sprinkler irrigation systems, which use significantly less water than traditional methods.



How VWB & MarketGlide Can Help

MarketGlide, developed by Ventures Without Borders, is uniquely positioned to support Saudi Arabia's ambitious water technology initiatives outlined in the National Water Strategy, aligning closely with Vision 2030 and projects like NEOM. MarketGlide utilizes advanced AI algorithms to analyze market trends, identify emerging opportunities, and connect potential investors with innovative water technology projects in Saudi Arabia. This capability is crucial for attracting private investments into the water sector, fostering growth, and accelerating the deployment of cutting-edge technologies.

Ventures Without Borders advises on cross-border transactions by working closely with both Saudi water utilities/technology firms & global investors experienced in large-scale desalination projects or advanced water treatment technologies. Such collaborations leverage expertise, technology transfer, and financing to meet Saudi Arabia's water sustainability goals effectively.

MarketGlide offers comprehensive regulatory insights and due diligence services, ensuring that investments and projects align with local regulations and sustainability goals. This includes compliance with environmental impact assessments, permitting processes, and adherence to water quality standards mandated by the Saudi government.

Transparency and trust are crucial in fostering successful investments and partnerships. MarketGlide enhances project visibility by providing detailed analytics, performance metrics, and transparent communication channels between stakeholders. This transparency builds confidence among investors and promotes long-term commitment to sustainable water projects. MarketGlide's platform offers real-time updates and performance tracking for water projects in Saudi Arabia, enabling investors to monitor key metrics such as water production rates, energy consumption, and environmental impact assessments. This accountability supports efficient project management and sustainable outcomes.



Conclusion

In conclusion, Saudi Arabia's National Water Strategy stands as a pivotal initiative in addressing the country's pressing water scarcity challenges, crucial for advancing its Vision 2030 goals of economic diversification and sustainable development. With a per capita water availability significantly below global scarcity thresholds, Saudi Arabia is walking down an ambitious path to ensure continuous access to safe water through innovative solutions such as desalination, water distribution network enhancements, and the development of alternative water sources like rainwater harvesting and treated wastewater reuse. Efforts to enhance water demand management through efficiency programs, pricing policies, and advanced technologies underscore Saudi Arabia's commitment to optimizing water use across residential, industrial, and agricultural sectors. The strategy's regulatory frameworks and economic incentives further support these goals, promoting sustainable practices and fostering private sector participation in water conservation and technology innovation.

