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WATER AND WASTE MANAGEMENT

IN SAUDI ARABIA

FLANDERS INVESTMENT & TRADE MARKET SURVEY

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SAUDI ARABIA

WATER AND WASTE MANAGEMENT

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Flanders Investment & Trade Riyadh, Kingdom of Saudi Arabia

T +966 11 480 17 60

riyadh@flanderstrade.be

CONTENT

Content 3

- 1. Preface.....4
- 2. Water 5
 - 2.1 Introduction 5
 - 2.2 Challenges..... 5
 - 2.3 Solutions.....7
 - 2.4 Public-Private Partnership (PPP) in Water Sector.....10
 - 2.5 Opportunities In the water Sector10
- 3. Waste 11
 - 3.1 Introduction11
 - 3.2 Challenges..... 12
 - 3.3 Solutions: War Against Waste..... 13
 - 3.4 Opportunities In the Waste Sector15
- 4. Conclusion16
- 5. References.....17



PREFACE

Efficient water and waste management is a major issue for countries around the world, and Saudi Arabia is no exception. Due to its arid geography and rapid economic and population growth, Saudi Arabia is facing increased pressure on its water resources and complex waste management challenges. Located in the Middle East, Saudi Arabia occupies a strategic geopolitical position as the world's leading oil producer and leader of the Organization of Petroleum Exporting Countries (OPEC). Its territory stretches across the Arabian Peninsula, with borders shared with several countries, including Jordan, Iraq, Kuwait, the United Arab Emirates, Oman, and Yemen. Along the east coast, it is bordered by the Persian Gulf, and to the west by the Red Sea.

This market study aims to provide an in-depth analysis of the current water and waste situation in Saudi Arabia, examining market trends, government policies, emerging technologies, and opportunities. Through this study, we hope to contribute to a better grasp of the key trends, current state, and future prospects of the sector within the Saudi kingdom, and to identify courses of action for sustainable water and waste management.



WATER

INTRODUCTION

In the heart of Saudi Arabia's arid desert, water has become a precious resource and a constant challenge, sculpting not only the landscape, but also the kingdom's future. Since ancient times, people have drawn on their ingenuity to develop sophisticated irrigation techniques, such as qanats and falaj, to maximize the use of available water resources.¹ These ancestral systems helped create lush, fertile oases in the middle of the desert, ensuring the survival of local communities. However, with the increase in population and economic activity, particularly with the discovery and exploitation of oil resources in the 20th century, the country has experienced rapid urbanization and exponential industrial growth. This expansion has led to increased pressure on the country's water reserves, accentuated by the challenges posed by its arid climate. In the years that followed, the Saudi government launched ambitious water development projects, including the construction of dams, reservoirs and seawater desalination plans to meet the growing demand for drinking and agricultural water. This quickly became a vital source of water supply, although this presents challenges in terms of energy and environmental costs. Thus, sustainable water management is an absolute priority for the kingdom, not only to guarantee food security and support economic growth, but also to preserve its unique natural and cultural heritage.

CHALLENGES

Saudi Arabia faces significant challenges regarding its water resources. As one of the driest regions globally, it lacks permanent flowing rivers, and its harsh weather conditions exacerbate the situation, with a high evaporation rate of 3000 mm/year and limited rainfall averaging only 59mm/year. These factors combine to make KSA a country without permanent water sources and with limited options for accessing a sustainable water supply.

Notably, Saudi Arabia ranks as the world's third-largest consumer of water per capita, following the US and Canada. For instance, in 2020, daily water consumption averaged 280 liters per capita, totalling over 10 million cubic meters per day (m³/d), projected to reach 14.5 million m³/d by 2040. With a population reaching 32.2 million in 2022, there's been a 70 percent increase in potable water demand, pushing the Kingdom's overall water demand to an estimated 25.29 billion m³ annually, projected to rise slightly to 25.79 billion m³ by 2025. Economic development and a high standard of living further drive demand, underscoring its significance.

The agricultural sector compounds pressure on the country's already exhausted non-groundwater resources, utilizing nearly 84% of groundwater, while industry accounts for 3% and residential/domestic use for 13%. Experts warn that at current extraction rates, groundwater reserves may not last another 50 years, emphasizing the urgency for government intervention.

The total production and transmission cost of desalinated water have risen significantly, from about \$0.87/m³ in 2006 to approximately \$1.09/m³ in 2010, with an average annual rate of

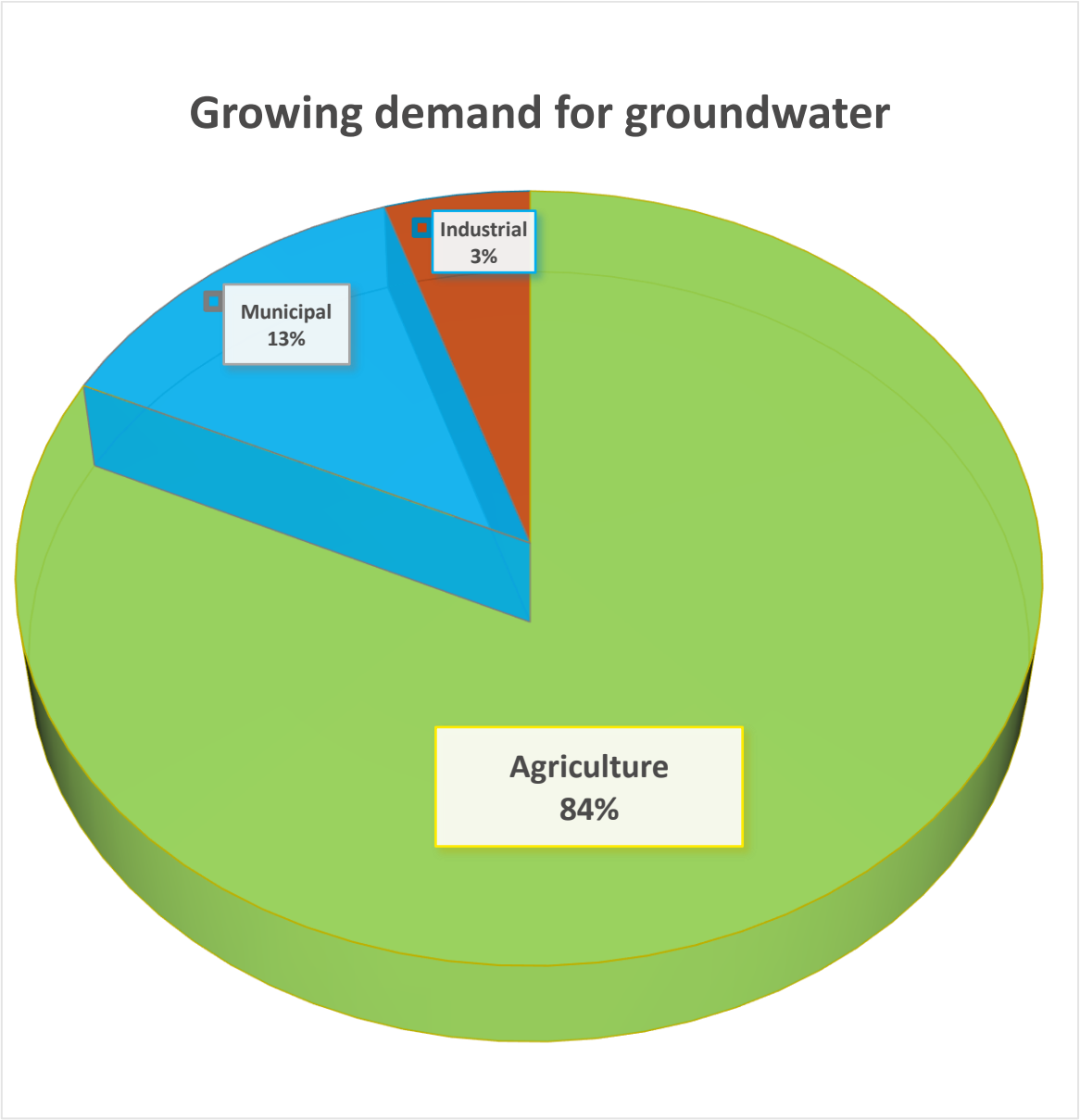
1. Centre, UNESCO World Heritage. "Water Management in Saudi Arabia: The Ancient Dams." UNESCO World Heritage Centre, whc.unesco.org/en/tentativelists/6637/



US\$4.6/m3. This means the government subsidizes about US\$3.6 per cubic meter, a considerable challenge, especially considering water transmission costs surpass water production costs.

Water losses are also substantial due to aging distribution systems and inefficient usage, with Saudi Arabia losing up to 40 percent of transmitted water, including 25 percent in urban areas. However, estimating overall water losses remains challenging due to a lack of clarity.

Additionally, Saudi Arabia burns 1.5 million barrels of crude oil equivalent daily to produce desalinated water and generate electricity, resulting in significant environmental impacts. These include damage to marine ecosystems due to brine discharge and air pollution from CO2 emissions and other harmful gases, conflicting with Saudi Arabia's aim to achieve net-zero emissions by 2060.



SOLUTIONS

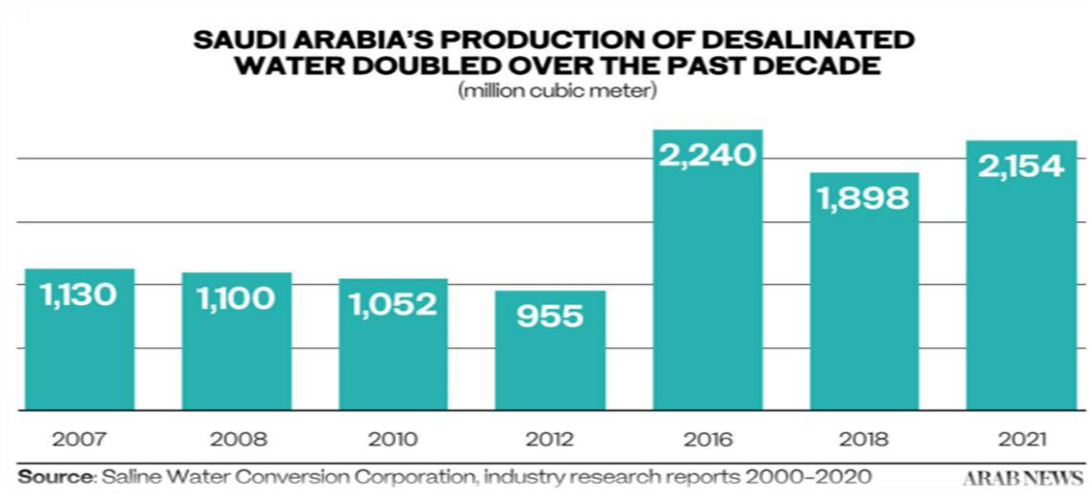
Against this backdrop, the Kingdom has undertaken initiatives such as the National Water Strategy 2030 in alignment with the Saudi Vision 2030, the economic and development plans launched by the Crown Prince in July 2016. This is aimed at optimizing water use, investing in cutting-edge technologies and ensure long-term sustainability through alternative sources. The Saudi government has implemented various measures to combat desertification, including reforestation programs, sustainable land management and the protection of sensitive areas. Investments in research and innovative technologies aim to mitigate the effects of desertification and promote more efficient use of natural resources in the country.

Although the Saudi government has ensured that more than 83 percent of its population has reliable access to potable water, the challenge of increased consumption and decreased supply has remained a priority of the Kingdom’s development goals. That is why the water sector has received unlimited attention and support from the leadership, and thus under the vision 2030 the government launched the national water strategy aiming to preserve water resources, to protect Saudi environment and to provide high quality and efficient services.

In March 2019, the Kingdom introduced the [National Program for Water Conservation](#), known as Qatrah, which translates to “droplet” in Arabic. This initiative was launched to preserve the country’s non-renewable water resources. Collaborating with the [National Water Corporation \(NWC\)](#), a Saudi joint stock company wholly owned by the Public Investment Fund, Qatrah aims to reduce 43% in the countries by 2030 which entails reducing the consumption from 280 liters per capita per day to 150 liters by 2030. As part of the Qatrah program, new tariffs for water and sanitary drainage services were implemented in 2016 for consumers in the government, industrial, and commercial sectors. Notably, these sectors are subject to significantly higher tariff rates compared to residential tariffs, in alignment with the conservation objectives of the program.

As part of its comprehensive approach to address water scarcity, the country has relied on desalinated water since the 1920s and has emerged as the world’s leading producer, with a daily output of 11 million m3 to meet urban demands. This accounts for 55% of the total GCC production and is anticipated to increase to approximately 14 million m3 by 2025. Saudi Arabia currently operates 39 desalination plants across 17 locations, with 33 plants managed by the [Saline Water Conversion Corporation \(SWCC\)](#), a government entity responsible for over 74% of the Kingdom’s desalination output (11.5 million m3/day and 4 billion m3 in 2022). The remaining output is generated by approximately six private plants. Desalinated water is widely distributed along the coasts, supplemented by surface water in the southwest region and groundwater in other areas.





Desalination technologies also play a critical role in Saudi Arabia’s water supply chain, providing a reliable source of potable water in regions where freshwater resources are scarce. The Kingdom’s desalination plants employ state-of-the-art technologies, such as reverse osmosis and multi-stage flash distillation, to produce high-quality water at scale. These technologies have enabled Saudi Arabia to become a global leader in desalination, with the capacity to produce over 2 million of cubic meters of water per day.

Investments in water distribution networks and storage infrastructure have improved the efficiency and reliability of water supply systems. Advanced metering and monitoring technologies allow for real-time monitoring of water usage and distribution, enabling authorities to detect leaks and optimize water delivery. Furthermore, the integration of smart technologies, such as IoT sensors and data analytics, has enhanced the management and operation of water infrastructure assets, leading to improved performance and cost savings.²

Hybrid desalination plants, such as the one at Ras Al Khair, represent a major step forward in water management in Saudi Arabia. These plants combine different desalination technologies, such as reverse osmosis and multi-effect evaporation, to optimize efficiency and reduce energy costs. They are also integrating a growing number of alternative energy sources, such as solar power, to reduce dependence on fossil fuels and promote sustainable development.

The use of solar energy in desalination plants offers a twofold advantage in Saudi Arabia. Firstly, it reduces oil consumption and associated carbon emissions, thus contributing to the transition to a greener economy. Secondly, it offers an abundant and renewable source of energy, particularly suited to a country characterized by a year-round sunny climate. This innovative approach testifies to Saudi Arabia’s commitment to promoting energy efficiency and developing sustainable solutions to the challenges of water management.

²Hawash, Azza. “The History of Water Desalination in the Kingdom of Saudi Arabia.” Care water Solutions, 30 May 2021, carewater. solutions/en/the-history-of-water-desalination-in-the-kingdom-of-saudi-arabia/.



On the other hand, to meet rising demand, the Kingdom began the development of Independent Water and Power Projects (IWPPs) and IWPs since 2002 in collaboration with the private sector.

As part of the government's proactive approach to addressing its challenges, more significant initiatives have been undertaken to enhance wastewater management nationwide encompasses the initiation of pivotal projects aimed at bolstering the treatment of wastewater. These initiatives entail the establishment of new wastewater treatment plants and the upgrading of current infrastructure within urban and industrial sectors. Employing cutting-edge wastewater treatment technologies like reverse osmosis, membrane filtration, and ultraviolet disinfection, these plants efficiently eliminate contaminants and pollutants from wastewater, ensuring a cleaner and healthier environment for all.

To further reduce leakage and waste, Saudi main focus is to reuse wastewater over 70% by 2030 & 90% by 2040 while ultimately, MEWA plans to reduce losses to 15 percent by 2030. Saudi Arabia has 204 wastewater treatment plants produce more than 5m³/day mainly used for watering green spaces in cities, irrigating crops, or reused in industry and recharge renewable groundwater aquifers. Valued at \$4.69 billion the Kingdom's water reuse market is estimated as the third largest in the world after China and the U.S. Treated and repurposed wastewater is cheaper on average to produce than desalinated water; for this reason, the Kingdom considers it as an important source of water for certain uses and so has set a goal to achieve 100 percent reuse of treated urban wastewater by 2050.

The Kingdom has also set a goal to increase national wastewater treatment processing capacity to 8.4 million m³/d by 2030 to meet rising demand and appears to be on-track, with 3.2 million m³/d under construction or under tendering to be added to the country's current treatment capacity of 5.6 million m³/d by 2030.

On the other hand, Saudi Arabia aims to become the Gulf Cooperation Council's largest market for treated sewage effluent (TSE) aiming to increase TSE reuse to 70 percent (nearly 4 million m³/day) by 2030 under the Kingdom's National Water Strategy.

Moreover, the Saudi government is implementing awareness and training programs to inform the public about the importance of wastewater management and encourage responsible water use practices.

These programs aim to promote waste reduction and water conservation, as well as encouraging community participation in environmental protection.

In a strategic move to minimize reliance on groundwater for crop irrigation, the government took the decision in 2016 to discontinue subsidies for water-intensive crops. This measure was implemented to deter excessive agricultural water consumption. Consequently, the Kingdom has ceased domestic agricultural production of products like wheat and other cereals. Additionally, the cultivation of green fodder has been subject to stringent regulations imposed on both small and large-scale farmers. Tasked with mitigating freshwater usage by farms, the [Saudi General Organization for Irrigation](#) is actively engaged in reducing reliance on fresh water through the provision of treated water as an alternative resource.



PUBLIC-PRIVATE PARTNERSHIP (PPP) IN WATER SECTOR



first independent sewage treatment plant (ISTP) (Arab News)

To further Vision 2030’s objectives on privatization in the water sector MEWA has launched the National Water Strategy to regulate privatization and reach 100% privatization by 2030 and also to outline the separation of its water production assets from the transmission assets and so established the Water Transmission and Technologies Company ([WTTCO](#)) to support the Kingdom’s water privatization and restructuring program. Under this strategy, the National Water Company (NWC) is also opening opportunities for private firms to help develop 114 sewage treatment plants with a total processing capacity of 5.1 million m3/d.

With MEWA guidance, the National Center for Privatization & PPP (NCP) is responsible for enabling the privatization program for the water sector with its mandate includes enablement, policy making, framework development and monitoring. For example, NCP announced in April last year, that it will tender six wastewater treatment projects under the Public-Private Partnership (PPP) model in 2024.

The [Saudi Water Partnership Company \(SWPC\)](#), an entity fully owned by the Ministry of Finance responsible for supervising public-private partnership development for water desalination and wastewater projects and has emerged as one of the leaders among PPP grantors in the GCC region. In 2020 SWPC built the country’s first independent sewage treatment plant (ISTP) to process up to 350,000 m3/d of wastewater which will serve as a model for future private sector wastewater initiatives.

OPPORTUNITIES IN THE WATER SECTOR

Opportunities abound in Saudi Arabia’s water and wastewater sector due to rising demand, extensive government projects, and nascent privatization efforts. This dynamic landscape presents a lucrative market for foreign companies specializing in engineering services for desalination and wastewater industries. While the Saudi government spearheads investment



initiatives in the sector, local private sector firms seek foreign technology partners and lenders to facilitate bidding on new contracts and expanding plant infrastructure. Notably, significant opportunities exist in various segments such as water transmission, desalination, wastewater treatment, irrigation systems, plant construction, drainage systems, drilling equipment, and more.

In the past year, Saudi Arabia earmarked a budget exceeding \$80 billion for the implementation of numerous water projects, reflecting its commitment to achieving universal access to safe and affordable drinking water for all citizens. Additionally, a substantial allocation of \$40 billion was designated for water projects within the five-year capital portfolio of the environment. This portfolio encompasses around 1,335 projects aimed at bolstering the country's water infrastructure and thus represent an opportunity for companies to participate in this development.

Tender opportunities are typically posted on the NCP website, and companies can also explore the websites of SWPC and WTTTCO for additional opportunities. An especially useful feature is that the SWPC website provides a list of private companies involved in their projects. This enables companies to gain insights into potential collaborations and partnerships within the industry.

WASTE

INTRODUCTION

Saudi Arabia is facing growing waste management challenges, due to rapid population growth, urban development, and industrialization. This problem is embedded in a country that has undergone a major economic transformation in recent decades. Historically focused on the oil industry, the Saudi economy has diversified and experienced sustained growth, leading to rapid urbanization and increased waste production.

With a population of around 32 million and the per capita waste generation is estimated at between 1.5 and 1.8 kg per person per day., Saudi Arabia produces about 53 million tons³ of waste every year and still more than 106 million tons of waste are expected to be generated by 2035 a hazard that contaminates its soil and groundwater in addition to its effect on wildlife and the environment of the country's seawater and coasts for which to manage the country needs 1,329 treatment facilities and landfills to treat it. Nearly half of the total waste comes from the three big cities with 21 percent comes from Riyadh (11mn tons), 14 percent from Jeddah, and eight percent from Dammam.

The Industrial sectors and population produce all type of hazard and non-hazard waste from construction demolition waste to municipal solid waste (15 million tons of garbage a year), agricultural waste, industrial and medical waste, sewage waste, special waste (electronic, tires,

³ Kinani, Mohammed Al. Saudi Arabia's War on Waste: New Refuse Management System To ..., 31 Aug. 2021, www.arabnews.com/node/1920626/saudi-arabia.



damaged cars, batteries), radioactive and nuclear waste. Moreover, Saudi produces around 7 million tons of plastic waste, worse than that Saudis make heavy use of disposable products, notably single-use plastics.

CHALLENGES

Despite the government efforts in reducing waste, challenges persist, including the expansion of the informal waste management sector and the need to promote the recycling and reuse of materials. The bulk of garbage produced in the nation is contributed by municipal solid waste (MSW), which makes up the greatest portion of the waste stream.⁴

The management of waste in Saudi Arabia presents a series of significant challenges include:

- **Limited waste Recycling:** Currently, only a minimal portion, approximately 5%, of municipal solid waste undergoes recycling, leaving the remaining 95% to be disposed of in various ways, including landfills and incineration. While there is growing attention towards recycling, reuse, and energy recovery, these efforts are still in their infancy.
- **Primitive collection methods:** One notable aspect is the reliance on manual and labour-intensive methods for recycling activities. The informal sector plays a pivotal role in waste sorting and recycling, extracting valuable materials such as paper, metals, and plastics from municipal waste. However, this process is largely unregulated and lacks efficiency. In urban centres like Riyadh, the capital city renowned for its modernity, the prevalence of garbage bins lining the streets is a stark reminder of the waste management challenges.
- **Landfill demand is alarmingly high** reaching approximately 28 million cubic meters per year. Most landfills in Saudi Arabia are nearing their capacity, with projections indicating that they will reach full capacity within the next 10 years. This poses a significant challenge, as once the landfill sites are filled, the land becomes unusable for other purposes, such as residential development. Furthermore, Saudi Arabia lacks standardized regulations for landfill construction, relying instead on the experience of engineering and construction companies. Consequently, many landfill sites are sub optimally operated, functioning as dumpsites without proper base liners.
- **Limited Recycling Rate:** Saudi Arabia struggles with a low recycling rate compared to other affluent nations, despite efforts to promote waste reduction and recycling. This is primarily due to inadequate infrastructure, a lack of knowledge about recycling practices, and a weak regulatory system. As a result, most waste ends up in landfills, posing risks to the health and environment of local residents. Addressing these challenges is essential for the Kingdom to develop a robust recycling sector and improve waste management practices.

⁴ Saudi Arabia's War on Waste: New Refuse Management System To ..., www.arabnews.com/node/1920626/saudi-arabia. Accessed 19 Feb. 2024.



- **Technological Innovation:** lack of innovative waste management technologies and solutions, such as advanced sorting systems, composting techniques, and waste-to-energy technologies, to improve efficiency and environmental sustainability.

Solutions: War Against Waste

The Saudi government has recognized this importance and made waste management a national priority, with massive investment in waste treatment infrastructure and the introduction of more stringent environmental legislation. While maintaining responsibility toward its people and environment, Saudi Arabia has taken serious measures to improve recycling and waste management in the country. In this regard and as part of the Saudi vision goals, the Saudi Cabinet has recently approved a waste management Law launched mainly to regulate the transport, segregation, storage, import, export, safe disposal of waste and all other related activities.

Leading the charge are key stakeholders including the [Ministry of Environment, Water and Agriculture \(MEWA\)](#), responsible for the regulation and implementation of all aspects of the country’s policies for the environmental, water and agricultural sectors, [the National Center for Waste Management \(MWAN\)](#) Regulates and supervises waste management activities and promotes principle of circular economy in waste management to achieve sustainable development goals, and the [Saudi Investment Recycling Company \(SIRC\)](#), develops, owns, operates, and finances various activities across all waste types, [National Center for Environmental Compliance \(NCEC\)](#) oversees issuance of licensing and accreditation services to organizations offering environmental services. Together, these entities are spearheading efforts to revolutionize waste management practices in the Kingdom, driving progress towards a more sustainable and environmentally conscious future.

While Mwan’s goal is to recycle 35 percent of all types of waste by 2035 and aims to contribute more than 650 billion rials (\$173 billion) to GDP by 2040⁵, SIRC seeks to divert 85 percent of hazardous industrial waste, 100 percent of solid waste, and 60 percent of construction and demolition waste away from landfills by 2035. Meanwhile, the Ministry of Municipality with MWAN have a target to reverse the percentage and recycle 94% by 2030.

Also, last year MEWA launched SR40 billion (\$10.66 billion) plan to reduce waste in food. On the other hand, Riyadh Municipality, Mwan and SIRC are leading an initiative to transform waste management in Riyadh. This program aims to divert 94 percent of waste generated in Riyadh away from landfills and compost more than 1.3 million tons of biodegradable waste which is expected to reduce 4.1 metric tons per annum of carbon dioxide emissions.

In a groundbreaking initiative, the MEWA in Saudi Arabia has launched a new campaign entitled “Waste has value”. The campaign is an important step towards adopting correct waste management practices and tracking violations according to a new classification system. The centre aims to regulate waste management practices in the kingdom, from the source to the final treatment of waste. Average waste production per person exceeds 1.7 kilograms, higher

⁵ Mon, et al. “Saudi Arabia Unveils Major Plan to Develop Waste Sector.” GCC Business News, 15 Jan. 2024, www.gccbusinessnews.com/saudi-arabia-to-develop-waste-sector/.



than the global average, highlighting the urgent need for innovation and investment in the sector.

In collaboration with academia, SIRC has signed an MOU with King Abdullah University of Science and Technology (KAUST) to develop Saudi Arabia’s infrastructure and waste management agenda, this collaboration aimed at promoting SIRC’s commitment towards supporting KAUST startups as well as support for technology development projects and other ongoing R&D to accelerate the transformation of the Kingdom’s waste recycling sector towards Saudi Vision 2030 goals.

Meanwhile, companies specializing in waste recycling, such as WASCO, help to reduce environmental impact by transforming waste into valuable resources. Working together, these key players cover the entire spectrum of water and waste management in Saudi Arabia, providing integrated solutions to meet the country’s growing needs while promoting environmental sustainability.

On the other hand, Saudi Aramco and Sabic have implemented initiatives to address the challenges posed by hazardous and plastic waste, with strategies focused on reducing their generation, increasing recycling rates, and finding innovative ways to reuse materials within their operations. Likewise, Maaden is actively working to mitigate the environmental impact of mining activities by implementing measures to reduce mining waste and optimize resource utilization. Through the concerted efforts of these leading state-owned companies, Saudi Arabia is making significant strides towards achieving its sustainability goals and advancing the circular economy agenda. These initiatives not only contribute to environmental conservation but also demonstrate a commitment to responsible resource management and sustainable development within the kingdom.

In ongoing efforts to minimize waste generation, safeguard fragile ecosystems, and optimize the utilization of reusable materials, Saudi Arabia is embracing the principles of a circular economy ⁶

a closed-loop system anchored in the 3-R approach: Reduce, Reuse, and Recycle. As part of this commitment, Saudi Arabia aims to divert 60 percent of construction and demolition waste away from landfills, with 12 percent being recycled, 35 percent reused, and 13 percent treated by 2030. Additionally, Saudi Arabia is prioritizing the creation of value within its circular economy by emphasizing “waste-to-energy” initiatives. This involves the drying and incineration of garbage, raw sewage, and industrial sludge aim to produce renewable energy from waste streams and lower CO2 emissions.⁷ In addition, Saudi Arabia is striving to reduce its carbon footprint by cutting carbon emissions by 56% by 2024, with the ultimate goal of achieving a 100% reduction in emissions by 2030.

⁶ Arab News “How a Culture of Recycling Can Reduce Waste Generation in Saudi Arabia.” Arab News PK, 28 Jan. 2022, www.arabnews.pk/node/2013556/saudi-arabia.

⁷ Salman Zafar. “Solid Waste Management in Saudi Arabia.” EcoMENA, 26 Feb. 2023, www.ecomena.org/solid-waste-management-in-saudi-arabia/.



This year, Saudi Arabia is planning to invest SAR 55 billion (US \$14.67 billion)⁸ in an ambitious initiative aimed at recycling approximately 95% of its waste. This comprehensive plan encompasses a robust institutional framework comprising over 65 initiatives.

In 2021, Saudi Arabia demonstrated its commitment to tackling waste management challenges and advancing environmental sustainability efforts through innovative solutions⁹. The National Center for Waste Management (NCWM) and Makkah Municipality's Hygiene Department collaborated to distribute 15 smart, solar-powered machines in Makkah, aimed at collecting and sorting empty plastic bottles. This initiative, conducted in partnership with PepsiCo and its bottling partner, Middle East and North Africa Beverages Manufacturing Co (MenaBev), sought to raise awareness about the importance of sorting plastic waste at the source to preserve the environment. By encouraging people to deposit empty plastic bottles into the smart containers, the campaign aimed to promote environmentally responsible behaviour and contribute to the effective management of plastic waste.

1.1 Opportunities In the Waste Sector

Against this backdrop, Saudi Arabia's waste management market presents attractive investment prospects for companies keen to provide innovative, sustainable solutions to the country's growing waste management requirements. The waste market dynamics is shaped by factors such as technological expertise, financial resources, and regulatory standard.

Companies that offer innovative solutions, cost-effective services, and sustainable practices are well-positioned to succeed in the market. Collaboration and partnerships between public and private entities are driving innovation and investment in the sector, fostering a competitive yet collaborative environment. Additionally, the adoption of the circular economy model unveils significant opportunities across product lines, energy generation, and service offerings which contribute to the diversification of Saudi Arabia's economy away from its reliance on oil and its byproducts but also align closely with the objectives outlined in the Kingdom's Vision 2030 reform strategy.

Collaborating with MWAN, which facilitates investment localization through license issuance, can be facilitated through its commercial arm, Global Environmental Management Services (GEMS) specializes in providing hazardous waste management, industrial, and engineering services to oil, petrochemical, and industrial corporations. In addition to its core services, MWAN offers training programs aimed at enhancing performance levels and building the technical capabilities of personnel engaged within the system. This presents an opportunity for training providers to engage with MWAN and contribute to the development of skilled professionals in the sector.

⁸ Arabnews. Saudi Arabia Unveils Plan to Recycle up to 95% of Waste in 2024, 14 Jan. 2024, www.arabnews.com/node/2441531/business-economy.

⁹ Arab news. Smart Containers Launched to Collect Plastic Waste in Makkah | ..., 23 Mar. 2021, www.arabnews.com/node/1830046/corporate-news.



Conversely, SIRC operates independently, enabling direct engagement with international entities without the necessity of obtaining MWAN’s license. This presents an attractive proposition for companies seeking partnerships with waste operators, Engineering, Procurement, Construction, and Management (EPCM) firms, particularly those in the technology sector. SIRC also collaborates with non-profit organizations and the private sector, creating avenues for international companies with Saudi partners to enter the market seamlessly. This dual approach underscores SIRC’s flexibility and broad reach, offering diverse opportunities for collaboration across various sectors and organizational structures.

Opportunities also abound for large corporations to engage with [Acwa Power](#), which oversees waste management in [Neom](#) and the [Red Sea project](#). These projects provide a platform for collaboration, whether through partnerships with Saudi entities or by establishing a presence within Saudi Arabia. For SMEs, the prospect lies in collaborating with local companies involved in these projects, leveraging their expertise and networks to contribute to the initiatives’ success.

Indeed, the waste sector demands comprehensive solutions spanning material recovery facilities, hazardous waste treatment, recycling processes, and the conversion of waste into valuable resources or raw materials. Moreover, there is a growing need for engineering and construction services tailored to recycling facilities and technologies. Additionally, automation and Artificial Intelligence solutions are becoming increasingly vital in enhancing efficiency and effectiveness within the waste management ecosystem. Meeting these diverse requirements is crucial for advancing sustainability efforts and addressing the evolving challenges within the waste sector.

CONCLUSION

In conclusion, the market study on water and waste management in Saudi Arabia reveals a dynamic and evolving landscape, offering numerous opportunities for investment and collaboration. Faced with the challenges of population growth, rapid urbanization and industrialization, the Saudi government is committed to modernizing its infrastructure and strengthening environmental regulations.

The water and waste management sectors are undergoing rapid transformation, driven by initiatives including large-scale irrigation, seawater desalination projects, independent water plants, and the construction of dams, alongside advancements in water and waste technologies. International companies stand at a unique juncture to contribute significantly to this transition, leveraging their expertise and innovative technologies. This can be achieved through establishment of local offices in Saudi Arabia or forging partnerships with indigenous companies such as [Saudi Partnership Company](#), [SEPCO Environment](#), [Waste Collection and Recycling Co](#), [Tadweer](#), [Taqnia](#), [Yanbu United Company](#), [Jeddah Development & Urban Regeneration Company](#), and [AlQaryan Group](#). Alternatively, engaging agents or distributors that participate in government tenders can also facilitate market entry.

Our office stands ready to assist by providing lists of local companies active in both sectors. Furthermore, discovering market opportunities can be expedited by attending water and waste forums and exhibitions, such as [The Global Water Expo](#), [The Saudi Water Forum](#), the [Saudi Circular Conference](#). These platforms offer invaluable insights, networking opportunities, and



potential partnerships to capitalize on the burgeoning prospects within the Saudi Arabian water and waste management landscape.

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Written by:

- Ebtisam Ahmed – FIT Riyadh
- Insaf Akki – FIT Intern

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