

A high-angle photograph of a worker in a yellow protective suit and orange hard hat, kneeling on a vast field of blue solar panels. The worker is positioned in the lower right quadrant, appearing to be working on or inspecting the panels. The solar panels are arranged in a precise grid pattern, extending towards the horizon. The overall scene is dominated by the blue color of the panels and the yellow of the worker's suit.

Environmental Services Sector

Sector Overview

Environmental projects undertaken by Kuwait signifies the country's commitment globally to utilize green forms of energy and reduce dependence on fuel-based sources of energy.



Kuwait offers interested investors a host of mega investment opportunities in environmental services projects in the field of solid waste recycling and management, wastewater treatment, and solar energy to attain the goals of the National Vision 2035 and its development plans.



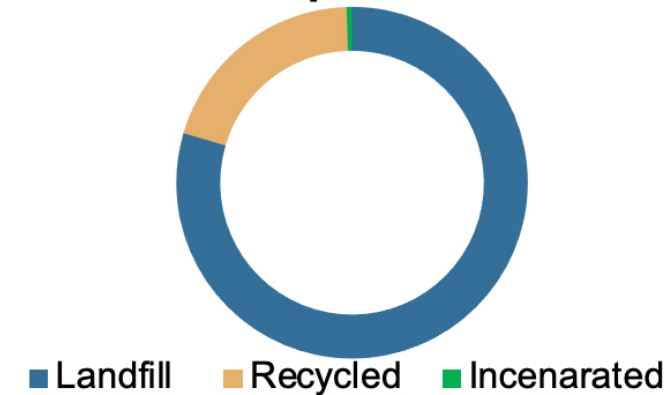
Solid Waste Management

MARKET FACTORS

- The growing population of Kuwait and the rising infrastructure and construction activities in the country have caused Kuwait to accumulate rising amounts of solid waste placing it in the top third country within the GCC.¹

Location	Size (Million sqm)
Jahra	1,915
South Seventh Ring	5,358
Mina Abdullah	6.7
Other	6.0

Waste Disposal Method



- To address the issue of the disposal of solid waste, Kuwaiti Municipality, licensed a Solid Waste Treatment Facility in Kabd area on a PPP basis. The solid waste treatment plant has a capacity of 3,275 tons per day and is estimated to cost approximately USD 1,926.9 Mn.³
- The Environment Public Authority of Kuwait, established in 1995, issued a new environment protection Law No. (42) of 2014 amended by Law No. (99) of 2015, to ensure a strict adherence to the environmental regulations stated, to prohibit unlawful dumping of harmful solid waste in Kuwait.

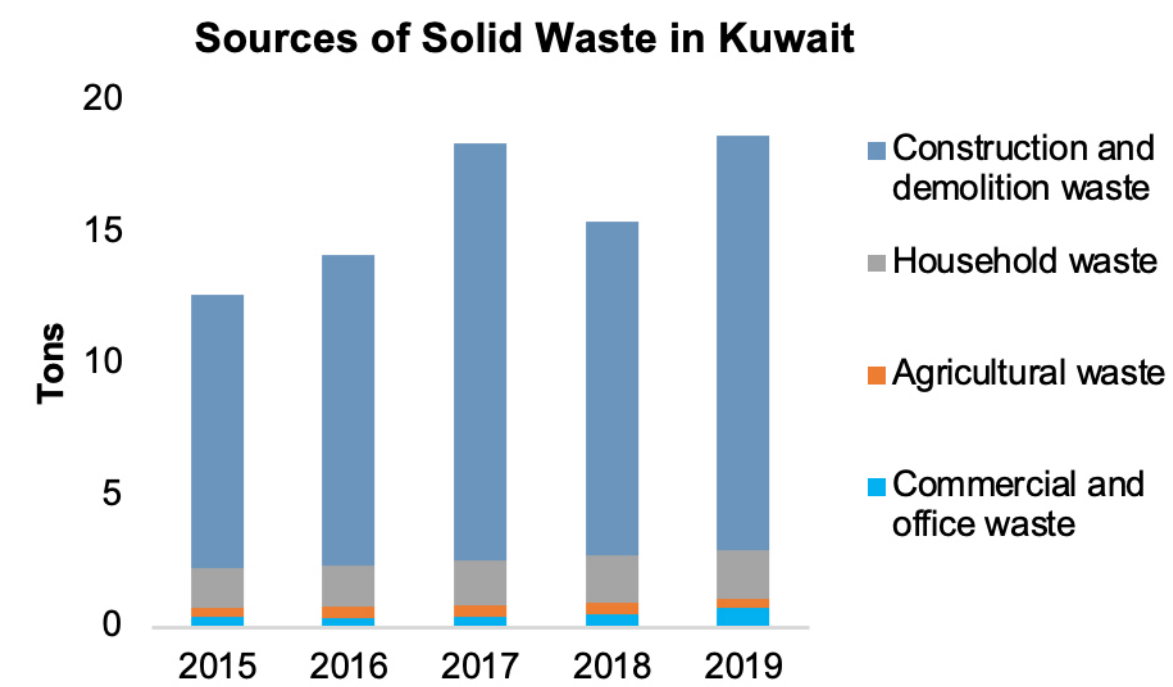
Sources: ¹International Journal of Environmental Science and Development, ²CSB, ³KAPP, ⁴Global Recycling.



Solid Waste Recycling

MARKET FACTORS

- Kuwait produced an estimated 18,669,248 tons of solid waste in 2019.¹
- The main source of solid waste is the construction and demolition waste comprising 84%¹ of the total solid waste produced, that includes concrete, bricks, ceramic, insulation materials, glass, plastic, and metal, none of which are biodegradable.



- The second source of solid waste is household waste with a share of 10%¹ of the total solid waste produced, comprised of biodegradable waste such as paper and wood as well as non-biodegradable waste including plastics. The remaining sources are from commercial and office waste, and agricultural waste.
- The Environment Public Authority of Kuwait is the chief enforcer of environmental laws and regulations in the country and is entrusted with the task of ensuring that waste is handled with care and is considered for recycling.²

Sources: ¹CSB, ²EPA.



Wastewater Treatment

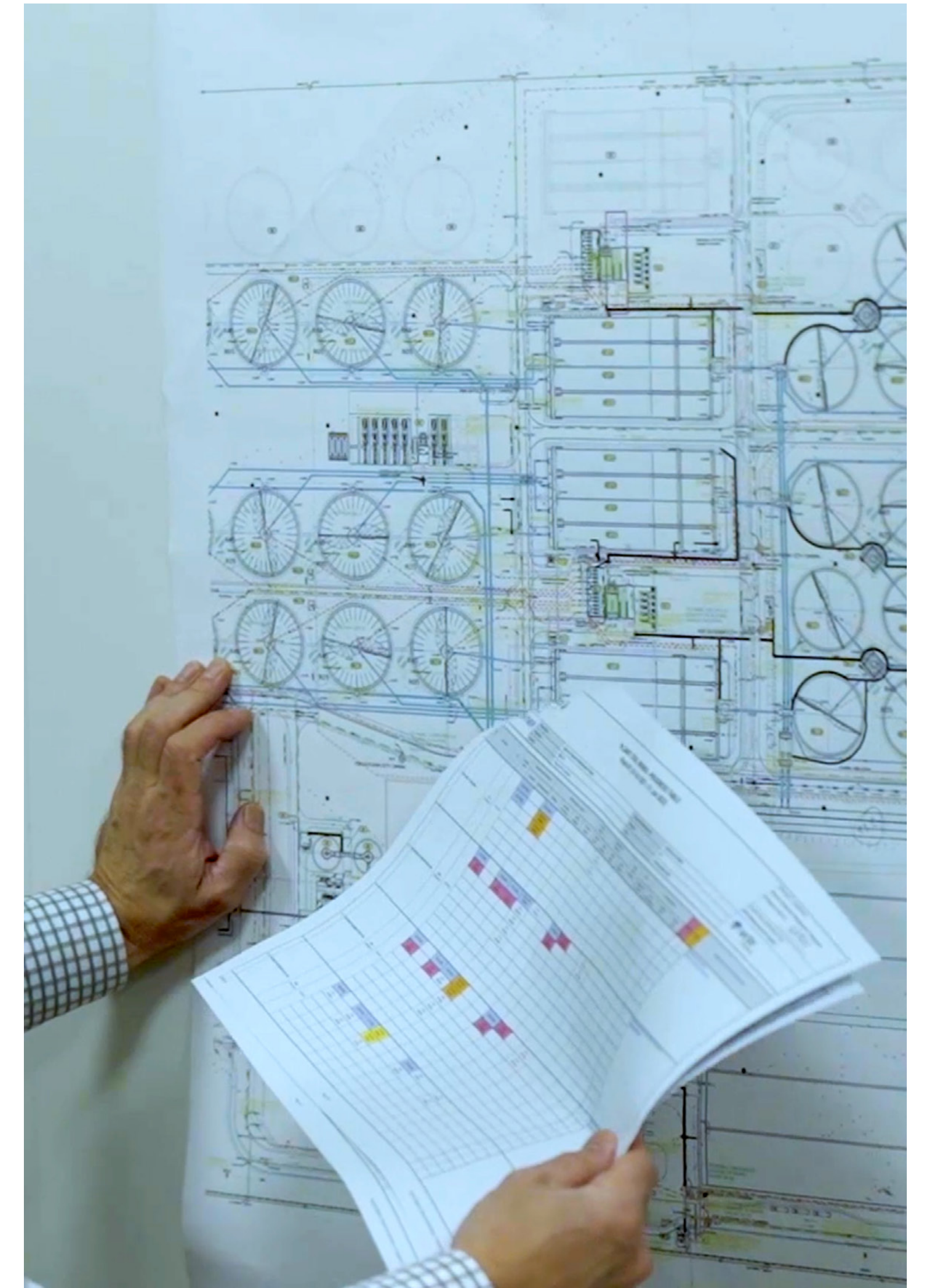
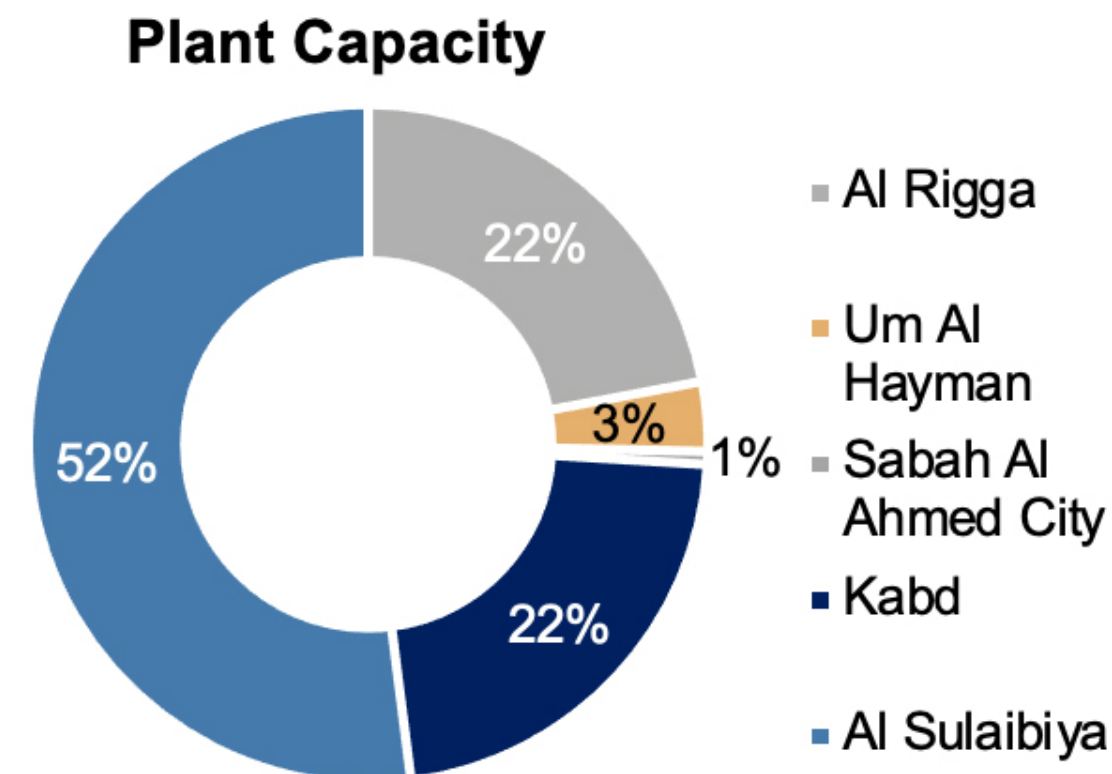
MARKET FACTORS

- Kuwait has 5 operating household wastewater treatment plants with a maximum capacity of 817,000 m³/day,¹ while Al Wafra station (with a capacity of 6,000 m³/day), is currently out of operation, and Al Khairan Station (with a capacity of 5,600 m³/day) is not yet operational. These plants are:

Treatment Plants	Operating Year	Design Capacity (m ³ /day)	Average Water Treatment (m ³ /day)
Al Rigga	1982	180,000	151,558
Um Al Hayman	2001	27,000	24,300
Kabd	2011	180,000	145,000
Al Sulaibiya	2004	425,000	350,000
Sabah Al Ahmed Sea City	2020	5,000	-
Total		817,000	

- The government is actively seeking the participation of the private sector in wastewater treatment projects and had previously operated Al Sulaibiya and Kabd projects successfully on a PPP basis.
- A new plant is proposed at Um Al Hayman with a capacity of 500,000 m³/day which is being developed through Kuwait Authority for Partnership Projects (KAPP) on a PPP basis.²
- The government of Kuwait is also pursuing the increase of the capacity of Al Sulaibiya and Kabd plants to 600,000 m³/day and 250,000 m³/day respectively.³

Sources: ¹CSB, ²KAPP, ³KDIPA.



Solar Energy

MARKET FACTORS

- Kuwait has abundance of sunshine year round with an average of 10 hours daily, which makes it in a strong position to harness the solar energy in multiple utilization.
- A joint partnership initiative was signed in 2018 that included the Kuwait Foundation for the Advancement of Sciences (KFAS), Kuwait Institute for Scientific Research
- (KISR), the Ministry of Electricity and Water and Renewable Energy, Kuwait Municipality, and the Public Authority for Housing Welfare to construct, operate, and monitor rooftop grid-connected photovoltaic (PV) systems for a total of 150 Kuwaiti homes, at a rate of 50 homes per year over the course of three years.⁴
- Kuwait is keen to the cause of climate change and is serious about reducing its carbon footprint by reducing carbon emissions. During the 2021 Conference of the Parties (COP21) of the United Nations Agreement on Climate Change, Kuwait has committed to³:
 - Reduce carbon emissions by 7.4% by the year 2035.
 - Reduce carbon emissions to its lowest point by 2050.
 - Give more importance to the utilization of renewable energy and liquid gas.
 - Increase the reutilization of emissions and other gasses (methane and carbon dioxide).
 - Increase the size of the natural conservatories to 15% of the total area of Kuwait.
 - Plant mangrove plants in the coastal areas and the northern islands to store carbon.

Sources: ¹MEW, ²British Petroleum, ³KFAS, ⁴AIQabas.

