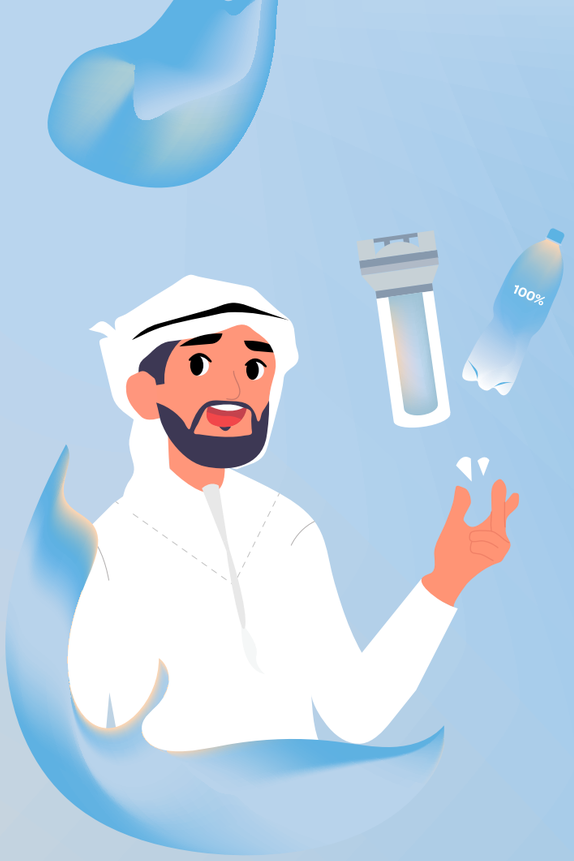
# Integrated Water Resources Management Plan in Abu Dhabi

Today, Abu Dhabi Emirate relies on desalination for 100 % of its potable water needs. Recycled water use is increasing however it is still an underutilised resource. Groundwater extraction rate is increasing and exceeds natural recharge rates, leading to depletion and increased salinity.

However, the leadership of the Abu Dhabi Emirate recognises the importance of developing sustainable water resources management practices, it is the most valuable natural resource within rapid social and economic prosperity. The Water Resources Management Plan comprises both governance and technical based solutions that together aim to optimise water resources. This plan comprises several actions that have been planned by EAD and the authorities responsible for securing and sustaining water. To be implemented in cooperation with different parties in several stages and will be completed within 10 years. The plan also includes three main waters categories, the estimated percentage of consumption of each category:




**Groundwater**
61 %

**Desalinated water**
30 %

**Recycled water**
9 %

## Desalinated Water



**Residential landscape irrigation efficiency**

The initiative comprises an outreach programme with educational, regulatory and incentive-based components aimed at reducing consumption of water in residential gardens.



**Evaluate capital cost reduction**

The initiative focuses on an assessment of materials and technologies for reducing the high initial capital cost of desalination plants.

## Groundwater

**Monitor all groundwater consumption**

The initiative aims to build on ongoing activities to ensure measurement devices would be installed on all of the emirate's 45 000 groundwater wells.

**Improve water efficiency of agriculture**

Due to the fact that 90 % of water used for agriculture purposes is groundwater, and the recommendation is to focus on Date Palms, this initiative aims to improve the efficiency amount of the groundwater needed for date palm irrigation.



**Establish and enforce overall groundwater cap**

The initiative aims to build on the efforts underway through Law no.5 of 2016, which limit water use per farm based on the crop calculator developed by EAD, and disseminate the best practices and efficient technologies to enable conservation the groundwater.

## Recycled Water

**State of art recycled water masterplan**

The initiative aims to overarching strategies, to develop more robust, dynamic, flexible and technology enabled master plan for recycled water.

**Smart expansion of recycled water networks**

The initiative aims to ensure alignment on the planning level between recycled water use priorities and infrastructure network expansion plans.

**Expand recycled water for new special developments**

The initiative aims to use recycled water to irrigate green spaces in both public and residential parks, as well as for other outdoor uses.

**Apply performance based contracts**

The initiative aims to operate and maintain recycled water systems of irrigation management.



**Zero waste sewage treatment plant**

The initiative aims to enhance the sustainability of wastewater treatment and recycled water production by utilising biogas generated from sludge stabilisation to power recycled water treatment and use remaining sludge as soil fertiliser to improve agriculture productivity or also using it as a fuel in the cement industry towards zero waste.

**Develop annual KPIs to achieve UAE KPIs**

The initiative aims to monitor yearly progress to increase reuse treated waste water to 95 % which aligns with the UAE Water Security Strategy 2036.

**Assign value to recycled water**

The initiative aims to study the viability of introducing recycled water and wastewater tariffs to increase cost recovery and develop a foundation for a financially sustainable water sector.

**Research and development of innovative recycled water production and schemes**

The initiative aims to create a recycled water centre of excellence or a dedicated research and development body for recycled water that is mandated to explore innovative technologies and ways to convey and treat wastewater and distribute recycled water.

**Study to reduce recycled water salinity**

The initiative calls for commissioning a techno-economic study that investigates ways to reduce the salinity of the recycled water produced.

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