



UNITED ARAB EMIRATES  
MINISTRY OF ENVIRONMENT & WATER

## Ministry of Environment and Water adopts a decimal strategy to enhance the water policy and improve the efficiency of water demand management

The Ministry of Environment and Water in UAE has adopted a range of initiatives and operational activities within a decimal strategic plan 2011-2021 to preserve water resources, which focus mainly on water demand management and its rational use in all sectors, as well the ministry established a methodology for management of water resources demand, integrated with the efforts of concerned authorities for water supply resources management in the state, and is working on application and activate the activities and guidelines of this strategy within the initiatives and activities of its operational plan under its strategic sustainability of water security, in coordination and cooperation with its partners key stakeholders in the state.

The strategy has also included a recent and integrated assessment for water resources and its uses in the state, as well clarified the main factors and guidelines to promote the water policy and improve the efficiency of water demand management and environment protection, and higher rates of water security.



The strategic directives include a range of initiatives and programs toward the development of legislation, standards and mechanisms for national action for the integrated management of water resources, and improve the management of natural water resources and the preservation of fresh groundwater and support the strategic reserve, in addition to develop of an agricultural policy in order to conserve water and increase the value added of the economy, and manage the demand of desalinated water, and review the water tariff, and rationalization of consumption to the limits of the global average of per capita consumption, as well as better management of water treatment and diversify their uses, and work to national capacity development and strengthening of local expertise on the concepts of integrated management of water resources.

The water demand in UAE at the current time is equivalent of 4.5 (four and a half) billion cubic meters annually, and it is expected to be double by 2030, and this amount of water used is not considered high when taking into account the growth of population and economic as well the high standard of living in the State, while taking into account the average daily per capita consumption of

water by an average of 360 liters per person per day, it is considered high compared to the world average daily per capita consumption of water which is 200 liters per person per day.

The percentage of water consumption for irrigation in UAE is 60% of the total consumption of water in the state, where 39% is used for productive agriculture, 11% used for greening and landscaping, and 10% for forestry, while the amount of the municipal use for household and industrial purposes is 40% of the total consumption of water.

Water supply in UAE depends on three main sources; groundwater 50%, desalination of sea water 40%, and treated wastewater 10%. The State depends mainly on desalinated water in the provision of municipal water intended for drinking purposes and domestic use, as well commercial and industrial use, and it comes in an advanced rank among the countries producing desalinated water at the global level, because of the growth of water needs, and the lack of natural water resources, represented in the groundwater and the scarcity of rainfall with high temperatures and increase in the evaporation rates.

The groundwater is found in all regions of the UAE, and its potential quantity and quality in any area depends mainly on the geological formations prevailing in that region, where areas of gravel flats and oases in the country are with high potential of water, but as a result of pumping operations continued substantially over previous years with limited rates of natural feeding, severe depletion of the ground water has been developed in certain areas of the country such as Al-Thaid, Al-Hamraniya and Alain, where the most important negative phenomena related is the under ground desertification, due to depletion of the ground water depth and increase in the concentration of salts in water and as a result of seawater intrusion in coastal areas or overlap with the salted water of some geological formations deep. This has a direct impact on agricultural activity and low productivity of agricultural crops, and more important is the decrease in strategic reserves of fresh water in general.

The agricultural sector is considered the major consumer of groundwater, where agriculture accounts for 90% of the ground water, and 2% for home consumption, and 8% for other uses. The Ministry of environment and water has to work on the development of techniques of harvesting rainwater and floods through dam construction projects, and harvest rain to increase the rates of groundwater recharge, as well as to conduct studies to increase groundwater recharging from rainwater trapped behind dams, where 116 dams and barrier were built until the end of 2011, the ministry also has devoted a budget of 8 million Dirham for initiative survey and assessment of the groundwater and initiative of increasing the area of efficiency harvesting and sustainability of rainwater to increase, and development of underground water reserves in the Ministry Strategic Plan 2011-2013.

The Ministry on going basis coordinates with the relevant local authorities in water resources management and license to exploit, and organize the drilling of groundwater wells and their uses in various areas through laws and legislation issued on that bases, and has set aside those laws penalties for each of the exploited groundwater resources without prior authorization or violates the technical specifications, or violated the nature of exploitation provided for in the license, where the laws regulating banned drilling of groundwater wells without a permit from the competent authority in the Emirate and in case of violation to obtain prior permission is a violation of an explicit, as should the licensee drilling commitment to the technical specifications determined in the license, including the violation of exceeding the maximum flow of the well and the signing of financial penalties.

In addition to work on the rationalization of water consumption in the agricultural sector through following agricultural policies aimed at reducing the plants with higher water consumption and support the agricultural systems saving in water use and high-yield unit of water and area as systems of protected agriculture and water (Alheidroponik), in addition to the use of modern irrigation systems and the continuation of outreach activities, education and counseling of water in the agricultural field, and the continued coordination and cooperation with the concerned authorities to develop policies, procedures and systems for managing of water demand and higher rates of water security in the country.

His Excellency Dr. Rashid Ahmad bin Fahad, Minister of Environment and Water issued in the year 2012 a decision bans export of bottled water producing from the groundwater outside the country, upon the decision of the Ministerial Council regarding the recommendations of the Federal National Council on Water Resources - bottled water.

The issuance decision of his Excellency aims to enhance water security in UAE, and the protection of groundwater resources from depletion, and development to ensure their sustainability for the present and future generations. The decision of export ban bottled water produced from groundwater outside the country, also granted water factories and companies exporting bottled water produced from groundwater for six months to adjust their positions in this regard.

The need to rationalize water consumption is necessary and ongoing, in this direction the concerned water resources authorities in the country are working on the development of multiple programs according to the consumption sectors aimed to rationalization of water consumption, for example, adoption of the slides or tariff escalation as a system of water tariffs in the municipal sector, and adoption of green building standards in the initiatives aimed to rationalizing energy and water consumption in buildings, and commend the efforts of governmental bodies and institutions that contribute for achieving the strategic goals through environmental initiatives that deal with the rationalization of water consumption.



## Integrated management of water resources

Ministry of Environment and Water aims to connect the system and the integration of its strategic objectives, especially the goal of sustainability of water security with the strategic objectives of other security-related to the environment, bio and food. The ministry also is working through planning to adopt the principle of integrated management of water resources on the bases of management and integration of supply or the supply of water from the available sources and the demand for water from the consuming sectors is the best way to achieve water security and sustainable development, and from this point the ministry put projects and has made achievements in the field of conservation of water resources, notably the development of a strategy to maintain water resources and adoption, and follow up the establishment and operation of dams and levees so as to ensure their efficiency, and increased rates of feeding aquifers, and conducting evaluation studies, and engineering studies and water on water resources, in order to stand on the status of water resources, and the development of methodologies, systems and policies with effective management, and development of information system of water, and work to update it as one of the mechanisms to support decision-making in the field of water resources.



## Government support

The state of UAE provides all the required investments for the establishment and operation of the stations with the highest specifications, and trend towards the use of alternative energy sources and the development of systems required to raise the efficiency of operation of the stations and reduce its environmental impact. There are also now in the UAE projects directed towards the development of strategic reserves of fresh groundwater and projects, including artificial injection of desalinated water for its development and maintenance of a strategic as inventory for municipal use in emergencies.