



Israel's National Water Company, Mekorot, manages a seven-year drought by expanding desalination capacity, tapping groundwater reserves, and reducing water loss.

## Mekorot strategy expands water supply during severe drought

Water scarcity is a fact of life in Israel. For 75 years, the principal mission of Israel's National Water Company, Mekorot, has been to supply water to a growing population and economy in a semi-arid country located on the edge of a desert. Not surprisingly, the 500 expert engineers of Mekorot Group have acquired unique know-how and capabilities in water supply solutions. Through Mekorot Development and Enterprise, which is the business arm of Mekorot Group, the company has extended its global reach to Africa and Latin America, according to Mekorot Chairman Alex Wiznitzer. Another subsidiary is EMS Mekorot Projects.

In Israel, Mekorot has succeeded to expand water supply even during a severe drought. Seven consecutive years of drought have devastated natural water sources so dramatically that a shortfall of 1.5 billion cubic meters of water is expected in natural water reservoirs by the end of 2011. In the following interview with *World Water*, Chairman Wiznitzer explains how the national water supply company is helping to solve the water supply crisis in a wide range of ways, including the enhancement and preservation of natural water reservoirs and reducing evaporation in reservoirs.

**World Water** — What is Mekorot's responsibility in regards to water supply in Israel?

**Alex Wiznitzer** — Mekorot is an operative body that supplies water in bulk to 76 cities, 144 local councils in small towns, and 53 regional councils in regional areas.

The company is subordinate to the Government Authority for Water and Sewerage, which oversees water use and regulatory compliance. The Ministers of National Infrastructures and Finance set water prices, which require approval by the Finance Committee in the Knesset.

Mekorot and the water authority operate in tandem to come up with solutions to increase water supply despite years of drought, such as drilling boreholes, preventing salinity of the southern coastal aquifer, and desalinating seawater and brackish water pumped from the boreholes. These solutions, in addition to others, have brought Israel to a situation of acceptable equilibrium of the various water reservoirs and have enabled us to meet water supply targets.

**WW** — What are the principal projects that comprise Mekorot's strategy to solve the water crisis?

**AW** — Megaprojects. The company is increasing water supply volume by several large infrastructure projects within the framework of a five-year plan, updated annually. For example, Mekorot is establishing new infrastructure systems such as the US\$3-billion New National Water Carrier to supply desalinated water throughout the country. This is the largest national water project since the construction of the National Water Carrier in 1964 that supplies water from the north – from the Sea of Galilee to the center and south of the country.



Alex Wiznitzer, Chairman of Mekorot.

Top: Central Filtration Plant, Eshkol Site, Israel. Photo by Albatross



By the end of 2013, 75 percent of the drinking water supplied in Israel will be desalinated seawater distributed to all regions of the country via the New National Water Carrier.

Alex Wiznitzer,  
Chairman of Mekorot

The new and revolutionary system will enable operational flexibility and streaming of water in all directions. The majority of drinking water will be supplied from the Mediterranean Sea in the west, to the east and the south, from desalination plants located on the Mediterranean coast. The change in the direction of the supply of the water is, in actual fact, a change in the route of the main water arteries, in such a manner that the water flow will be directed from the western side of the country to the eastern part of the country and from there to all the directions. The new water arteries will connect five seawater desalination plants constructed along the Mediterranean coast to the national water supply system. The desalination plants in Ashkelon, Hadera, and Palmachim have been already connected to the system. Desalination plants in Ashdod and Sorek will also be connected. The desalination plant in Ashdod, which will be constructed in record time by the end of 2013, is designed to supply 100 million cubic meters of water per year and will be expanded to supply even more. The operation of the system will be controlled from sophisticated control rooms using innovative technology that will enable real-time solutions to changing needs. Further-more, one hundred-kilometer-long water carriers, huge water reservoirs, and water pools will be constructed within the framework of the project. Reservoirs and pools will be covered to ensure high water quality over long periods of time.

**WW** — How is Mekorot tapping the country's groundwater to cope with the drought?

**AW** — Drought boreholes produce additional water from groundwater reservoirs, which have added some 30 million cubic meters of water to the system over the past few years. By the planned date of completion of the project, in 2014, the project will produce some 70 million cubic meters of water!

The Eastern Aquifer Rehabilitation project will

rescue the southern coastal aquifer, one of the largest natural water reservoirs in the country, from becoming brackish as a result of the last seven years drought period. This is being done by means of a series of bore holes to stop the penetration of salt water by pumping brackish water from the aquifer. In order to not lose one drop of water, Mekorot desalinates the brackish water by means of two desalination plants that were recently set up – the Lahat facility adjacent to Ashkelon and the Granot facility adjacent to Kiryat Malachi. The two facilities desalinate some 16 million cubic meters of brackish water per annum, which are supplied both for drinking water and for agricultural purposes.

In addition, Mekorot reuses 60 percent of effluent in Israel for agricultural purposes. The quality of the effluent is very high and is suitable for the irrigation of all agricultural crops. Mekorot is considered one of the leading companies in the world in the reuse of effluent in terms of volume and quality.

**WW** — How does Mekorot plan to supply water to the majority of Israelis by 2014?

**AW** — By the end of 2013, 75 percent of the drinking water supplied in Israel will be desalinated seawater distributed to all regions of the country via the New National Water Carrier.

**WW** — Water consumption decreased by 7.5 percent in the first half of 2011. What reasons explain this trend?

**AW** — Mekorot has taken steps to enhance and preserve natural water reservoirs by reducing the scope of evaporation. In addition, the water authority conducted the "Israel is drying out" campaign, which achieved excellent results by citizens to conserve water. Mekorot also promoted a public information campaign this year to emphasize the importance and rarity of water resources in Israel.

## Mekorot Group expands global reach

Mekorot is listed as one of the top ten leading water companies in the world. Its subsidiary, Mekorot Development and Enterprise, is involved in various large infrastructure projects in Angola, Argentina, Panama, Peru, Limassol, South Sudan, and Uganda. Plans are underway for projects in Central Europe and India.

In Africa, the company works with government water companies and government ministries in a number of countries, including Uganda and Angola, in the field of regional water supply, water reservoirs, and the treatment of water and sewage.

In Argentina, it is working with the Argentinean water company **September 5**, providing services including consultation, planning, promotion of projects, instruction, and advanced training. Together, the two companies will jointly set up sewage treatments plants in the province of Buenos Aires.

Mekorot Development and Enterprise also operates in Cyprus, where it is building a desalination plant in Limassol and upgrading a desalination plant in Lamaca. These two plants will supply some 40 percent of the water consumption in Cyprus and will solve the problem of the increasing scarcity of water. The company reports pending cooperative projects in India, North Sudan, and Panama.

Another arm of Mekorot is the WaTech® Unit – the Center for Technologies Entrepreneurship and Cooperation. It constitutes an incubator for companies and institutes in the field of water to develop groundbreaking technology in the Israeli water market. Against the background of the global water challenges, Mekorot leveraged its activities in Israel and abroad in the field of enterprises and research in the field of water. The knowledge, the experience and the capability accumulated in the company over more than 70 years, constitutes significant added value to the water industry in Israel and around the world. These advantages, which positioned Mekorot as one of the most advanced and leading water companies in the world, serves as a basis for WaTech® activities in four major realms: enterprise and business cooperation, execution of applicable studies, development of patents, and the registration of intellectual property and informatics. Thanks to its position on the leading edge of technological innovation, Mekorot, through WaTech, today constitutes a wellspring of attraction for various entrepreneurs, such as start up companies and mature companies, academics, investors and venture capital companies and constitutes an active entity in the local and global water market.