

Qatar Builds \$2.75B Strategic Water Storage Project To Avert Crisis

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Qatar has embarked on plans to build a 10 billion Qatari riyal (\$2.75 billion) mega-reservoir capable of holding seven days worth of fresh water to avert a potential crisis should its giant desalination plants that supply 99% of the desert state's water fail.

Gas-rich Qatar produces most of its electricity and desalinated water from privately managed power and seawater desalination projects run under the independent water and power project, or IWPP, model. Any disruption to these plants could be catastrophic, analysts say, cutting off the Gulf Arab state's only source of freshwater and potentially plunging it into an emergency.

"Power plants are strategic targets in war-like situations," said Samuel Ciszuk, senior Middle East and North Africa analyst at consultancy IHS Energy in London.

"There are other problems too. What happens if there was a major oil spill off the coast of Abu Dhabi? That could be damaging for water intake at desalination plants," Ciszuk added.

Qatar, a tiny desert Middle Eastern state with minimal groundwater reserves and an average rainfall of about 75 millimeters a year, is more than 99% reliant on desalination to meet domestic demand, according to the country's General Secretariat of Development Planning.

Production of desalinated water, which requires large amounts of power, is expected to increase 24% from current levels to reach 325 million imperial gallons a day by the end of 2012, data from the General Electricity and Water Corp., or Kahramaa, the country's main utility, show.

Qatar's storage project, with a planned capacity of 1.9 billion imperial gallons, is still in the design stage and may include a network of reservoirs connected by a 183-kilometer, 2.5-meter wide pipeline linking the Ras Laffan desalination facility in the country's north and the Ras Abu Fontas plant in the south, according to people familiar with the project. Kahramaa, the project client, is expected to tender the main construction contract early next year.

STRATEGIC PROJECT

"This is a strategic project to secure potable water for all of Qatar with the construction of huge reservoirs via an associated pipeline," Kahramaa director of technical affairs Saad Al Mohannadi told a recent conference in Doha. "During a crisis at least we [will] have sufficient water reserves."

According to U.K. law firm Pinsent Masons Water's Yearbook 2009-2010, Qatar has stored water reserves of about three days worth of supply based on the average national consumption rate.

Kahramaa has earmarked QAR70 billion on investment in the power and water sector over the next decade to meet soaring demand driven by a rising population and booming industries like petrochemicals, steel and agriculture. London-based research company Business Monitor International, which provides risk analysis on 175 countries across the world, estimates that Qatar's population could hit 1.74 million by 2020, up from 1.51 million currently.

Michelle Karavias, an infrastructure analyst at Business Monitor, said the water storage scheme would help Qatar cope with big events like the 2022 World Cup.

"The World Cup will be a peak demand period and they are looking to have more storage capacity to regulate supply and cater for these peak periods," she said.

Other Gulf countries have similar plans. Oil-rich Abu Dhabi, the largest emirate in the United Arab Emirates, awarded a 1.6 billion U.A.E. dirham (\$436 million) contract to a Lebanese -South Korean consortium last year to build a storage facility in Liwa, a natural oasis that lies on the fringes of the vast Empty Quarter desert.

In Dubai, another U.A.E. emirate, a 180 million gallon potable water reservoir in the Mushrif area was completed in February 2010, according to Zawya.com.

France's Sogreah Consulting has carried out the basic concept report on Qatar's strategic water storage facility. Kahramaa's Al Mohannadi said the final design was still being completed but one option was for three to five reservoirs, some of which could be underground. The project will be implemented in three phases, he added, and work on the first phase would start in 2013.

Another option is for five sites at different geographical locations around the country that would each contain several reservoirs, said Bahy Emam, project engineer for Sogreah Qatar.