Arizona thinks ocean desalination will bring it the water it needs. It won't

Opinion: There are far cheaper and more secure options to find new water for Arizona than desalinating ocean water from the Sea of Cortez.

The allure of seawater desalination seems irresistible.

All that ocean water just waiting to have the salt removed and be delivered to your tap. It can be done, but there are
three hurdles:

It’s costly.
It’s energy intensive.
And it creates a need to dispose of the leftover salt.

Gov. Doug Ducey's State of the State address in January, followed by enactment of Senate Bill 1740 in July, pledges more than $1 billion over three years to bring more water to Arizona.

The cornerstone is a proposal to desalinate water from Mexico’s Sea of Cortez. Construction cost estimates for this project range from $3 to $4 billion. That’s a lot of money – more than Arizona contributed to funding the Central Arizona Project. Yet, the estimates woefully understate the state’s ultimate liabilities.

There are other, much less expensive options that would provide a secure supply.

**Sea of Cortez plans just didn't add up**

On Sept. 30, we completed our service to California’s Salton Sea Management Program’s Independent Review Panel to evaluate submissions to import water to the Salton Sea. Glennon was a member of the panel; Haddad the principal investigator. The state received 18 submissions to import
Several submissions proposed to build a desalination plant on the Sea of Cortez. The panel also investigated expanding on the Binational Desalination Project that is currently under consideration and would supply potable water to Arizona and potentially others. Its intake would be on a remote section of beach south of Puerto Peñasco, known better to Arizonans as Rocky Point.

**Maybe desalination?** [How Katie Hobbs would address Arizona's water issues](#) 

The energy needs of the plant would require construction of a power plant. The electricity to fuel the power plant would require building transmission lines from, well, a long way away. The project would also need to build a tunnel or canal with pumping stations to move the desalted water northwest to Mexico’s Morelos Dam near Yuma. Mexico would get the desalinated water and, in exchange, Arizona would get more Colorado River water.

A top-flight water engineering team advised the Salton Sea panel and did extensive work on the economics, energy consumption and environmental implications of the submissions, all available online in the [panel’s feasibility report](#).
Construction is costly, not guaranteed

We calculated in the report that building the binational project could cost more than $20 billion in capital costs and as much as $500 million in annual costs, which would be split in some unknown configuration among Arizona and other participating parties. Its operation could generate 300,000 tons of CO₂ per year. It likely wouldn’t be operational until the 2040s, assuming no permitting or other delays.

Once the plant began running, the challenging task of disposing of the salty brine would begin. The northern Sea of Cortez contains habitats protected under Mexican law and endangered species, the most iconic being the severely endangered vaquita porpoise.

It is by no means certain that Mexican regulators would grant the numerous permits the project would require. More certain is the likelihood of U.S.- and Mexico-based environmental groups challenging and extending the permitting process.

Readers may be wondering what’s in this for Mexico? We wondered the same thing and concluded: not much.

The project would simply offset the Colorado River water Mexico already receives. It could be expanded to net the
nation additional water, but that would exacerbate costs and environmental challenges. Mexican workers would be paid to build the project and then to operate it.

Is that enough? We have significant doubts that Mexico will sign on to the proposal.

This would be a pay-first, benefit-later infrastructure project. Are Arizonans prepared to foot the bill for a multibillion-dollar project that may never deliver a drop of water?

**Here are 4 cheaper, more secure options**

There are other less expensive and more secure options.

The alternatives start with conservation and reuse, which remain powerful options and the low-hanging fruit. We should not pursue a mirage when we can make better use of the water we already have.

A third option is to use price signals to encourage water conservation. Today Arizonans enjoy a limitless amount of water from their taps for less than they pay for cable TV or cellphone service. We need a system of rates that assures service to those who are financially strapped, with a robust set of increasing block rates for everyone else.
A fourth option, using market forces and incentives to reallocate water, is essential if Arizona wants a bright water future.

Farmers consume approximately 80% of the state’s water. A 2017 U.S. Department of Agriculture Census of Agriculture found that Arizona farmers use flood irrigation on more than 837,000 acres, compared to using sprinklers, drip or micro-irrigation on approximately 233,000 acres.

The transition away from flood irrigation is critical but expensive. Therefore, the State of Arizona should underwrite the costs. In that way, Arizona farmers can continue to grow the same amount of product but with slightly less water. The water saved can go to municipal and industrial users.

These options offer a much better way for Arizona to proceed than with a dream of desalting the ocean in a project that will cost tens of billions of dollars and may never be built.
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