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'We need a revolution in water technology,' Texas comptroller says

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Texas Comptroller Susan Combs is urging Texas to develop the same sort of "game-changing" innovations that have transformed the energy and telecommunications industries to solve its water problems.

"We're a [global leader](#) in energy, and we need to be a global leader in water conservation," Combs said Tuesday after her office released the study "[Texas Water Report: Going Deeper for a Solution](#)."

"If you look at smartphones, those things have changed extraordinarily in the last 10 years. The communications and energy sectors are constantly changing, but I haven't seen the same level of change in regards to water," she said.

To spur that technological shift, the report recommends that the Legislature create a \$25 million grant program to encourage conservation by local water utilities.

It also proposes that lawmakers fund a five-year, \$25 million prize program to reward those who develop new, cheap sources of [drinking water](#).

"Like the new approaches in Texas energy production, we need a revolution in water technology," Combs said in the report. "We need a breakthrough in this field, and some of our state funding should be used for innovative technologies which increase conservation."

Drought, rapid population growth and thirstier economic demands are drying up Texas water reserves, and conservation efforts are not enough, Combs said.

"Texas has been prone to cycles of drought for centuries, and there is no reason to expect that basic pattern to change," said Combs, who is retiring in 2015. "Yet our state has changed, and its booming population and economy are creating an increasingly unquenchable demand for water."

Luke Metzger, director of Environment Texas, agrees.

"I think there are a lot of good things in that report. I agree that the Legislature should provide grants for [water conservation](#) to utilities. We think it's a smart use of funds to help conserve water. Conservation is many times cheaper than building new supplies of water," Metzger said.

Combs is also urging more [academic research](#) on water solutions.

"We are spending \$528 million in nonhealth research, of which only \$28.7 million is going towards water," she said. "If you want to prioritize, I think water should be taking a pretty big chunk."

Texas voters approved \$2 billion in new [funding for water](#) projects in a constitutional amendment Nov. 5.

That's a big step toward addressing future water needs, said Jim Sartwelle III, [public policy](#) director of the [Texas Farm Bureau](#).

"However, we still face challenges Proposition 6 will not address. This report identifies those challenges and possible solutions. Policymakers should definitely pay attention to this report," Sartwelle said.

The report points to potential "game-changers" such as the evolving technologies of the desalination of ocean and brackish water; transferring water between basins; recycling wastewater; and aquifer storage and recovery.

Fracking water

The report also highlights ways to reduce the water used in hydraulic fracking by the oil and [gas industry](#), which drew praise from Metzger.

"We would like to see fresh water no longer be used for fracking. We think using recycled water makes a lot more sense," he said.

The report notes that some shale producers have developed low-water and water-free fracking techniques. Among them are:

- The use of additives such as guar gum to thicken water. One natural gas producer who recently began using guar reported a 45 percent reduction in water use at each of its wells.

- Using brackish groundwater instead of fresh water.
- Relying on liquid propane instead of water. After use, propane returns to its gaseous state and can be collected and reused. One firm has done about 100 “fracks” with propane in Texas, the report says.
- Recycling fracking water, which conserves water and reduces the need to dispose of wastewater. The report notes that this alternative is expensive because the water must be treated before each reuse.

Most Texans aren't fully tuned into the state's water issues, Combs said.

“They don't think about it when they turn on their shower. It only hits home when they can only water their lawns two days of the week,” she said.

But for Combs, water is personal. Her father, grandfather and great-grandfather made their livings raising livestock

“Livestock depended on two things: wind and rain. If the wind did not turn the windmill vanes, there was no additional water. If it didn't rain, creeks and tanks didn't fill. No water? Whoops, no cattle. Whoops, no money,” she said.

“I worry a lot about water and where we are going to be in 25 years. As the state's chief financial officer, I'm always trying to lay out there what I see as possibly a great boost for the state or something that may hurt us.

“If we don't do something, water may hurt us.”

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