



By Robert N. Stavins

As Reservoirs Fall, Prices Should Rise

Whenver prolonged droughts take place, governors and mayors alike can be expected to give impassioned speeches, declare emergencies, and impose mandatory restrictions on water use. Citizens are frequently prohibited from watering lawns, and businesses are told to prepare emergency plans to cut their usage. A day after the restrictions are announced, the granting of special exemptions typically begins — as in Maryland a few years ago, when carwashes were allowed to remain open even if they were not meeting conservation requirements.

The droughts eventually pass, and when they do, water users go back to business as usual, treating water as if it were not a scarce resource. Water conservation efforts become a thing of the past, until the next drought — until the next unnecessary crisis. Isn't there a better way?

The answer is yes — if we are willing to treat water as the valuable resource it is and price it accordingly, so that people have incentives to use the resource wisely, especially in times of need.

In 1776, Adam Smith described in *The Wealth of Nations* the apparent paradox that water is absolutely vital to human existence but is sold for no more than a pittance. More than two hundred years later, I can refill an eight-ounce glass 2,500 times with water from the tap for less than the cost of a single can of soda. Under these conditions, it is hardly surprising that we have so

little incentive to conserve our scarce water supplies.

Throughout the United States, water is under-priced. Efficient use of water will take place only when the price reflects the actual additional cost of making that water available. Lest one fear that higher water rates would mean that Americans would go thirsty, take note: On average, each of us uses 183 gallons of water a day for drinking, cooking, washing, flushing, cleaning, and watering, but less than 5 percent of that is for drinking and cooking combined. There is plenty of margin for change if people are given the right price signals.

Opportunities for water conservation in the commercial and industrial sectors abound. Examples include recycling of process water, improved maintenance of equipment, repairing of leaks, installation of automatic shut-offs, and simply turning off equipment when not in use.

Fifty years of economic analyses have demonstrated that water demand is responsive to price changes, both in the short term, as individuals and firms respond by making do with less, and in the long term, as they adopt more efficient devices in the home and workplace. For example, when Boulder, Colorado, moved from unmetered to metered systems, water use dropped by 40 percent on a sustained basis.

But prices are typically set well below the social costs of the water supplies, since historical average costs are employed, rather than true additional (marginal) costs of new supplies. Although water scarcity typically develops gradually across seasons of low rainfall and low accumulations of snow pack, pronounced droughts are usually felt in the summer months of greatest demand. The economically sensible approach is to charge more at these times, but such "seasonal pricing" is practiced by less than 2 percent of utilities across the country.

A reasonable objection to jacking up the price of water is that it would hurt the poor. But we can take a page from the playbook of electric utilities who subsidize the

first kilowatt-hours of electricity use with very low "life-line" rates. Indeed, the first increment of water use can be made available free of charge. What matters is that the right incentives are provided for higher levels of usage.

Other innovative possibilities exist. For instance, we have learned that the generation of electricity can be separated from its transmission and distribution — and that generation is a competitive business. Similarly, the supply of water to municipal systems can also be made more competitive, and hence more efficient. The western states have been the first to innovate with water markets because of their greater scarcity concerns.

An example much in the news in recent years in California involved the sale of water conserved by Imperial Valley farmers to the water authority in San Diego, following a blueprint pioneered 20 years ago by Environmental Defense. Such markets can address water shortages in droughts without mandatory restrictions on use or rationing, and without the need to construct new, expensive, and environmentally damaging dams and reservoirs.

Droughts, like so many public policy dilemmas, present both challenges and opportunities. Inevitably, citizens and businesses do their best to cope with mandatory restrictions. And with equal inevitability, once droughts have passed and the restraints are lifted, they return to their previous habits of water use and abuse.

The next water "crisis" when it comes will therefore present an opportunity to refuse to return to business as usual when the drought has passed. Instead, the affected areas can introduce progressive water pricing reforms that will send the correct signals to individuals and businesses about the true value of this precious resource.

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