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Paying for Groundwater Recharge

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Water levels in many of California's groundwater basins have dropped too far, too fast in recent years, prompting a wave of experimental projects to augment the natural recharge of aquifers. But funding is a missing element in many of these efforts. A new local program to provide incentives for groundwater recharge could be replicated in other parts of the state.

Most Californians who use groundwater do not pay to use it. Instead, in many basins, property owners with an "overlying right" to water underground are free to extract as much as they need for "reasonable and beneficial use," as loosely defined by state law, paying only for the costs of pumping.

The state's Sustainable Groundwater Management Act, enacted in 2014, empowers local Groundwater Sustainability Agencies (GSAs) to impose fees in support of long-term water resource management and develop funding mechanisms for projects that conserve water and augment available supplies.

The Pajaro Valley Water Management Agency, adjacent to Monterey Bay, manages groundwater in one of California's most productive and economically important agricultural areas. For decades, this area has experienced persistent groundwater overdraft. The water agency meters most wells and levies an "augmentation charge" to pumpers in the basin. In March, the agency's Board of Directors approved a five-year pilot program of "recharge net metering." The program seeks to enhance groundwater recharge by some 1,000 acre-feet per year using stormwater runoff from nearby slopes as the primary water supply.

Representatives from UC Santa Cruz and the Santa Cruz County Resource Conservation District will act as third-party certifiers and help identify and screen project sites. The water agency will credit pumpers who run successful projects, partly offsetting their augmentation charges. This rebate helps to compensate pumpers for losses of land use or access and periodic maintenance needed for the recharge systems. It's intended to function like the electricity net-metering program run by PG&E for customers who contribute power to the grid with home solar panels.

Could a program like this work in other parts of the state? Much depends on how GSAs set up water

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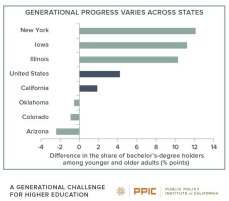

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management programs and metering and fee structures. Developing a rebate program in parallel with a structure to charge for groundwater pumping might make fees more palatable to land owners who are not used to paying for groundwater. Giving a rebate for recharge makes sense if the GSA can subsequently levy a fee for use of the additional water.

Other factors that will influence project success include the availability of suitable recharge sites and the ability to collect runoff from a large enough drainage area to justify the effort. The effect on water quality also has to be considered. Besides rebates, other costs to consider include those to identify promising sites and verify field conditions, conduct community outreach, secure permits to satisfy environmental and other requirements, design and install the systems, and measure the benefits—the basis for the rebate. Yet even with these costs, this approach can be economically viable when compared to other supply alternatives.

This is just one approach to solving a difficult problem. Given California's history of paradigm-shifting innovation, we are likely to see more ways to incentivize sustainable groundwater resources as GSAs figure out how to manage their basins for the long term.

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