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Class

Water Policy

Assignment

Policy Brief

Title

Resilience of Utah's Water System

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Overview. Water policy investments are likely to be constrained by economic factors in the foreseeable future, requiring Utah to implement policies that provide multiple benefits. As such, state officials should implement three initiatives designed to advance a sustainable and resilient water system with limited funds. First, projects developing new sources of water should be abandoned and their funds should be reallocated to implement water conservation measures. Second, lawmakers should require water districts to track water usage for all consumers and make this data publicly available. Conservation measures should be based on the data collected and paid for using funds previously allocated to development projects. Third, lawmakers should cease using property taxes for water infrastructure projects and shift the cost burden to consumers, providing a market incentive to conserve water usage. Enacting these three measures will ensure that Utah’s water system remains sustainable despite fewer available funds.

Water Sources. Utah is the second-driest state in the US¹, averaging only 13 inches of rain per year. However, 71% of the state’s population lives on the front of the Wasatch Mountain Range², which receives considerable snowfall every winter. This snow melts and naturally flows down to population centers in spring, recharging groundwater stores and providing natural reservoirs. As such, the majority of Utah’s population lives close to its water source, reducing the infrastructure and energy needed to deliver water to consumers. Utah also sources water from the upper basin of the Colorado River. While Utah has low levels of precipitation, its water sources are relatively secure and sufficient, and it should continue to source its water from Wasatch snowmelt from existing infrastructure diverting water from the Colorado.

Reallocating Funds from Infrastructure Projects. Utah’s population is projected to reach 5.8 million people in 2065³ (up from 2.76 million in 2010⁴), making securing a resilient and sustainable water supply a high priority. This can be accomplished without developing expensive new water sources, which one 2012 estimate placed at \$5.3 billion. Prospective development includes the Lake Powell pipeline, which would “deliver Colorado River water from Lake Powell to residents of Kane and Washington Counties, putting to use approximately 86,000 acre-feet of Utah’s Colorado River allotment.”⁵ As of 2012 Utah diverts 5.15 million acre-feet for usage, of which approximately 3.3 million acre-feet is available for consumption. Yet Utahns only consume 2.6 million acre-feet⁶—low rates that leave room to increase efficiency.

The state has sufficient water resources to meet its projected needs and should instead focus on conserving the water it already has for several reasons. First, Utah should not extract additional water from the Colorado River that downstream consumers can use, promoting social equity. Given that the Colorado is over-allocated, an upper-basin state like Utah should use its water as efficiently as possible, since extracting more will disadvantage downstream users. Second, while the environmental impact statement for the Lake Powell pipeline indicates that “land disturbances will be short term and effects will be controlled through environmental protection measures that will avoid or minimize impacts,”⁷ avoiding construction in the first place is the best way to reduce environmental disturbances. Finally—and most importantly—abandoning costly infrastructure projects will free up funds to spend on water conservation projects. Scrapping existing development projects provides several benefits: it will make more water available for out-of-state users, reduce negative environmental impacts, and free up funding for conservation projects.

Funding Water Conservation Projects. As of 2015, Utahns use approximately 178 gallons per capita per day (second only to Idaho⁸), highlighting the need for Utah to improve water use efficiency. Funds previously

allocated for developing new infrastructure projects should be devoted to conservation. The first step toward improving water use efficiency is requiring state water districts to clearly measure, quantify, and make publicly available how their water is used. A 2017 report produced by the Governor's Water Strategy Advisory Team advised that "not all water use or water supplies in Utah are accurately and consistently measured, tracked, or reported by local and regional water providers."⁹ Conservation can only be achieved when usage is quantified, and usage can only be quantified when it is uniformly measured. Funds should be allocated to water districts to closely monitor water usage.

The second step toward improving water use efficiency is instituting incentive programs to reduce residential and commercial water usage. On the residential side, water districts should: provide water-efficient toilets free-of-charge to reduce daily domestic water consumption; implement a campaign to replace green lawns with native plants, reducing the water burden to irrigate them and providing a habitat for natural flora and fauna; and mandate the installation of visible water meters so that consumers are aware of water usage, engaging the community in conservation and allowing quantification of reductions in personal consumption. On the commercial side, the state should mandate that commercial buildings of a certain size be refitted with greywater recycling systems to make efficient use of water. These measures will provide several benefits, conserving water and reducing energy costs associated with its transport.

Any water conservation strategy must also include the agricultural industry, which accounts for 82% of the water Utah diverts for human usage. Two measures should be implemented to reduce the amount of water used by farmers. First, the state should closely track the amount of water diverted and consumed by each farm and mandate gradual reductions in water consumption over a 20-year period. Second, the state should assist farmers in converting to water-efficient drip irrigation where possible, reducing their overall water usage. Diverting less water for agricultural purposes and repurposing that water after it has been used will have the added benefit of reducing fertilizer running off to natural watersheds, improving water quality for human consumption and reducing harmful algae blooms associated with the runoff of agricultural nitrates.

Restructuring Water Pricing. Finally, Utah should implement pricing structures that reflect water usage. Currently, water is funded by "user charges, property taxes, and impact fees. Each component is authorized, with defined limits, by the Utah Legislature."¹⁰ Legislators should shift the revenues collected by property taxes to user charges while ensuring that revenues are sufficient to cover operating costs (since conservation measures will reduce the total volume of water paid for by users). Funds reallocated from development projects should be set aside to assist low-income individuals that might be adversely impacted by increases in user charges while increasing the cost of water to consumers will incentivize those who use large amounts of water to reduce their consumption. This includes agricultural operations, which can invest in conservation technologies such as drip irrigation, which would reduce their water consumption and overall water bill.

The state legislature should implement a standardized tiered rate structure for all of Utah's water districts. Users should be charged a base rate for water services to collect roughly the sum currently generated by property taxes. This will abolish the "water subsidy" provided by property taxes and pass the usage costs directly to the price-sensitive consumer, who will pay more as their water use increases. These higher water prices will incentivize the consumer to conserve water, reducing their financial burden. A tiered rate structure will be most effective when paired with the mandatory installation of water meters to track personal consumption and a

marketing campaign to educate the consumer about the real price of water, giving the community a personal stake in the battle for water conservation.

Conclusion. Utah is well-poised to weather an economic crisis. By ceasing construction on new development projects, reallocating that money to fund water conservation programs, and shifting the cost burden of water usage to consumers, decision-makers can make Utah's water system more resilient and sustainable than ever before. These measures will not only reduce the cost of delivering water to Utah, but will promote social equity by ensuring there is enough water for Utah's neighbors, improve water quality by reducing algae blooms near agricultural operations, improving environmental functioning by avoiding construction projects that would disturb natural landscapes and promoting the return of native plants in residential settings, and make the true cost of water transparent, thereby engaging Utah's residents in a water future grounded in conservation—not the additional development of water sources.

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