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LEGISLATIVE OPTIONS TO PROMOTE WATER CONSERVATION

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You asked for a discussion of legislative options to encourage water conservation by water utilities, including municipal water utilities.

SUMMARY

Among the options the legislature may wish to consider are:

1. requiring or encouraging water utilities to adopt rate designs that promote conservation, such as rates that increase with the amount of water a customer uses;
2. modifying utility metering and billing practices to promote conservation;
3. providing financial incentives and disincentives for utilities to reduce the amount of water going through their systems that they cannot account for ("lost water");
4. establishing rebates or other financial incentives for customers to buy water-efficient products, such as low-flow showerheads and toilets;
5. mandating the use of water-efficient appliances; and
6. expanding the coverage of the law requiring rain sensors in lawn sprinkler systems.

These options are not mutually exclusive. For example, water rates designed to promote conservation can be used in conjunction with rebate programs designed to promote the replacement of appliances that use water inefficiently.

INTRODUCTION

Historically, water has been seen as an abundant resource in Connecticut. Many water utilities have access to ample surface or groundwater supplies. Moreover, the per capita consumption in the state has fallen in recent years for many utilities, according to Jim Vacolina, head of the Department of Public Utility Control's (DPUC) water unit.

Nonetheless, water supply is becoming an issue in some parts of the state due to population growth, as in southeast Connecticut, or competing demands for water, e.g., consumption versus the stream flow needed to support ecosystems. For some utilities, supply is ample during most of the year but can be an issue in the summer due to outdoor uses such as lawn watering. A typical lawn sprinkler may use as much water in an hour as the rest of the home will use in an entire day.

Encouraging water conservation is complicated by the variety of forms of water utilities in the state and how they are regulated. Approximately 30% of customers in the state are served by investor-owned water companies whose rates and business practices are regulated by DPUC. Another 25% of customers are served by the Metropolitan District Commission in the greater Hartford area and the South Central Connecticut Regional Water Authority, which are run by their governing bodies under their respective charters. The remaining customers are served by municipal utilities of varying sizes and community water systems, e.g., those that serve an individual housing subdivision. The Department of Public Health (DPH) is responsible for ensuring the adequacy and purity of supply for virtually all water utilities. The Department of Environmental Protection is responsible for regulating withdrawals from streams and other water bodies.

DPH regulations ([Conn. Agencies Regs. §§ 25-32d-1 through 25-32d-6](#)) require water utilities serving 1,000 or more people to periodically submit water supply plans to the department. Each plan must include a comprehensive conservation component designed to increase the efficiency of the water supply system, reduce waste, and encourage conservation efforts. The plan must include demand management measures designed to reduce peak day demand or average daily demand, depending on which is the more pressing issue.

LEGISLATIVE OPTIONS

Rate Design

Many utilities currently charge a customer a fixed amount per gallon year-round, regardless of the amount of water the customer uses and when he or she consumes the water. The legislature could require or encourage utilities to adopt (1) an inclined block rate structure, where the price per gallon increases with consumption in order to promote water conservation or (2) seasonal rates to reflect the greater demands placed on utilities in the summer. It could also establish a pre-approved list of water conservation measures that are eligible for rate recovery, encouraging utilities to implement these measures. These could include educational programs that promote water conservation, particularly for measures that save both water and energy such as low-flow showerheads.

The legislature could also require or encourage rate decoupling, making utility revenues less dependent on sales. Many of the costs borne by utilities are fixed and do not vary by the amount of water sold. These include the depreciation of the utility's infrastructure and system maintenance and customer service costs. Conservation programs can jeopardize recovery of these costs by reducing sales and this may serve as a disincentive for utilities to adopt these programs. Under current law, DPUC must require electric companies to adopt one of several decoupling mechanisms, including a conservation rate adjustment that reconciles a company's revenue requirements (as determined by DPUC) and its actual revenues. The legislature could require or encourage water utilities to adopt one or more of these mechanisms. California and New York have enabling legislation that allows for decoupling specifically in the water industry.

Metering and Billing

Most newer buildings have individual meters for each unit, which promotes efficiency by making each household or business in the building financially responsible for its own water use. However, many older buildings are mass metered and in some cases it may not be economically or technically feasible to meter individual units. In such cases, the legislature may want to promote sub-metering, which estimates water use in each unit and makes the individual customer financially responsible for paying for this use. The legislature may also wish to require individual meters in all new construction.

Most water utilities send out bills once per quarter. The legislature may wish to encourage more frequent billing to make customers more aware of their water use and rates, especially if inclining block or seasonal rates are used. More frequent bills can also help identify leaks, which can benefit both the affected customer and the system as a whole. On the other hand, more frequent billing will increase costs for the utility and the legislature may want to target this measure to those classes of customers where it would provide the greatest benefit.

Reduce “Lost Water”

Parts of Connecticut’s water supply infrastructure are decades old and some distribution systems still include wooden pipes. Some of this infrastructure leaks and utilities typically cannot account for 10% to 15% of the water they withdraw from their supply sources, with some small utilities losing a substantially greater proportion.

The legislature could establish performance-based measures that provide financial incentives for utilities that reduce their amount of this “lost water” and disincentives for utilities that fail to do so. For example, a water company that currently has a 15% lost water rate could be required to reduce this proportion to 12% within a specified period. If the company exceeded this reduction, its shareholders would be allowed to retain part of the added savings. Conversely, if the company did not meet this target, it would not be allowed to recover the lost revenue from its customers.

In the case of private water companies, [CGS § 16-262w](#) provides a mechanism for private water companies to address their infrastructure needs, which can be used to address the problem of lost water. The law required DPUC to specify the contents of a company’s individual infrastructure assessment report and the criteria for determining priority of needed infrastructure projects. DPUC has established a “water infrastructure conservation adjustment” (WICA) to pay for projects it approves through a surcharge on customers’ bills. The legislature could authorize regional and municipal water utilities to adopt a similar mechanism.

Water Efficient Appliances

The legislature could establish a water conservation rebate program similar to the Energy Conservation Fund’s rebates for energy-efficient products. Rebates funded through the program could apply to water efficient washing machines, other appliances, and irrigation systems. Water utilities in at least 19 states have such programs. While most of

these utilities are located in the West and South, six utilities in Massachusetts have such programs. Alternatively, the legislature could reduce or eliminate the sales tax on water-efficient products.

Either approach could take advantage of the WaterSense® program. This program, sponsored by the U.S. Environmental Protection Agency in conjunction with the private sector and state agencies, promotes programs that save water and protect the environment. It has developed a WaterSense® label to identify quality water-efficient products, including showerheads, toilets, and bathroom sinks. Information on this program is available at <http://www.epa.gov/WaterSense/>.

Alternatively, the state could mandate the use of water-efficient appliances. It could do this by amending the Plumbing Code component of the State Building Code or by banning the sale of inefficient products as of some date in the future. [CGS § 21a-86a](#) establishes efficiency standards for showerheads, faucets, toilets, and urinals sold in the state, but these standards have not been modified since 1990 and the legislature could consider updating them to reflect new technologies. Similarly, [CGS § 16a-48](#) imposes energy efficiency standards for commercial clothes washers, but there are no statutory water efficiency standards for commercial or residential clothes or dishwashers.

Rain Sensors

[CGS § 29-265](#)

1. requires any business or state agency that installs an automatic lawn sprinkler system on or after October 1, 2003 to equip it with a rain sensor or switch that automatically overrides the system's watering cycle when enough rain has already fallen;
2. allows a municipality to require that any lawn sprinkler system installed on or after October 1, 2003 be equipped with such a sensor or switch; and
3. requires any system installed on residential property on or after July 1, 2010 to be equipped with such a sensor or switch.

The legislature could expand the law to cover systems installed before these dates.

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