

City of Riverside Water Efficiency Assessment July 2009

Background

California's water supply is increasingly becoming an important environmental issue for many stakeholders in the state. Cities are coming under increasing pressure to conserve water use and supplies due to inadequate levels of rainfall and declining water supply levels. Local Governments in California are developing and implementing water conservation strategies with the intent that it will have a positive impact on saving water in their jurisdictions.

Water Conservation and Riverside Public Utilities

The City of Riverside in Southern California and its municipal utilities authority, the Riverside Public Utilities (RPU), has a water conservation program for its 250,000 residents and commercial customers. Although the RPU role is a municipal electric and water utility, in the context of water conservation, it has the responsibility of promoting water conservation and demand management through public education programs and administration of rebate programs. The rebate programs are provided to residents and businesses in partnership with the Metropolitan Water District of Southern California (MWD) and Western Municipal Water District (WMWD). Beyond the education and rebate programs, RPU is also involved with resource consumption monitoring and outreach efforts including rebate inspections, management of audits of high water use customers, public education outreach and monitoring trends on water policy initiatives.

In partnership with the California Sustainability Alliance and Riverside Public Utilities (RPU), independent consulting firm Amy Vickers and Associates evaluated RPU's current water use trends, RPU's water conservation programs, and the policies and issues affecting the program. The study also recommends strategies and measures to ensure a comprehensive best-of-class approach in maximizing the City's water conservation efforts.

Key Findings

The study noted several key issues impacting RPU's water conservation efforts, including:

Water Use Challenges

High water use in the City remains a challenge for the RPU, in particular:

- Residential per capita water use at approximately 225 gallons per person per day that is above the US national average of 100 gallons per day. 70% of the water use in the City is attributed to excessive outdoor lawn and landscape irrigation. The study also noted the outdated practice of the City's roads and highway median irrigation practices in a desert climatic region.
- The City has a higher than industry average for water loss due to system and infrastructure leaks. At 15% of unaccounted for water in the City, this is close to the margin of acceptable industry practice of between 10-15%

Resources and Strategic Planning

- RPU does not have a strategic water conservation plan in place to guide the City of Riverside to successfully realize its long-term water saving goals.

- Lack of funding and resources has hindered short and medium term goals for metered water savings

Conservation and Efficiency Programs

Rebate Programs

RPU has an established rebate program for residents and commercial businesses. Residential customers are eligible for high-efficiency toilet and washing machine rebates, while commercial customers are eligible for rebates for water efficient equipment across a variety of different industry areas. Rebates are also available to residential customers who adopt water-efficient landscaping strategies on their properties.

It was noted in the study, however, that the adoption and participate rate by residents and businesses alike was low and recommendations were made with a focus on raising greater awareness and outreach to residents and businesses including:

- Provide basic water audits and retrofit kits to residential and commercial customers;
- Provide Comprehensive water audits to major water users; and
- Sponsor landscape contractor training programs that promote water efficiency skills and services in the green industry.

Landscape Water Use Efficiency Ordinance

RPU has recently introduced a draft Landscape Water Use Efficiency Ordinance with the intent of establishing measures and compliance targets for the effective use of water for new or renovated landscapes. The ordinance is anticipated for adoption by the City of Riverside in late 2009.

Facility and Building Audits

RPU has undertaken a program of facility and building audits to ascertain water usage and encourage conservation measures aimed at reducing water use.

Best Practices

The study also cited a number of best practice programs and initiatives that together could form a comprehensive water conservation program. These include programs currently in place at RPU and those suggested for future adoption. Key examples include:

Water Efficiency Program Practice and Measures	Examples
Water Saving Goals (forms part of Water Conservation Plan)	<ul style="list-style-type: none"> • Establishing per capita reduction goal (such as 20% per capita reduction by 2020 water savings goal by California Governor Schwarzenegger)
Water Conservation Ordinance	<ul style="list-style-type: none"> • Comprehensive Water Waste Ordinance with active enforcement
Public Information and Schools Education	<ul style="list-style-type: none"> • Core component of water conservation program
Leak Detection, Repair and Water Loss Reduction Program	<ul style="list-style-type: none"> • Proactive response to leaks and repair program
Residential Water Conservation Rebates	<ul style="list-style-type: none"> • Water fitting and appliance rebates • Landscape water audits • Waterwise landscaping rebates
Commercial Water Conservation Rebates	<ul style="list-style-type: none"> • Commercial facility audits

Recommendations

The study proposes a multi-focus approach of possible solutions that could help to enhance RPU's water conservation programs, and are largely in response to the key challenges identified by the study. The solutions include:

- Develop a Comprehensive Water Plan that updates the RPU's conservation goals and expands the program's measures to achieve a greater level of utility and customer-based water savings. The study suggested that this would involve the realignment of priorities to target the top water-saving opportunities for the City, development of objectives, and an implementation strategy for a cost effective approach.
- Adopt a range of measures from use of native and drought tolerant landscaping strategies to mandatory watering schedule for residents and businesses. These strategies would help mitigate excessive water use for landscape irrigation.
- Establish a permanent system leak and loss reduction program with the intent of reducing the level from 15% to 10%.
- Update existing water efficiency codes and ordinances to reflect improvements in water efficiency technologies, approaches and methodologies. The study advocated the adoption of a permanent maximum-day-per-week watering schedule to reduce outdoor and peak water demands for landscape irrigation.
- Improve measurement of water conservation and savings in the City through the use of water meter data.
- Connect industrial and commercial sites to reclaimed water for cooling tower make-up, and assist agricultural water users through the evaluation of water efficiencies of existing irrigation practices.
- Establish funding mechanisms to finance and support current and proposed water conservation measures, and the review the water rate structures in the City to ensure financial accountability for water use.