



MEMORANDUM

TO: Green Rental home Energy Efficiency Network
FROM: Collin Tateishi, Policy Manager
DATE: November 12, 2018
SUBJECT: Updated Summary of GREEN Talk on Water Conservation Best Practices at Multifamily Affordable Housing

This GREEN Talk on Water Conservation was hosted on June 6, 2017. The goal of this conversation was to share best practices for water conservation at multifamily affordable housing properties by connecting owner experts throughout the state where water costs and regulations vary by local water provider. This updated summary is now available to the Green Rental home Energy Efficiency Network for the first time.

Current Projects and Areas of Focus

- **EAH Housing:** Engaging tenants through water conservation contests between resident buildings. Communicating water savings despite bill increases from rate changes.
- **Palo Alto Housing:** Installing low-flow showerheads for tenants and dual-flush toilets for common areas. Considering toilets for tenants.
- **Hollywood Community Housing Corporation:** Upgrading toilets through Los Angeles Department of Water and Power (LADWP) program for 0.89 GPF Niagara Stealth model which has been very popular among other owners. Troubleshooting inconsistent bill savings despite toilet, showerhead, aerator, water heater and landscape improvements. Resolving water mineral build-up behind aerators and showerheads.
- **Resources for Community Development:** Installing low-flow showerheads. Evaluating opportunities to reduce sewer fees in East Bay Municipal Utility District (EBMUD) territory since they are tied to water use.
- **BRIDGE Housing:** Prioritizing outdoor water use and financing models.
- **Community HousingWorks:** Upgrading toilets, aerators and showerheads but did not replace toilets at some properties due to concern for narrow plumbing. Resolving water mineral buildup behind aerators. Engaging tenants on bill savings and environmental impacts.
- **Eden Housing:** Assessing toilet upgrades and impact. Prioritizing water conservation opportunities from venders and focusing on outdoor irrigation.
- **Tenderloin Neighborhood Development Corporation:** Monitoring water use and cost to correct leaks across portfolio. Looking for a temporary, non-intrusive sub-metering solution to identify leaks and high-use fixtures. Installing automatic faucets and shower timers for quick improvements in common areas.

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- **Self-Help Enterprises:** Installing low-flow aerators and showerheads. Prioritizing outdoor irrigation opportunities.
- **Stewards of Affordable Housing for the Future:** Analyzing payback on various efficient laundry equipment models. Evaluating opportunities for post-retrofit leak detection.

Best Practices

- **Troubleshooting improvements where water savings did not materialize.**
 - **Pressure-assist toilets** are efficient but can have very bad leaks. Small leaks are difficult to hear and may go unnoticed.
 - **Flapper valves** can be a low-cost fix before replacing toilets.
 - **Faucets** may be more efficient but some tenants like the sound of running water.
 - Tenant education on “**flushables**” can help reduce preventable work orders.
 - Some utilities offer **leak detection** programs (EBMUD, Palo Alto, San Francisco Public Utilities Commission) that test a sample size of toilets, so maintenance staff can learn and replicate the process at other properties.
 - **Dual-flush converters** can be a quick, low-cost solution before larger retrofits. Some owners installed these converters at approximately \$35 per device with 30 minutes of labor. They did not use a rebate program in order to take immediate action.
- **Improving data collection to isolate high water uses, find leaks and track retrofit performance.**
 - UC Santa Cruz recently tested digital water sub-meters (add-on).
 - Some owners are looking for temporary water use trackers to help identify water use problems at the dwelling unit level but are not interested in charging tenants for water.
- **Engaging Tenants**
 - Messaging can highlight that new tenant services and activities could be funded with financial savings from water conservation.
 - Focus on competition and environmental benefits rather than threat of higher rents (legal concerns). Multifamily properties carry the risk of higher bills and cannot pass those costs to tenants.
- **Financing and Rebate Programs**
 - EBMUD offers **on-bill financing** for water improvements in a five-year window. This may not require lender approval because the cost is not secured against the property. Some owners see this as an attractive alternative to BayREN and the state’s Low-Income Weatherization Program.
 - Some owners have used **E-Conserve** which guarantees savings and requires payback in three years. You can pay 50 percent of savings until you pay off the total cost but this can be expensive because of a 30 percent premium charge for financing. Installation quality is also a common concern.
- **Gray Water Reuse**
 - Several owners are interested but few have completed a project.
 - Many local jurisdictions do not permit gray water systems that reuse water indoors. Owners should always check with local public health and building and safety departments.
 - Systems may have high maintenance costs but marginal utility bill savings depending on how much water a property can treat and reuse.
 - Systems require a lot of upfront capital and may be best fit for new construction projects. Laundry to landscape may be the best opportunity for retrofits.
 - May need a large and dense project site to reach the right economies of scale – see the Jordan Downs public housing project in Los Angeles.