

Dual Flush in Cooperatives

Project Lead: Kevin Wang, Serena Tam

Sponsor: ASUC Sustainability Team

TGIF Grant: \$2,251

Project Theme: Water Conservation

Project Location: Cloyne Student Cooperative

2015 Application Submission

Status: In Progress

Project Description: In the midst of one of California's most severe droughts in history, Berkeley Flow of the ASUC Sustainability Team will convert existing toilets in the Cloyne Student Cooperative into dual-flush toilets via retrofit kits. This project will serve as a first step in a plan to implement dual-flush toilets into Student Cooperatives beyond Cloyne.

Goals: The primary purpose of the project is to conserve water in a relatively cost-effective, easy way that will bring long-term benefits to the Berkeley campus. Berkeley Flow hopes to expand the project to other student cooperative houses in the future. This project will serve as an example for Berkeley students and the general public by showing that UC Berkeley is taking charge to address the drought. Besides Berkeley students, the project would demonstrate that it is possible for students everywhere to make a big impact on their campus' environmental efforts.

Accomplishments:

- Berkeley FLOW has purchased and have had Cloyne undergo multiple trial runs with the initial proposed Dual-Flush converter kits. FLOW and Cloyne have also kept in constant contact with each other to further discuss other Dual-Flush converter kits and explore other options.
- Project has installed one dual-flush toilet as a test-run, which has received very positive feedback from the residents of Cloyne. Based on these positive reviews and the current reliability of the toilet model (has yet to be broken), the project will most likely continue forward with the selected dual-flush toilet and aim to replace more toilets.

Challenges:

- After undergoing trial runs, FLOW and Cloyne realized that the toilet specs. in Cloyne were incompatible with the initial proposed Dual-Flush converter kit. After realizing this issue, FLOW and Cloyne further explored additional converter kits that could be more compatible with Cloyne's specific toilet model. Upon exploring other converter kits, it was realized that the converter kits did not effectively decrease the gallons per flush, even on the lowest setting. This is due to the fact that Cloyne's toilets are already low flush. Thus the converter kits would have to work with no issues for Cloyne's toilets to effectively save water; inefficiency on the part of the converter kits has made this not a possibility.
- After realizing this, another option explored was to switch the entire toilet itself out with a brand new, Dual-Flush toilet. Although this initially sounds much more expensive than a converter kit, in reality the cost will be no more expensive. In fact, the cost should be cheaper. This is because Cloyne's toilets naturally break every few months. Normally, Cloyne spends approximately \$180 to replace these toilets. Should FLOW request to have Cloyne replace their toilets with a more expensive, Dual-Flush toilet model, FLOW will only be responsible for paying the price difference. This could prove to be a very viable alternative to Dual-Flush Converter Kits.
- Usually toilets need to be reported as broken before being switched out with a new toilet. In this case, there will need to be a board

meeting to discuss process of switching out the toilets. Most likely, we will need to present a comprehensive recycling program for the older toilets should they be replaced before being broken.

Timeline Progress:

- Progress has slowed due to the issue of replacing the toilets themselves. The project is currently operating under the assumption that we must wait for a toilet to break before being able to replace the toilets. However the project is hoping to convince the Cloyne board members of both a comprehensive recycling program for the old toilets and the immediate benefits in terms of cost savings and water conservation that can be experienced by switching to dual-flush toilets.

Budget Update/Expenditures to Date

- At this time, the Budget will remain the same. However due to the challenges listed above, it is possible that money will be shifted towards covering the cost difference between current Cloyne toilets and the new, proposed plan of purchasing Dual-Flush toilets. Installation costs can also be eliminated, as Cloyne will cover this. These funds can be further funneled into providing top-quality dual-flush toilets for Cloyne.
- The project has gotten the approval of a new toilet model to install for the rest of the toilets. They have also worked out an arrangement with the Cloyne manager so that he will be able to cover \$150 of each new toilet with Cloyne’s funds. The challenge will be convincing the Cloyne board members to install all the toilets at once.

Education and Outreach:

- One important outreach event was a Water Faire hosted by the Cloyne Cooperative intended to reach out to not only all of the Cloyne residents, but to the Berkeley students body and residents of other Cooperatives. This outreach initiative helped introduce students to FLOW’s general mission of water conservation, but also our ongoing project with the Cloyne’s Cooperative to conserve water through the conversion to dual-flush toilets, an initiative sponsored by TGIF.
- Project plans to re-participate in Earth Week 2016 to educate people on the positive effects of dual-flush toilets and the current project in Cloyne. Project also plans to present at the Cooperative Council meetings to let other co-op managers know that project leaders want to expand this project. Project hopes to work with the Daily Californian newspaper and SERC to be featured on their website, email newsletter, and blog to get more exposure.

Metrics:

<i>Metric Planned (Event, Campaign, Education, etc.)</i>	<i>Description</i>	<i>Impact</i>	<i>Status</i>
Cloyne Co-op Water Faire	Served as a source of information on both water conservation efforts FLOW has engaged in as well as FLOW's plans for Cloyne, which primarily involves the conversion of low-flush to dual-flush toilets. Tabled at the Cloyne Cooperative and actively engaged with both students who live in the Cloyne Cooperative but also visitors from the general student body and other Cooperative residents.	50 people reached	Completed
Informational Posters at the Cloyne Student Cooperative	Education on the sustainable benefits of dual-flush toilets, as well as brief instructions on using the toilets in the proposed building.	120 residents in Cloyne educated	Planning
Marketing at Cooperative Council	Updating all student cooperatives on project to pitch possible expansion to other cooperatives	1300 residents in all co-ops educated	Planning
Editorial in Daily Cal	Marketing project to all who read the Daily Cal that will highlight the recent addition of dual-flush toilets to Cloyne, introduce the concept of Retro-fit Kits to the general public, and highlight the amount of potential water conserved	Readers of the Daily Cal educated	Planning
		Number of people reached can	

Feature on SERC blog and website	Featuring the project on the website and blog to inform others	be measured by number of hits to the website and blog	Planning
Meet with other Co-op house managers/presidents	Will pitch the idea of expanding dual-flush toilets to Co-Op housing beyond Cloyne. These meetings will be essential to eventually converting all Co-ops into dual-flush toilets.	1300 residents in all co-ops will directly contribute to water conservation	Completed/Planning

Estimated Project Savings	Input (Enter estimated savings here in kWh, gallons, and/or pounds)	Calculated cost savings (\$)	Calculated GHG reductions (kg Co2e)
Estimated electricity savings (kWh)	0	\$0.00	0
Estimated water savings (gallons)	3,469,000	\$16,278.33	3.08741
Estimate gasoline savings (gallons)	0	\$0.00	0
Estimated waste reduction (pounds)	0	\$0.00	0

Timeline:

Task	Expected or Actual Completion Date
Pilot Program	8/16/2015
Identifying Equipment Vendor	8/24/2015
Arrange for ordering kits in bulk	8/28/2015
Order posters for Cloyne	9/4/2015
Ship posters to Cloyne	9/11/2015
Have kits shipped to Cloyne	9/18/2015
Begin installation	11/20/2015
Date by which we need 2 nd installment of TGIF money	9/25/2015
Finish installing equipment	11/27/2015
Order posters for campus	9/27/2015
Date by which we will have spent all TGIF funds	12/2/2015
Other Publicity/Outreach	10/30/2015
Target Date for Project Completion	12/4/2015
Target Date for Submitting Final Project	12/11/2015

