

PROGRAM OVERVIEW

As one of our most precious resources, sufficient water supply and good water quality are imperative to sustaining our planet. Caltech intends to do everything it can to minimize its impacts on regional water supplies through a series of water conservation and water efficiency projects across the campus. In several buildings, the Facilities Department is encouraging water conservation by installing water efficient plumbing fixtures such as high efficiency urinals, low-flow shower heads and dual-flush toilets. In the central and satellite plants, conservation efforts are focused on cooling tower efficiency. The campus is also transitioning landscaping to drought tolerant and climate adapted species.

GOALS & STRATEGIES

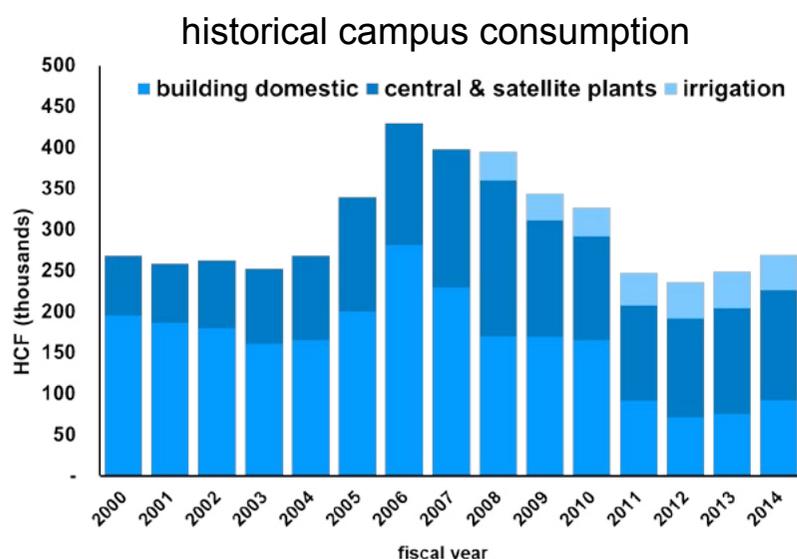
Goals for Viability

Responsibly steward water resources by focusing on efficiency, cultivating climate adapted landscape, minimizing potable water use, and maximizing use of reclaimed water.

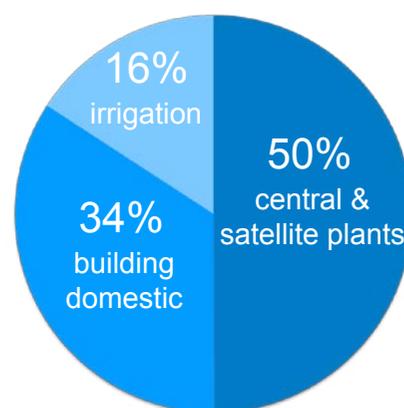
Strategies

- Campus water action plan
- Turf reduction program
- Laboratory water use
- Central and satellite plan optimization

CONSUMPTION TRENDS



FY14 water use breakdown



CONSUMPTION TRENDS

Cooling Towers



Cooling towers in the central plant

The single largest water use on campus is in the cooling towers in the central and satellite plants. Research is being conducted to identify conservation opportunities related to more efficient operation, evaporate recovery and waste water reuse. The Facilities Department is currently assessing an opportunity to use water from the cooling towers for irrigation on the campus athletic fields and for reuse of gray water from the campus in the cooling towers.

Laboratory water conservation

Research space constitutes about 50 percent of the campus building square footage, which presents an incredible opportunity for energy and water efficiency gains for the Institute. At Caltech, we recognize the interconnectedness of water and energy systems and leverage that relationship to inform and educate the community on simple conservation efforts. As part of a larger lab efficiency program, the campus community is working closely with the sustainability team to identify water conservation best practices in the lab including glassware cleaning procedures, alternatives to single pass lab equipment, and proper disposal of solvents and chemical reacting agents. The last initiative is aimed at minimizing the need for chemical or biological treatment of our waste water, which can often be very energy intensive.

Landscape master plan



Annenberg Center for Information Science and Technology, a LEED Gold certified building

The Landscape Master Plan is being updated to ensure a low-density, graciously-landscaped and walkable setting where the unique plant palette of Southern California is celebrated, an attitude toward scarce water resources is expressed, and the topographic and visual connections to the adjacent mountains is recognized. As part of the Landscape Master Plan update, the Institute has an ongoing program to transition existing landscaping to drought tolerant and climate adapted species. The landscaping surrounding the new Annenberg Center for Information Science and Technology is representative of the evolving look of the Caltech campus (see picture below). Many large turf areas, including Beckman Mall, are being replaced by drought-tolerant grasses. Additionally, Caltech

has invested in a computerized irrigation control system that applies the least amount of water necessary for the current climactic conditions (air temperature, relative humidity, wind speed and solar radiation).

Avery Garden

The Avery Garden is located on the northeast corner of campus. In addition to being landscaped with drought-tolerant species it is also home to a campus commons that is used for the annual Mudeo event and a community garden. A storm water retention swale is also integrated into the design.

