

Managing Water Supplies

Climate change, increasing global population, and polluting human practices underscore the reality that water is a precious and limited resource. According to UN Water, 1.8 billion people will be living in countries or regions with absolute water scarcity, and two-thirds of the world population could be under stress conditions by 2025.¹

With headquarter offices in drought-prone northern California, Cisco has always been conscious of water use in our operations. In FY09, Cisco selected 11 sites, representing 61 percent of employees, for a study of water usages and local water availability. Using the World Business Council for Sustainable Development water tool, we believe three of the eleven sites studied are located in water-scarce areas, and two sites are in water-stressed areas.

Our impact on local water, both what we take from the water system and what we contribute in waste water, has always been an important issue for us and for the communities in which we operate. Key objectives of Cisco's water management program are to:

- Identify and respond to site-level water conservation opportunities for our operations
- Work with partners such as local governments, water utilities, and owners of our leased buildings to pursue and replicate best practices in our operations and beyond

¹ UN Water. "Coping with Water Scarcity- Challenge of the Twenty-First Century." March 2007. <http://www.fao.org/nr/water/docs/escarcity.pdf>

Our Impact

Cisco's primary water impacts come from office building potable water and sanitation, landscaping, and data center cooling. We previously have not reported on our water inventory, despite implementing substantial water conservation projects. Over the past year, we invested in measuring and aggregating our water use so we can better understand the impact of our programs. Given the size and geographic dispersion of our operations, this proved to be challenging. At the Cisco San Jose campus alone, there are 137 water meters that must be manually aggregated. Data we were able to collect from the 11 largest Cisco sites is summarized below.

Indicators	FY07	FY08	FY09
WATER CONSUMPTION*			
Total water consumption (m ³)	1,725,618	1,570,831	1,654,030

* Data for 11 Cisco sites.

Despite our efforts to reduce water use, total water consumption increased in FY09 due to the expansion of Cisco's San Jose campus. The data we collected also revealed some surprising peaks in water consumption at individual sites, which we plan to research to better understand root causes and identify potential reduction opportunities.

Water Management at Boxborough, Massachusetts

Cisco operates two campuses in Boxborough, Massachusetts (NEDC Sites I and II). Because there is no municipal water supply or sewer system in Boxborough, both sites maintain their own onsite wells, wastewater treatment facilities, and treated effluent infiltration systems. As a result, the water cycle is closed for each property, with withdrawals and recharge occurring within the same watershed. Our awareness of water quality and quantity issues is heightened by the water-cycle stewardship responsibilities that we have assumed at these sites. For example, hand soaps and cleaning products selected for use in restrooms must be nontoxic so they do not cause problems at our wastewater treatment facilities.

Groundwater recharge is further supplemented through onsite storm water infiltration and is important to maintaining aquifer yields. The site plan for NEDC Site II achieves an effective coverage ratio for Site II that is less than 15 percent. Rain that falls on the ground largely infiltrates the aquifer, and rain that falls on impervious surfaces such as parking lots is managed closely.

Recognition for Smart Water Management

In March 2009, Building Owners and Managers Association of Silicon Valley (BOMA-SV) magazine profiled Cisco as a "good example of smart adoption of water conservation measures in the commercial office park environment," highlighting our reductions in water use through changes in landscaping, water features, and irrigation systems, as well as our reduction in turf (grass). In addition to the environmental benefits, BOMA-SV emphasized our cost savings as a result of these measures, underscoring the financial benefit of adopting green practices.

Water Reduction Activities

We are minimizing our water impacts through innovative approaches to both reductions and reuse. Although our efforts to date have recognized the importance of a locally relevant approach to water management, we are now acting to institutionalize water management systems.

Wherever appropriate, Cisco reduces water consumption and uses reclaimed water for landscaping and similar applications. We have been able to make many changes to our landscaping practices, while also creating attractive and inviting landscapes for our employees and our surrounding communities. Taking our San Jose campus as an example, our landscaping programs in FY09 included:

- **Using recycled water:** Our headquarters in San Jose, California, uses only recycled water for landscape irrigation and fountains, representing approximately 30 percent of our 700,000 cubic meters of water consumption.
- **Installing irrigation controls:** These controls track variables such as plant type and weather patterns to ensure that the least amount of water needed is dispensed via the drip system. This resulted in an approximate 8 to 10 percent water savings during the first six months of 2009.
- **Changing groundcover:** In FY09, we returned over 250 yards of mulch from onsite tree trimming back to the landscape as part of our Weed Abatement Program. In addition, we instituted a Growth Density Reduction Program which replaces plants, and reduces the need for watering, with natural mulch.
- **Eliminating decorative fountains:** We are taking fountains or water features offline or converting them to landscaped beds with California native and drought resistant plants. In FY09, our Offline Fountain Program resulted in a savings of 7340 cubic meters of water, \$90,834 in electricity charges, and \$55,368 in total maintenance savings. Our Fountain Conversion Program resulted in a total water savings of 1785 cubic meters each year and a total electrical savings of \$44,613 in FY09.

We also work to proactively mitigate our impacts in water-scarce areas by incorporating resource constraints into our local office building and data center development plans. Cisco seeks to site our operations in areas where we can be most successful at serving our customers while minimizing our negative environmental impacts.

Operations siting is an especially important consideration with our data centers. Cisco currently cools most of our data centers by air movement. However, as equipment becomes more compact and consumes more power per unit area, we need to identify more efficient cooling mechanisms, and one of the options we are considering is water-based cooling.

Through these and other initiatives, such as flow restrictors on faucets and waterless urinals in our facilities, we have significantly reduced our overall water use over the past decade. In California alone, we continue to save more than 300,000 cubic meters of water each year as a result of our water conservation efforts.

Working with Others

Cisco seeks out partners, such as local governments and utilities, who can provide support and best-practice sharing to help reduce water use. We count on these experts and leaders as a resource in our own operational efforts. Cisco participates in the California Environmental Dialogue Longview Committee, a forum for frank and honest discussion about California's long-term, strategic-level environmental, economic, and resource management issues.

Cisco also works closely with the owners of our leased spaces to incorporate environmentally sound practices into lease agreements. Our "Green Leases" incorporate LEED criteria, allowing us to negotiate requirements, such as water use measures, into new leases as well as those up for renewal. Given the nature of office buildings, these changes often benefit all tenants and frequently provide cost savings to the landlord.

Looking Ahead

In FY09 we began to lay the groundwork for the development of a Global Water Management System. Water use is currently tracked by some campuses, with each local site owning its information. Using our GHG emissions tracking system as a model, we are in the process of developing a robust and standardized reporting system for collecting data, measuring impacts, and designing a global water strategy. We expect to develop this program over the course of FY10 and begin rolling it out to our global operations. This approach will allow us to better understand our water footprint, assess it against regional water issues, and increase the strategic impact of our water reduction efforts.