



Water Management

Materiality Assessment Topic: Water usage

Issue Summary

Water is essential to life. It is a vital resource for environmental and social sustainability and economic prosperity. Reducing water use and managing this resource wisely is critical.

Our Position

We have a responsibility to actively manage and reduce our water use wherever possible.

Data Highlights

2012 Key Performance Indicators

	2010	2011	2012
Absolute (gallons)	3.331B	3.357B	3.282B
Water intensity (gallons/\$ billion revenue)	37.31	37.75	38.83
Water intensity (gallons/Terabyte network traffic)	105	84	61

2013 Goals

- Realize **150 million** gallons — roughly **15 percent** of cooling tower water use and **5 percent** of total water use — of annualized water savings by the end of 2015.
- Realize **400 million** kWh in annualized electricity savings from free-air cooling projects by the end of 2015.
- Include water goal question in Supplier Survey by the end of 2013 with the intent of motivating our suppliers to reduce their water use.
- Develop regional outreach plan for **five** water-stressed regions to expand awareness, increase use of the water efficiency toolkit and begin outreach to key stakeholders by the end of 2013. The plan should include analysis of potential savings and metrics to evaluate success.



Our Action

Water is deeply important to the communities where we operate. It is also critical to our own operations. The network that forms the core of our business requires a controlled and cooled environment, and water is oftentimes a critical input to the cooling equipment we use to create those conditions.

In 2010, we embarked on a process of water self-discovery that started with our first water footprint and has led us to engage with Environmental Defense Fund to develop a set of tools and goals around cooling-related water efficiency. Our intention is to improve our water performance and inspire and help others to reduce their water use, too.

START WITH DATA

In 2010, we worked with a team of students from Vanderbilt University to develop a plan to measure our water usage. After reviewing protocol options and developing a data management plan, we produced our first water footprint: **3.4 billion** gallons. But we recognized that this top-line number was insufficient, so we analyzed further, realizing that:

- Our top **125** water-consuming facilities constitute almost 50 percent of our overall water consumption
- **Thirty-one** of these **125** sites are in “high” or “very high” water stress regions, as determined by the World Business Council for Sustainable Development’s Water Tool

IDENTIFY OPPORTUNITY

In 2011, we launched our Water Scorecard, modeled after our successful [Energy Scorecard](#), to track water usage at these facilities and identify water-saving opportunities using an

intuitive grading system. We found that cooling towers, which use evaporation to begin the mechanical cooling cycle, provide our biggest water-saving opportunity and best financial return. These pieces of equipment, which are often used to help chill large buildings, require large volumes of water — 25 percent of an office building’s daily water use on average, but higher in buildings like data centers that have more heat-producing pieces of equipment than people. In this [video](#), Tim Fleming, senior energy manager at AT&T, explains how cooling towers work and why they are water-intensive.

ENGAGE EXPERTS TO BUILD TOOLS AND REFINE THE BUSINESS CASE

Together, these bits of information informed our collaboration with Environmental Defense Fund (EDF), which began in May 2012. To evaluate options for water efficiency in cooling towers, we first ran a series of pilots across the United States to understand how much water, energy and chemicals could be saved through various operational and technical improvements and through increased use of free air cooling. During the process of working together, we developed several fundamental educational and efficiency tools to develop a greater understanding and help clarify the process for water efficiency. In addition to these tools, our key finding was that the business case for water efficiency investment must take a comprehensive look at all cost savings, particularly related to electricity, that come from efficiency efforts.

SET GOALS AND SHARE

In 2013, we established a suite of water efficiency-related goals for the next few years. We purposely set these goals to establish good operational practices, push the limits of our



expected savings estimates and to stress the importance of sharing these findings with a broad audience. The fact is that the reduction potential associated with the cooling process that we've identified is a substantial savings when scaled across AT&T, but it could be a tremendous savings if achieved more broadly. That's why we're making our tools available to all organizations that could benefit from them.

Over the course of 2013, EDF and AT&T will be distributing and promoting these tools to those building owners who have the opportunity to reduce water usage and costs. Visit the [EDF AT&T Water Toolkit page](#) to find tools that organizations can use to measure and manage their own water use.