

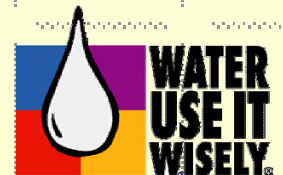
“How Dry I Am”

Solutions for the Pharmaceutical Industry To Meet the new NC Water Restrictions

Speaker: Greg Miller

Title: Senior Manager Facilities Engineering

Affiliation: bioMerieux





Overview of bioMerieux:

- French owned company with approximately 6000 employees worldwide. 500 Employees at the Durham Site
- bioMérieux's products are present in more than 150 countries through 35 subsidiaries and distributors

Products developed by bioMérieux:

- Diagnostic solutions (reagents, instruments, software)
 - determine the source of disease and contamination
- Products used for detecting microorganisms in agri-food, pharmaceutical and cosmetic products.



bioMerieux Site information:



- 100 acres located in northeast Durham NC.
- 310,000 sq feet
- Close Proximity to the Eno River – Falls Lake
- Built in 1987

Active Sustainability – Green Team

bioMerieux principle:

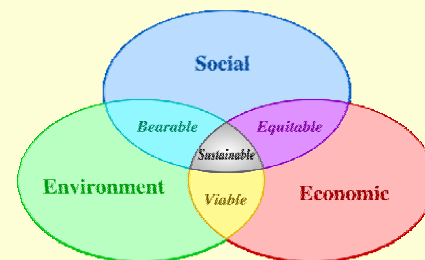
“We belong to a community “

Focusing on the following areas:

- Water
- Energy
- Raw Materials
- Emissions and Wastes



Sustainability goals:



Water:

- Replace all once through cooling systems to closed loop designs
- Eliminate all decorative Water fountains
- Incorporate all reject water to second source (Cooling Towers)
- Generalize Green roofs where technically possible

Emissions:

- No HCFC in new utilities
- Promote Car Pooling
- Choose CO2 friendly suppliers
- Freight by Sea

Energy:

- Set Office temperatures to 68 in winter and 75 in summer
- Replace all bulbs to energy efficient
- Install only high efficiency equipment
- Motors with VFD's

Paper and Waste:

- Print only when necessary
- 100% office paper will be recycled
- Printers will be set to print on both sides of the paper

Recycling

- Land fill is the last resort
- Limit Glass and Plastic use



Water Use at BioMerieux:

Landscaping

- AutoClaves
- USP Water systems
- Chilled Water system
- Manufacturing Operations

Gallons used by Durham Site averaged:

- 3,500,000 gallons per month -Summer
- 2,000,000 gallons per month –Winter
- 36,000,000 gallons per year

Goal – Reduce Water use at the Durham site by
50%



First Water conservation step:

Landscaping

- Eliminated all irrigation for the campus grounds
- No fall plantings
- Close coordination with Landscaping groups to plant only drought tolerant plants during the 2008 season.
- Increase natural areas – reduce planting beds

Water Savings 700,000 gallons per month during the summer months

Planting / Landscaping





Second Water Savings steps:

Chilled water system :

- Increase building temperatures.
- Changed the cycles of concentration for Cooling towers.
- Shut down Air Handling units in Office areas at nights and weekends.

Water reuse:

- Reuse Water from operating equipment to operate cooling towers.
 - Reject water from USP water systems
 - Autoclave rinse water

● Water Savings totaled: 800,000 gallons per month

Water reuse for Cooling tower operation

- Reject water from USP and Autoclave systems





Next Steps:

- Reuse water from Air Handling Units to operate Cooling towers.
bioMerieux has 30 Air Handling units
- Upgrade Restrooms to Low flow
 - Sink Faucets
 - High efficiency Shower heads
 - Flush valves
- Increase building temperatures during the summer months.
- Upfit all smaller Autoclaves with recirculation loops
- Starting an Energy Conservation Study review by EcoGenia to reduce total Utilities including water use

Projected water savings 500,000 gallons per month (during summer months)

Water Conservation Results:

Starting from October 2007:

- During the winter months - A total of 2.1 million gallons have been saved. (October – March)
- During the year: (October 2007 – September 2008)
 - Estimated 13,000,000 gallons re-used for cooling tower operation
 - Estimated 3,000,000 gallons of water conserved by Landscaping elimination of lawn and plant irrigation
 - Estimated 1 million gallons of water saved from Manufacturing operations and Administration sections.

