



Going Beyond Clean...

...to Green

- § Basics
- § Case Study
- § ABM Green Care
- § Consumable Goods
- § Equipment
- § Recycling
- § Day Cleaning
- § Questions

## § Green Seal

- Independent, third party certification entity for products and services

## § GREENGUARD

- Independent, third party certification entity for products and services (primarily VOC off gassing)

## § Environmental Choice

- Independent, third party certification entity for products and services

## § USGBC – United States Green Building Council

- Developer and administrator of LEED green building rating system

## § “Credits”

- LEED performance-oriented system where points are earned for satisfying criteria

## § APPA

- The Higher Education Facility Management Association
- USGBC adopted their standard for measurement of cleanliness for LEED IEQ Credit 3.2

- § EPA – Environmental Protection Agency
  - Standards for energy efficiency and recycled content for janitorial paper and plastic products
- § DFE – Design for the Environment
  - EPA program with a broad range of stakeholders combining potential chemical risk reduction and energy efficiency
- § CPG – Comprehensive Procurement Guide
  - EPA standards for procurement of environmentally responsible materials
- § CRI – Carpet and Rug Institute
  - Standards for carpet equipment related to Indoor Air Quality (IAQ) and water reduction
- § CARB VOC – California Air Resources Board Volatile Organic Compounds
  - Standard for VOC limits established by ARB, a part of the California Environmental Protection Agency

# What is the USGBC?



The U.S. Green Building Council was formed in 1993 to promote the design and construction of buildings that are environmentally responsible, profitable, and healthy places to live and work.

The organization is . . .

- A national nonprofit organization
- A diverse membership of organizations
- Consensus-driven
- Committee-based product development
- Developer and administrator of the LEED® Green Building Rating System



. . . Now what is LEED?

# What is LEED?

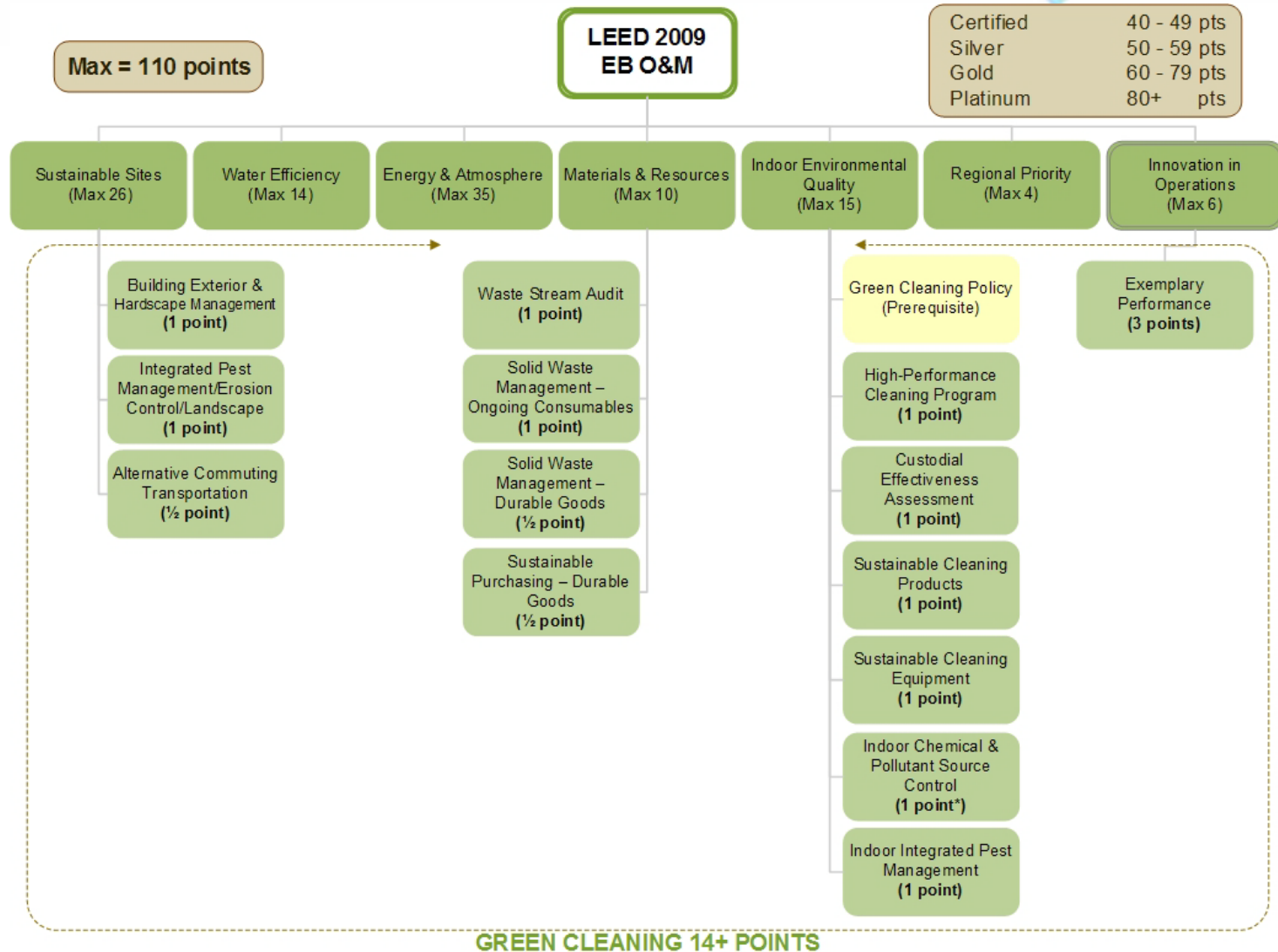
§ Leadership in Energy & Environmental Design (LEED) is the Green Building Rating System developed by the USGBC for all aspects of the built environment which includes:



§ There are 4 Levels (Certification, Silver, Gold, Platinum) of LEED Certification – Only 7368\* commercial facilities in the U.S. and Canada have been awarded certification by the USGBC.

§ Square footage of commercial building space certified – 1+ billion feet\*

# EARNING LEED POINTS



# Case Study: Renaissance Tower



- § Mary Harris
  - Senior Property Manager
- § 394,330 Square Feet
- § 28 Stories
- § Multi-tenant
- § Class A



## § LEED – EBOM Platinum

- Second Multi tenant Platinum building in the World

## § Quick Facts

- Reduced water usage by 1,962,000 gallons a year saving \$9,745 annually
- Estimated energy savings \$112,000 a year
- Increased property value by \$1,701,813

## § Environmental Solutions

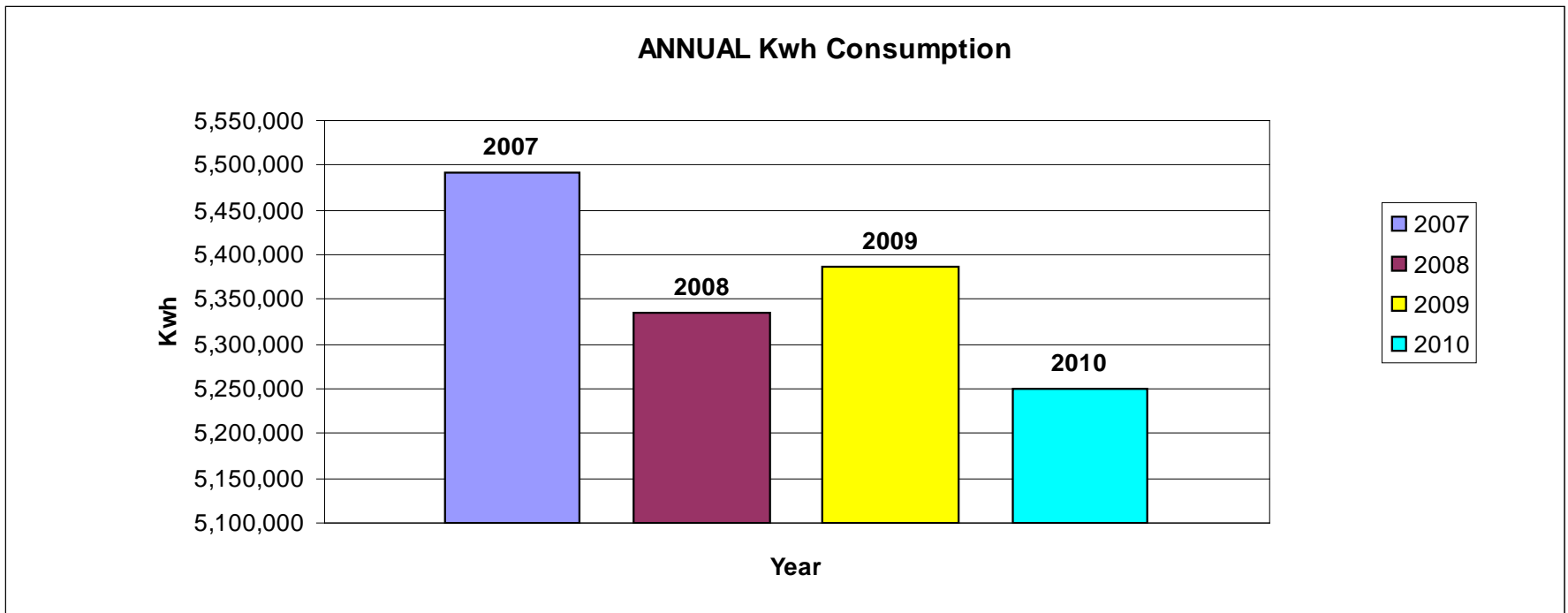
- Sustainable Sites
  - 52% reduction in conventional commuting trips
  - Parking site plan showing 100% of parking is located under cover
  - Low Light Pollution
  
- Water Efficiency
  - Replaced 2.2 gpm faucet restrictors with 0.5 gpm restrictors
  - Replaced 3.5 gpf diaphragms with 1.5 gpf low flow diaphragms
  - Costs were \$4,304 with an annual savings of \$9,745, ROI: 226%

## § Environmental Solutions Continued

### – Energy & Atmosphere

- 2007 Energy Star rating of 78, Increased to 88 in 2010
- Upgraded the Energy Management System (EMS) and added Expanded Service Panels to the chillers for chilled water reset to tie to the EMS.
- Costs totaled \$68,852 with operating and energy savings of \$34,000/year
- ASHRAE Level II Energy Audit
  - Identified low & no cost efficiency measures
    - » Optimal Start/Stop
    - » Restroom exhaust fans and domestic hot water changed from 24/7 to occupied hours of operation
    - » Corrected excess outside air ventilation
  - Total cost was \$2,400 and yielded savings of \$78,000/year

# Case Study: Renaissance Tower



## § Environmental Solutions Continued

### – Materials & Resources

- Implemented a sustainable purchasing program for ongoing consumables and achieved a 96% rate
- Implemented a sustainable purchasing program for durable goods
- Implemented a sustainable purchasing program for facility alterations and additions
- 67% of the waste stream for ongoing consumables are recycled or reused
  - In 2010, 80,510 lbs of paper, cardboard, bottles and cans was recycled

## § Environmental Solutions Continued

### – Indoor Environmental Quality

- Completed a 3 phase tenant improvement project for California Earthquake Authority
  - Waste was sorted, weighed and sent to appropriate recycle centers
  - Air quality was maintained by sealing the work area
    - » Covered light fixtures
    - » Used vinyl plastic barriers to isolate tenant space
    - » Flushed out space with fresh air for 72 hours allowing for off-gassing of the furniture

## § Conclusion

- ENERGY STAR rating increased from 78 in 2007 to 88 in 2010
- Combined cost of implementing the sustainable measures was \$76, 556
- Total combined savings of \$121,745
- ROI of 180%

# What Is Green Cleaning?



- § ... effective cleaning which protects health without harming the environment.
  
- § ... Utilizes products and services that reduce the health and environmental impacts compared to similar products and services used for the same purpose.
  
- § ... Holistic/comprehensive approach
  - Includes all products, training, workloading, stewardship, communications, etc.
  - Not just switching a “green” cleaning chemical for a traditional product.

- § ABM Green Care™ program is a leading-edge green cleaning program with national reach
- § Supporting hundreds of LEED certified and registered sites
- § Active Involvement with the USGBC
  - USGBC members
  - Staff members serve on the USGBC's CRE Advisory Group
  - LEED-AP and Green Associate personnel
  - Several employees are also active members of local USGBC chapters
- § Successful track record supporting building owners, tenants and sustainability project teams who are pursuing (or have already attained) LEED certification initiatives
  - LEED-NC (New Construction)
  - LEED-EB (Existing Buildings)
  - LEED-CS (Core & Shell)
  - LEED-CI (Commercial Interiors)

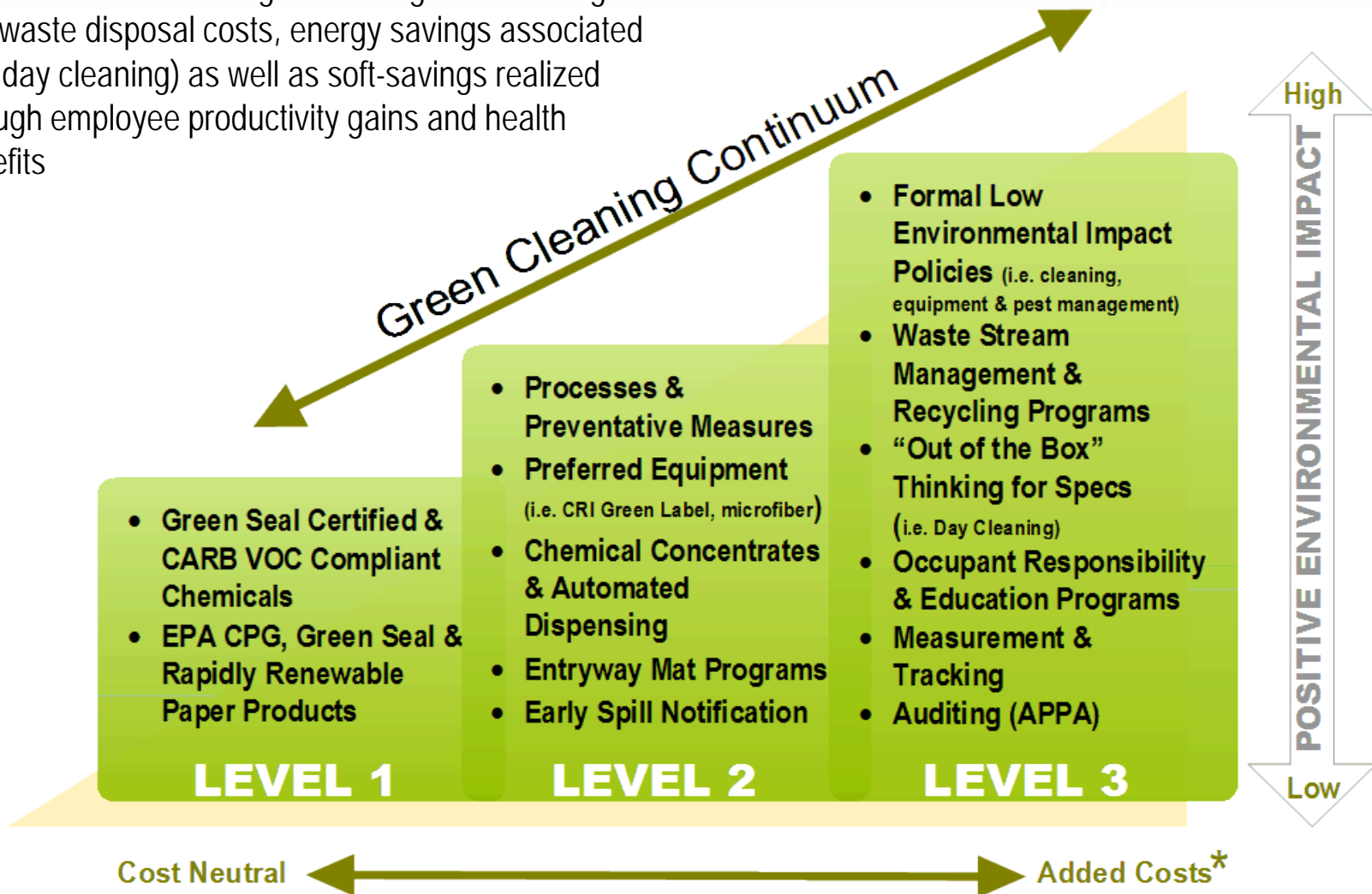




# Green Cleaning Continuum



\* Added costs can be mitigated through hard-savings (i.e. waste disposal costs, energy savings associated with day cleaning) as well as soft-savings realized through employee productivity gains and health benefits



# Chemical Program



- § High Volume Cleaners (General, Carpet, Bathroom, Glass, etc.)
  - Green Seal (GS-37)
  - Environmental Choice (CCD-110, CCD-146, CCD-148)
- § Lower Volume Cleaners (Disinfectants, Metal Polishes, Floor Finish, Floor Strippers, Odor Control, etc.)
  - Green Seal (GS-40)
  - Environmental Choice (CCD-112, CCD-113, CCD-115, CCD-147)
  - California Code of VOC by category
- § Dilution Systems
- § Reduce Unnecessary Choices
- § 1 point - 30% of annual purchase dollars
  - (Paper/Plastic/Soap and chemicals combined)



# Hand Soap and Hygiene



§ Hand Soaps that meet one or more of the following criteria:

- No antimicrobial agents (Medical and Food Preparation Exempt)
- GS-41, for industrial or institutional hand cleaners
- Environmental Choice CCD-104, for Hand Cleaners and Soaps

§ Strategies for waterless, alcohol-based sanitizers

§ Communications on the importance of regular and proper hand washing

# Paper/Plastic Products



§ Meet EPA's Comprehensive Procurement Guidelines -

<http://www.epa.gov/cpg/>

§ EPA's Recommended Recovered Fiber Content Levels for Commercial/ Industrial Sanitary Tissue Products



Item	Postconsumer Fiber (%):	Recovered Fiber (%):
Bathroom Tissue	20-60	20-100
Paper Towels	40-60	40-100
Paper Napkins	30-60	30-100
Facial Tissue	10-15	10-100
General Purpose Industrial Wipers	40	40-100
Plastic Trash Bags	10 - 100	



§ LEED-EB O&M adds optional standards for paper as well

- GS-09, GS-01, CCD-082, CCD-086 standards
- Rapidly renewable or non-tree fiber sources

## § Focus is on:

- Proper cleaning steps
- Heightened focus on touch points
- Reducing airborne particles
- Environmentally friendly and safer chemicals
- Microfiber technology

## § Entryway cleaning

- 90 degree vacuuming
- Regular deep cleaning (extraction)

## § Course chemical spray vs. “misting”

## § Properly fold and re-fold microfiber

- Change out when soiled





## § Advantages of microfiber:

- Reusable – can be laundered hundreds of times
- Cleans better and gets into grout and crevices more effectively
- Economical – uses less product & water

## § Cloths

- Color coded to prevent cross contamination

## § Mops

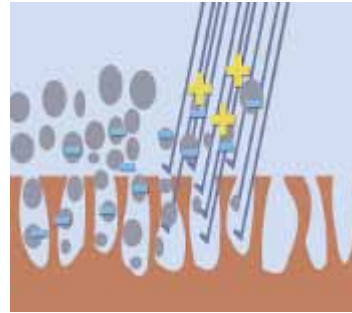
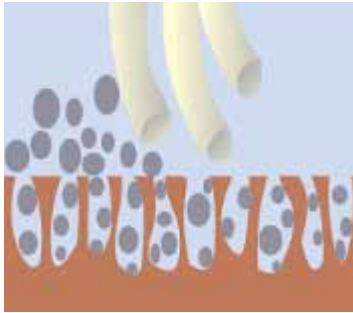
- Color coded to prevent cross contamination
- Faster dry time on floors/using less water
- Lighter = less injury to workers = safer work environment
- More efficient = less labor time = cost reductions
- Cleaner end result (no mop ring; less slop)

# Reduce with Microfiber



## § Conventional Mopping

- Uses 2.5 gallons of water for every 2-3 rooms mopped
- Top Quality conventional mops survive 100 launderings



## § Micro Fiber Mopping

- Uses 0.6 gallons of water for every 2-3 rooms mopped!
- Top Quality Microfiber mops survive 500 launderings!



§ HEPA is not required

§ Focus is on:

- Reducing airborne particles
- Reducing moisture in carpets
- Sound levels less than 70dBA
- Variable speed solution delivery
- Gel batteries
- Minimize user fatigue
- Rubber bumpers to prevent building damage
- Log kept to show maintenance and repairs

§ New Innovations

- Water molecularly changed into cleaning solution
- Daily carpet cleaning that dries in 30 minutes



## Equipment Repair History

Manufacturer:	Tennant	Model #: T3 Auto-Scrubber
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Serial Number:	900358-10450840
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Equipment Cut Sheets must be included  
One sheet per piece of equipment to track any repairs

Date of Purchase:	2010 Jan
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<b>Repair History</b>			
Date	Hours	Part(s)	Comments
6/15/2010	4	Pump	Pump was replaced
6/18/2010	4.5	None	T3 was not charging Sac-Val fixed it
8/11/2010	3	None	SaciVal checked the charge on batterys
10/26/2010	3	Switch,Connector & Two Battery	T3 was not working properly Sac-Val was called to fix it
2/10/2011	2	On Board Charger	Charger was not charging it got replace

## § Microfiber

- Laundering (Machines, hookups and labor)

## § Equipment

- Throwing away all current equipment to “go green”, isn’t
- Gel batteries (Costs)
- Increased vacuum bag usage

## § LEED Sites

- Log maintenance (Small sites)

## § Chemical dilution systems

- Water source
- Secure/Centralized Area

## § Janitorial Paper

- Be careful of case count when comparing

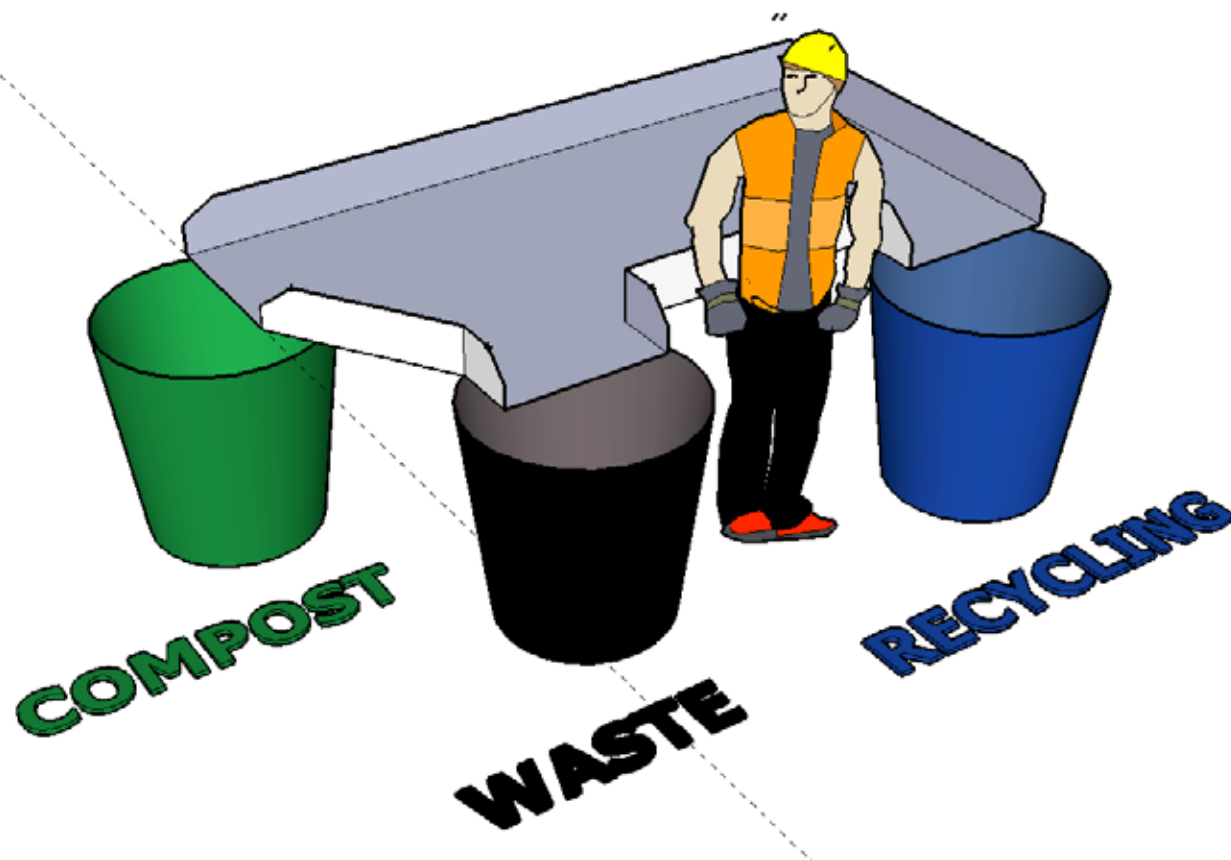
## § Plastic Liners

- Can be extremely expensive to meet post-consumer content levels



- § Eliminate clear liners on blue desk side cans
- § Replace black desk side cans with caddies
- § Increase recycling signage
- § Replace large black/tan cans with blue cans in copy rooms and other areas
- § Implement the use of "Friendly Reminder Tent Cards"
- § Increase one on one tenant training
- § Increase recycle/compost audits
- § Implement compost program
- § Consider other recycle programs
  - Voluntary blue can only at desk side by Tenant or Individual employees with central waste cans

# ABM – Sorter Station



# ABM – Sorter Station



§ Of waste sorted, 80% was Compost and Recyclables.

# Day Cleaning Considerations



## § Cost Savings

- Typically driven by energy savings (can be significant)
- Some efficiency improvements in janitorial

## § Lower Complaints

- Occupants develop relationship with cleaning crew

## § Potential Issues

- “Finished product” concept is gone
- Many janitors already have day jobs
- Tenants/employees stay late and energy savings are lost
- New equipment costs
- Project work still must happen off-hours



# Occupant Responsibility and Communication



**A change is in the AIR**

**ABM Green Care™ makes our workplace a better place.**

ABM, our janitorial company, is using environmentally friendly products, equipment and processes to take our building to the next level of clean — clean and “green.”

*Green cleaning keeps things just as clean (or cleaner) than before.*

So what's the difference?

1. The process itself is gentler, yet highly effective. Janitors use the latest eco-friendly cleaners and efficient microfiber cloths and mops. Plus, preventive maintenance measures (such as pollutant-trapping doormats) minimize the use of harsh cleaning agents.
2. The products save natural resources. For example, paper towels and bathroom tissue are made with recycled or rapidly renewable materials.
3. Green cleaning helps improve indoor air quality. This has been proven to enhance employees' health and productivity.

What can YOU do for Green?

- Report spills, leaks and other accidents immediately
- Keep eating areas clean
- Recycle and/or minimize trash
- Conserve water
- Utilize two-sided printing and copying

What are the signs?

Notice ABM Green Care™ posters or other communications that will help you understand our green cleaning programs and how we're progressing. We're in this together...with ABM Green Care™, we can all breathe easier knowing we're creating a better place to work and live.

[abm.com](http://abm.com)

- § Formatted HTML email communications for customers to share with occupants
- § “Cling on” stickers for restroom mirrors, glass
- § Lobby events (Earth Day)
- § Table tents (break rooms, cafeterias)
- § Tenant/Employee education sessions
  - Early spill notification
  - Recycling programs
  - Green cleaning overviews
- § 7 exposures to absorb

- § Green Wash. Today, there are more than 66,000 Building Service/ Janitorial Contractors in the US
  - Few are members of the USGBC
  - Even less promote green cleaning programs on their web sites
  - But everyone has a “green cleaning” program... Right? Wrong!
- § Dig Deeper.
  - Ask for references
  - Ask to see:
    - Operating Procedures & Training Materials
    - Chemical Lists (what is Green Seal Certified, EPP and WHY?)
    - Options for Preferred Janitorial Equipment
    - Occupant Responsibility Communication Tools
- § LEED 2009 EB O&M is a fantastic roadmap to sustainable building operations and best practices...even if you aren't pursuing certification.

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- Top 10 Green Cleaning Tips
- Five Features of an Effective Green Cleaning Program
- Green Cleaning: The Business Case
- ABM Green Care Cleaning Policy

§ [www.abm.com](http://www.abm.com)

§ [www.wastewise.com](http://www.wastewise.com)

§ [sacramentoareasustainablebusiness.org/](http://sacramentoareasustainablebusiness.org/)

# Questions & Answers



[abm.com](http://abm.com)