

Healthy Buildings, Sustainable Solutions – Establishing Green Cleaning Standards

Cass Contreras, LEED AP



Create Tomorrow Together

2008 CSU FACILITIES MANAGEMENT CONFERENCE

Healthy Buildings, Sustainable Solutions – Establishing Green Cleaning Standards

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Healthy Buildings, Sustainable Solutions – Establishing Green Cleaning Standards

- Session Objectives
 - Green Cleaning Overview
 - Market Drivers & Standards
 - Product Criteria
 - Implementation
 - Value Proposition

What is “Green” Cleaning?

Environmental Stewardship

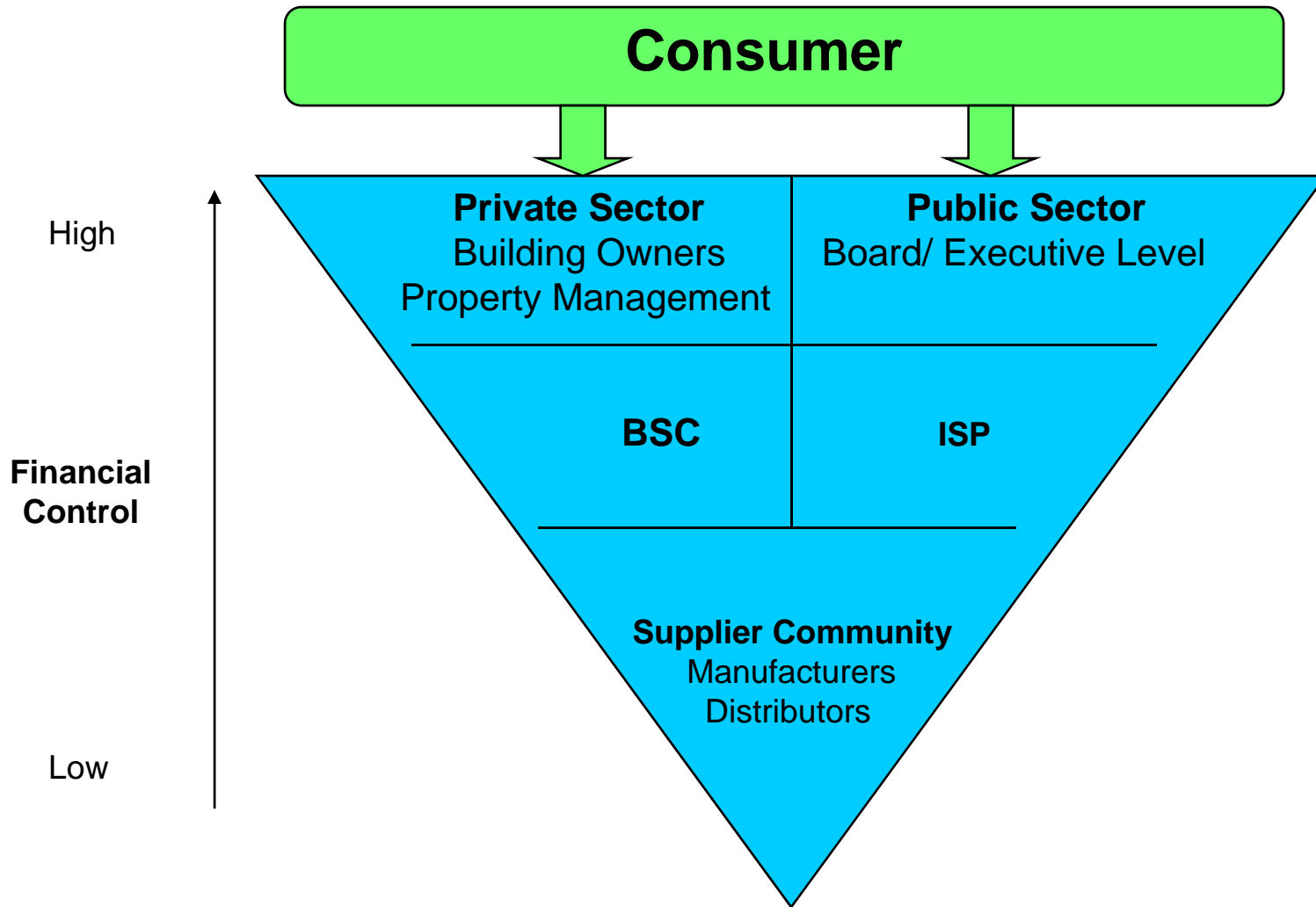
- Clean for health and safety first
- Maintain performance and appearance standards
- Minimize human exposure
- Reduce harmful chemicals, particles and moisture residues
- Contain & reduce pollutants



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Influencer Chart



Why It Matters

Environmental Impact of Buildings

Commercial Building Consumption

- 12% of potable water
- 30% of raw materials use
- 30% of waste output
- 65% of electricity

Cleaning Industry

- 6 Billion pounds of chemicals
- 4.5 Billion pounds of paper
- 35 Billion plastic liners
- 2.5 Billion pounds of equipment





Environmental Stewardship

Why “Green” Standards?

- Minimize human exposure
- Clean for health first, appearance second
- Reduce harmful chemicals, particles and moisture residues
- Contain & reduce pollutants
- Dispose cleaning waste in environmentally safe ways



“Green Cleaning” Impact

Addressing a \$60 Billion Dollar Problem

- Increased occupant attendance levels
- Increased worker safety
- Reduced insurance premiums
- Enhance life cycle cost
- Lower overall M&O costs
- Marketing advantage



Environmental Guidelines

Building Certification



Existing Building New Construction

- A non-profit, voluntary, consensus-based, market-driven green building rating system
- Environmental performance from a whole building perspective
- Credits earned for satisfying criteria

Product Certification



Global Ecolabeling Standards

- Encouraging the purchase and manufacturing of products and services that have less impact on the environment
- 3rd-party certifiers
- Focus on multiple factors for certification

Federal Authority



Environmentally Preferable Purchasing Program

- Environmentally Preferable Purchasing (EPP) is a federal-wide program that encourages and assists executive agencies in the purchasing of environmentally preferable products and services



Environmentally Preferable Purchasing Program

1998 Executive Order 13101

Guiding Principles

- I. Environment + Price + Performance
- II. Pollution prevention – eliminate and reduce risk to human health and the environment
- III. Life cycle perspective – all stages of product
- IV. Comparison of Environmental Impacts – Products
- V. Environmental Performance Information - Claims



EPA – CPG

Comprehensive Purchasing Guidelines

Product	Minimum Recycled Content Post-consumer Waste	Total Recycled Content
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 Wipers	40%	40-100%
Plastic Trash Bags	10-100%	N/A



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Meeting LEED Standards



What is LEED™?

- It is a non-profit, voluntary, consensus-based, market-driven green building rating system
- It evaluates environmental performance from a whole building perspective over a building's life cycle
- LEED EB – Existing Building Certification
- LEED NC – New Construction Certification
- Pre-requisites met & credits earned for satisfying criteria





Average Savings of Green Buildings



**ENERGY
SAVINGS
30%**



**CARBON
SAVINGS
35%**



**WATER
USE
SAVINGS
30-50%**



**WASTE
COST
SAVINGS
50-90%**





Certification Levels	Total Points Needed for Building Certification	Points Impacted By Cleaning
Certified	34 - 42	Up to 10 points plus 1-4 Innovation Credits
Silver	43 - 50	Up to 10 points plus 1-4 Innovation Credits
Gold	51 - 67	Up to 10 points plus 1-4 Innovation Credits
Platinum	68 - 92	Up to 10 points plus 1-4 Innovation Credits



*** Now Green Cleaning Policy Prerequisite**



LEED – EB Leadership in Energy and Environmental Design Green Building Rating System For Existing Buildings Upgrades, Operations and Maintenance 2008		
LEED Credits		Points
EQ Credit 3.1	High Performance Cleaning Program – Staffing / IAQ/Policy	1
EQ Credit 3.2 & 3.3	Custodial Effectiveness Assessment – APPA (2=2pts, 3=1 pt)	1-2
EQ Credit 3.4 – 3.6	Purchase of Sustainable Cleaning Products & Materials	1-3
EQ Credit 3.7	Sustainable Cleaning Equipment	1
EQ Credit 3.8	Entryway Systems	1
EQ Credit 3.9	Low Environmental Impact Pest Management Policy	2
MR Credit 7.1 & 7.2	Solid Waste Management – ongoing consumables (50%=1 pt, 70%=2pts)	1-2
Innovation Credit	Innovation in Upgrades, Operations and Maintenance LEED Accredited Professional (1) Documenting Cost (2)	1-4



Who Is “Green Seal”?

Green Seal's mission is to achieve significant environmental improvement by encouraging the purchase and manufacturing of products and services that work well and have less impact on the environment



Product Standards

- GS-01 Tissue paper
- GS-08 Food containers
- GS-09 Paper towels and paper napkins
- GS-34 Degreasers
- GS-37 Industrial and Institutional cleaners
- GS-40 Floor Care products
- GS-41 Industrial Hand Cleaners
- GS-42 Cleaning Services



Who is Environmental Choice?

The Environmental Choice Program is designed to support a continuing effort to improve and/or maintain environmental quality by reducing energy and materials consumption and by minimizing the impacts of pollution generated by the production, use and disposal of goods and services.



Product Standards

- Environmental Choice CCD-100 Degreasers
- CCD-146 Hard Surface Cleaners
- CCD-148 Carpet and Upholstery Care
- CCD-112 Digestive additives for cleaning and odor control
- CCD-113 Drain and Grease Trap Additives
- CCD-115 Odor Control Additives
- CCD-147 Hard Floor Care
- CCD-082 Toilet Tissue
- CCD-086 Hand Towels (paper towels)
- CCD-104 Hand cleaners and Hand Soaps

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**New Approach To Cleaning
Is Not A Higher Cost**

Entryways Systems

Preventative Containment

- Use exterior matting systems
 - Grills
 - Grates
 - Mats
- Length 12' to 18' ft, minimum of 10 ft at each public entrance
- Vacuum mats daily
- Reduces slip & fall liability



Chemical System

General Guidelines

- Meets Green Seal or Environmental Choice standards
- Color coded & number coded
- Visual graphic training - non lingual
- Concentrate - dispensing systems
- Minimize contact with workers
- Foam trigger sprayers or flip top caps



Environmentally Preferred Chemistry

- No carcinogens
 - No reproductive toxins
 - Non-combustible
 - Low VOC content
 - No heavy metals or zinc
 - Bio-based
- Primary packaging is recyclable
 - No phosphates added
 - Readily biodegradable
 - Not corrosive to skin and eyes
 - Not a skin sensitizer
 - Concentrated



Chemicals

Environmentally Preferred

- Assess current chemicals
- Review MSDS
- Consolidate products
- Use “low impact” chemicals
- Dilution control systems
- Avoid atomization / aerosols



Water Conservation



waterless urinal system

Paper Products

“Green” Recommendations

- Source reduction
- Replace folded towels with roll towels
- Use jumbo roll toilet tissue
- Use “touch-free” dispensers
- Follow EPA Comprehensive Purchasing Guidelines





Trash Can Liners

- 100% biodegradable (BPI logo)
- High density reduces plastics by over 50%
- Right size liners
- Eliminate double bagging
- Consolidate & reuse



Green Hand Soap

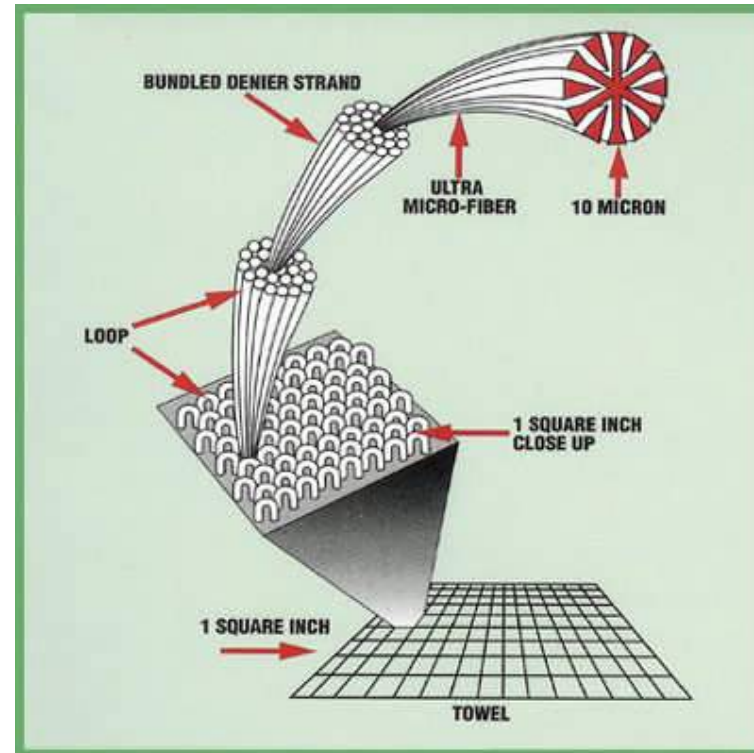
- Foam uses less water and soap
- Touch-free dispensing reduces cross contamination and points of contact
- Sanitary-sealed cartridge refill is germ free
- Hand hygiene promotes occupant wellness
- GS41 Standard



Micro-fiber Technology

Reducing Microbial Growth

- Color-coded to reduce cross contamination
- Reduces bacteria by 95%*
- Water conservation
- Durable – long life cycle
- Characteristics
 - Abrasive qualities
 - Absorbency
 - Superior performance



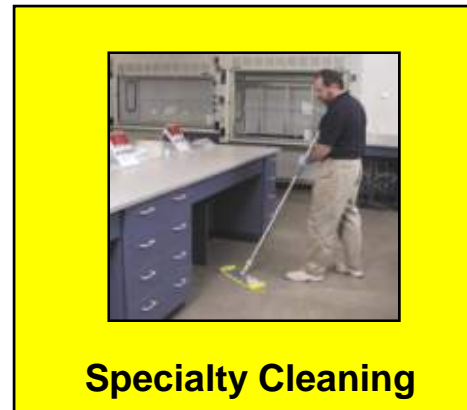


Cross Contamination

Color-coded Guideline



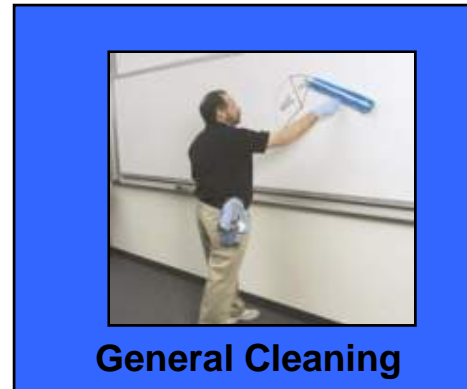
Sanitary Restroom



Specialty Cleaning



Food Service Areas



General Cleaning

Green Restrooms

- Best practice & procedure
- Bacteria-reducing micro fiber tools
- Avoid cross-contamination
- Touchless paper & soap systems
- Chemistry
 - Low fragrance / dyes
 - Low VOC air care dispenser
 - Citric acid / non-acid bowl cleaners
 - Third party certified products



Green Floor Care

- Assess life cycle of floor care program
- Build a solid base
- Maximize longevity of finish
- Reduce stripping cycles
- Schedule daily and interim maintenance
- Green Seal or EcoLogo standards



Green Machines

Carpet & Rug Institute *Vacuum Cleaner Standard*



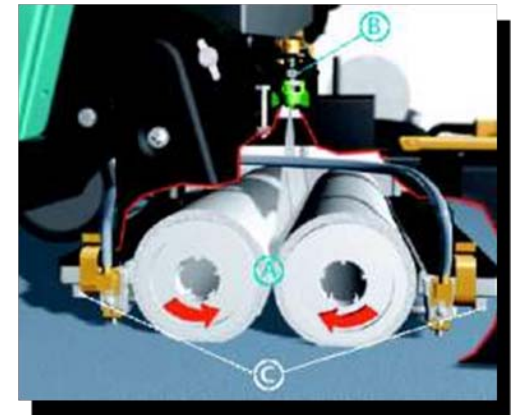
The Carpet & Rug Institute has initiated a vacuum cleaner and Indoor Air Quality testing program that identifies vacuum cleaners that have met the stringent industry standards for all 3 conditions:

1. Efficiency - Soil Removal
2. Emissions Dust Containment
3. Surface Appearance Change



Low Moisture Cleaning is Green

- Cylindrical brush automatic scrubbers use 30% less water
- Foam cleaning technology
- Low moisture encapsulation carpet cleaning system
- Micro-fiber cleaning tools
- Extraction – 24 hour or less dry time



Low Moisture Carpet Care



Low Moisture Floor Care



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CRI Certified *Carpet Cleaning Machines*



Green Machines

Containment & Filtration

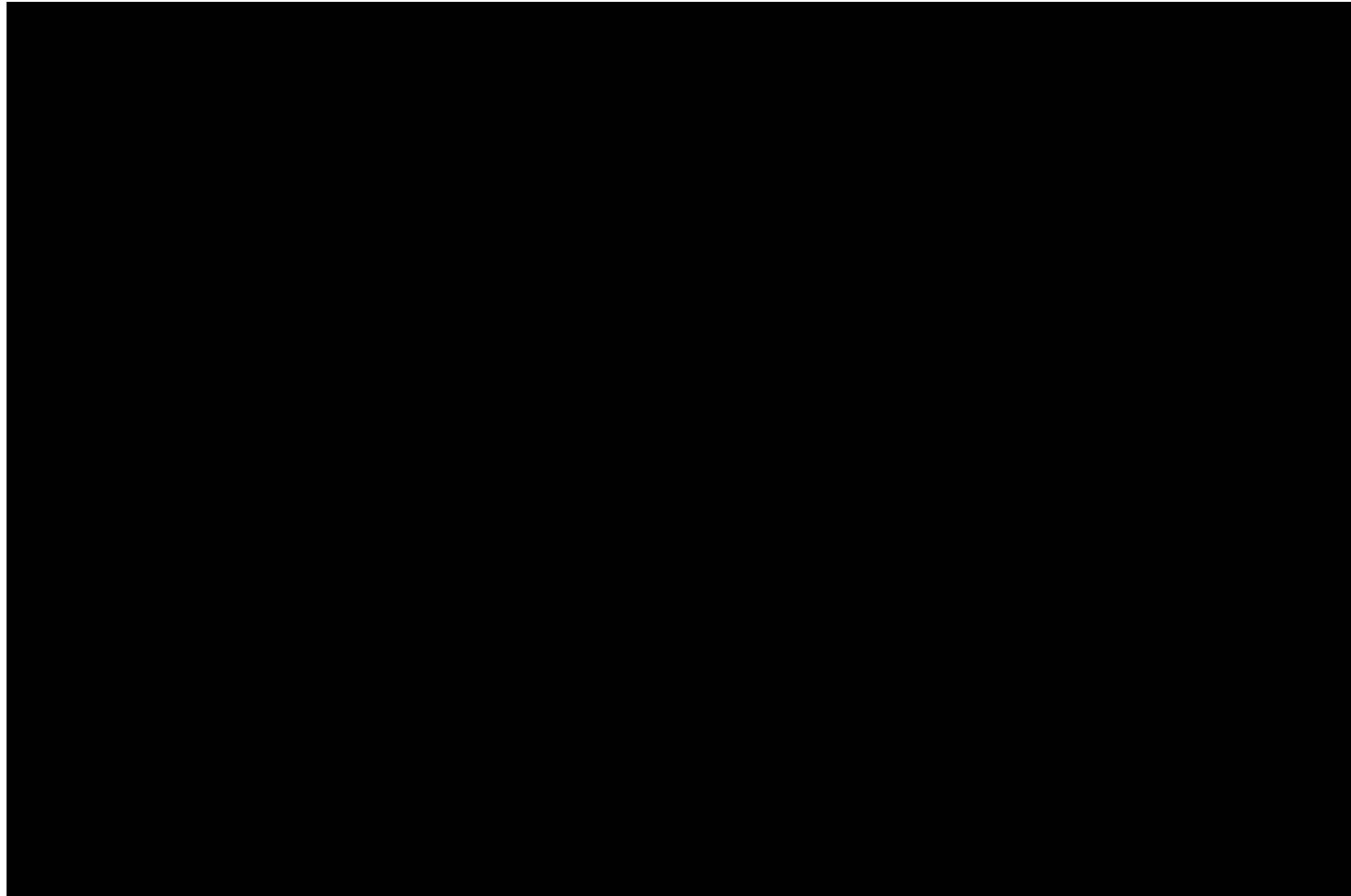
- Dust control on UHS burnishers – 50% reduction in particulates
- CRI vacuum standard – 97% @ .03 micron
- Low-moisture automatic scrubber
- Environmentally preferred batteries
- 2-year life cycle minimum
- Avoid machines that generate and redistribute harmful particulates & substances





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Worker Safety Stats

- 4.7 million service workers
- Cleaning work is physical
- Cleaning tasks are repetitive
- Job related risk are high
- Exposure of chemistry, contaminants and bacteria exceeds other service workers



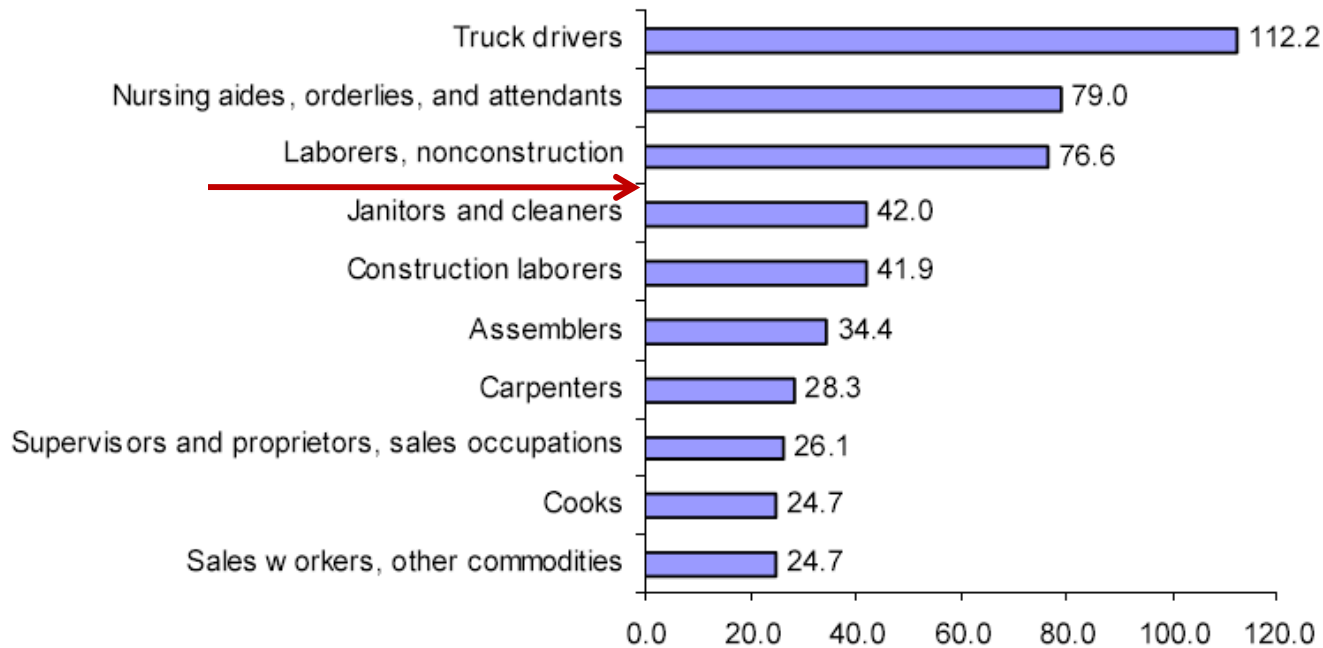
News

United States
Department
of Labor



Bureau of Labor Statistics Washington, D.C. 20212

**Chart 2. Number of occupational injuries and illnesses (in 1,000's)
involving days away from work for selected occupations, 2002**





Worker Exposure

Preventative Maintenance	
Daily Maintenance	260x / 365x
Interim Maintenance	2x / 4x / 6x
Restorative Maintenance	1x / 2x

Daily Green Cleaning System



Foam Trigger Sprayers



5 Daily Green Cleaning
Chemical Control System



Micro Fiber Cleaning Tools

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Implementation Plan



1.
Building
Goals



4.
Implement &
Execute



2.
Site Analysis



5.
Program
Evaluation



3.
Cleaning
Program
Defined



6.
Public
Relations &
Marketing

Site Based Green Survey



Healthy Building Environmental Assessment Form

This survey is designed to help customers and sales consultants work together to assemble an environmental plan for facility service providers, property managers and building owners. This assessment will act as a guide to identify green products defined by The US Green Building Council (LEED), Green Seal, EPA and other leading organizations that are committed to environmental sustainability and occupant wellness.

Date _____ Building _____
 Name _____ Sales Person _____
 Company _____ Contractor _____

Tab No.	Environmentally Preferred Products	Yes / No	Standards Criteria Government Regulation	Notes
4.15	Matting systems - grills, grates and mats - Length 12' to 18' ft / 80-90 soil removal - Multi-level matting design - Scrape & dry construction - Quarterly mat cleaning - Daily vacuuming cycles		  IEQ Credit 10.1	
4.19	Micro fiber cleaning tools - cloths, mops & dusting tools - Bacteria reducing - Color-coded - Long life cycles / source reduction - Less water / chemical usage - Low moisture cleaning applications / asset protection		  IEQ Credit 10.0	
4.13, 14	Green cleaning machines - vacuums / floor equipment / carpet equipment - CRI certified vacuums contain 95% of particulate at .3 micron - Low moisture hard floor scrubbers use less water and chemical - Low moisture carpet scrubbers have faster dry time and leave less residue - Adjustable solution control uses less moisture / less chemical - Passive / active vacuum systems contain airborne dust		  IEQ Credit 10.0	
6.11	Toilet tissue / towels / facial tissue / wipers / napkins - Manufactured with postconsumer and preconsumer recycled content - No de-inking using chlorine solvents - No bleaching with chlorine - Source reduction of paper - roll towels / jumbo tissue / coreless - High capacity paper systems reduces consumption by 37-70%		  MR Credit 4.1 - 4.3	

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Compelling Economic Reasons

- Reduced workers compensation claims
- Source reduction of consumables
- Increase worker productivity
- Less water and chemical usage
- Reduce absenteeism



Conclusions

- There is a compelling economic case for Green Cleaning and Healthy Buildings
- There are benefits for...
 - Custodial Staff
 - Management
 - Students & Faculty
- A comprehensive cleaning program impacts health and provides many other environment benefits
- There is documented evidence
- Expand your marketing opportunities

Healthy Buildings, Sustainable Solutions – Establishing Green Cleaning Standards

- Thank you for your time
- Questions?

**This concludes The American Institute of Architects
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