



Green Cleaning Web Training Companion Guide

BEFORE you watch the web training, answer the following questions:

1. What do you think are the components of a Green Cleaning Program?
2. What do you currently have in place in your school or district?

AFTER you watch the web training, answer the following questions:

1. What additional aspects of green cleaning did you learn during the training?
2. What will you do to begin or improve green cleaning at your school or district?
3. What further information do you need to get started and where can you find it?

Green Schools: A green school creates a healthy environment that is conducive to learning while saving energy, resources and money.

Green Cleaning: Green cleaning is the use of cleaning products and practices that have lower environmental impacts than conventional products and practices. Green cleaning uses fewer harmful chemicals, reducing the exposure of building occupants and maintenance personnel to potentially hazardous contaminants. A green school cleaning program saves energy, reduces water usage, limits impact on the natural environment, and conserves resources, while helping to create a healthy and productive learning environment.

The goals of a green cleaning program are to:

- Reduce or eliminate the use of toxic and harmful chemicals
- Simplify cleaning processes
- Use biodegradable cleaning and environmentally preferable products
- Reduce or eliminate waste
- Reduce air and water pollutants associated with cleaning or pest management
- Address particulate pollutant sources
- Use appropriate equipment and filtration
- Use appropriate methods

Green cleaning saves energy by:

- Encouraging the use of ENERGY STAR rated cleaning equipment.
- Using low-emitting green cleaning products that allow for daytime cleaning in an occupied building. This eliminates the need to light the building at night to clean. Using local products reduces transportation to the school, lessening the use of fossil fuels.
- Encouraging the purchase and use of equipment that effectively uses cold water in place of hot. Using cold water is often as effective as hot water, but far more energy efficient.

Green cleaning saves water by:

- Using biodegradable and non-toxic cleaning products that do not contaminate the watershed.
- Using products that require less water for dilution or rinsing.
- Using green equipment, such as water-efficient dusting and mopping systems, low-flow bathroom fixtures, and ENERGY STAR kitchen appliances, that are more energy and water efficient.

Green cleaning limits impact on environment quality by:

- Using products tested for toxicity on animal and plant life
- Using biodegradable products that don't contribute to degradation of air, soil and water quality

Green cleaning conserves resources by:

- Encouraging the use of reusable and recyclable products.

Administration, Teachers, Students, and Parents Roles and Responsibilities

District-level decision-makers — school board members, superintendents, and facilities managers — control the budget, especially in regards to purchasing and procurement, so ensure they are aware of the green cleaning program's goals and benefits. Teachers, students and parents also have important roles to play in keeping a school healthy and safe.

Teachers help create a healthy school environment by:

- Encouraging and providing the opportunity for frequent and effective hand washing.
- Minimizing clutter so the classrooms can be cleaned thoroughly and efficiently.
- Working with custodians in obtaining green cleaning products to use in their classroom.
- Encouraging proper cough hygiene.
- Overseeing appropriate tissue use and disposal.
- Assisting with sanitizing between classes on high-touch points, such as computer key boards and light switches.
- Avoiding the use of cleaning products from outside the green cleaning program.
- Keeping air vents on walls or around doors free of posters, furniture, and other blockages that can interfere with effective fresh air delivery to the classroom.
- Alerting maintenance personnel promptly when there are moisture problems in the classroom, as these can lead to mold and mildew.
- Limiting fragrances in the classroom, including air fresheners, to limit the number of available asthma triggers.

Students help create a healthy school environment by:

- Stacking chairs on desks and picking up papers to make it easier for custodians to clean.
- Practicing good personal hygiene and keeping their individual areas tidy.
- Keeping food waste out of the classroom to limit the number of food sources for insects, many of which are asthma triggers.

Parents are a key constituency, so ensure they are included and aware of the steps the school is taking to promote a healthy environment. Sharing information with parents helps avoid miscommunication and can attract additional resources and expertise to the school. Parents also have the ability to reach into the community and develop support for needed changes and funding in a way that school personnel cannot.

Recommended Assessments

Custodial Effectiveness Assessment

The *Custodial Effectiveness Assessment* will determine the current cleanliness level of the facility, providing a benchmark of existing conditions. The Association of Physical Plant Administrators' (APPA) *Custodial Staffing Guidelines* provide a way to manage the assessment. The guidelines use visual inspections and a five-level rating system to evaluate cleaning. The levels are: orderly spotlessness, ordinary tidiness, casual inattention, moderate dinginess, and unkempt neglect. You will need to identify the elements of the facility to evaluate, such as floors, light fixtures, trash containers, windows, vertical surfaces, etc. and evaluate based on the APPA scale.

Additional Assessments

Additional preliminary assessment areas are noted below. Gathering the answers to these questions can help you determine how far along your school or district is in implementing green cleaning practices. These are not exhaustive lists, but they provide a good starting point.

Green Cleaning

- How clean is the school? Is dust visible?
- What is the green cleaning policy?
- Can you smell the cleaning products long after cleaning is complete?
- Are green cleaning techniques employed?
- Is there an entryway system pollutant capture system, such as walk-off mats, grates, grills? Is it cleaned regularly?

Indoor Environmental Quality

- Is there adequate fresh air in classrooms?
- Is there a HVAC maintenance plan?
- Is there an Indoor Air Quality (IAQ) Management Plan?
- What is the frequency of filter changes?
- Are there odors that indicate moisture (mold or mildew) or other problems?

(See the Indoor Environmental Quality web training module and the related companion guide for more details on assessments and developing an indoor environmental quality plan.)

Materials and Sustainable Purchasing

- Is there a green purchasing policy?
- Are products specified at the school or district level?
- Are recycled-content products specified? Paper? Plastic garbage bags?
- Are locally made products purchased?
- Is the food organic, local, and/or rainforest certified?
- What kind of light bulbs are being ordered?
- Are cleaning products low-emitting?
- Are equipment and appliances specified to be ENERGY STAR rated?
- Do students eat with disposable dishes and flatware? What is it made out of?

(See the Materials and Sustainable Purchasing web training module and the related companion guide for more details on assessments and developing a materials and sustainable purchasing policy.)

Recycling and Waste Management

- How much waste is generated by your school every week? Count the bins or bags.
- Does the school pay for waste pick-up?
- What percentage of waste is recycled?
- What percentage of waste is composted?
- Is there a waste avoidance policy or program at your school?
- Are there hand dryers or paper towels in restrooms?
- Is there a double-sided printing or no print policy?
- Are recycling bins located around the school?
- Are assignments given electronically?

(See the Recycling and Waste Management web training module and the related companion guide for more details on assessments and developing a recycling and waste management policy.)

General Steps for Developing a Green Cleaning Program

General steps to develop a green cleaning program include:

- Analyze the data from the assessments to determine priorities and use the results to guide the program's development.
- Establish goals, such as
 - Reduce or eliminate the use of toxic and harmful chemicals
 - Simplify cleaning processes
 - Use biodegradable cleaning and environmentally preferable products
 - Reduce or eliminate waste
 - Divert waste from landfills
 - Reduce air and water pollutants associated with cleaning or pest management
 - Address particulate pollutant sources
 - Use appropriate equipment and filtration
 - Use appropriate methods
- Determine the green cleaning practices the school or district will use.
- Create a timetable and develop training schedules for staff and occupants (teachers and students).
- Implement the green cleaning policy at the pilot facilities.
- Develop a plan to evaluate the pilot program and a process to address elements of the program that need improvement.

When implementing a green cleaning program:

- Develop a process to measure impacts.
- Solicit feedback from those affected by the new practices.
- Refine practices based on feedback.
- Create a district-wide implementation plan based on lessons learned from the pilot program.
- Continue to measure impacts and make adjustments where needed.
- Create a *Quality Assurance Plan* and implement it. The plan should evaluate each component of the green cleaning program annually to determine effectiveness. (See below.)

To determine the specific green cleaning practices to implement, organize efforts in four areas:

- Green Cleaning Products
- Green Equipment and Supplies
- Indoor Integrated Pest Management Plan
- Indoor Chemical and Pollutant Source Control

Green Cleaning Products

The following criteria can be considered as you determine the green cleaning products to use:

- Minimizes exposure to concentrates
- No ozone depleting substances
- Recyclable packaging
- Recycled content in packaging
- Reduced bio concentration factor
- Reduced flammability
- Reduced or no added dyes, except when added for safety purposes
- Reduced or no added fragrances
- Reduced or no skin irritants
- Reduced or no Volatile Organic Compounds (VOCs)
- Reduced packaging

Green Equipment and Supplies

The following criteria can be considered as you determine the green equipment and supplies to use:

- Vacuum cleaners that are certified by the Carpet & Rug Institute “Green Label” Testing Program for vacuum cleaners.
- Carpet extraction equipment used for restorative deep cleaning that is certified by the Carpet & Rug Institute’s “Seal of Approval” Testing Program for deep-cleaning extractors.
- Powered floor maintenance equipment, including electric and battery-powered floor buffers and burnishers, are to be equipped with vacuums, guards, and/or other devices for capturing fine particulates and that operate with a sound level of less than 70 decibels.
- Propane-powered floor equipment that has high-efficiency, low-emissions engines with catalytic converters and mufflers that meet the California Air Resources Board (CARB) or EPA standards for the specific engine size and that operate with a sound level of less than 90 decibels.
- Automated scrubbing machines that use only tap water with no added cleaning products or scrubbing machines equipped with variable-speed feed pumps and on-board chemical metering to optimize the use of cleaning fluids.

Indoor Chemical and Pollutant Source Control

Employ permanent entryway systems (grilles, grates, mats) to capture dirt and particulates entering the building at all public entry points. Mat systems should:

- Be appropriate for climate.
- Feature solid backing to capture dirt and moisture and help prevent soiling underneath and dirtying the floor after cleaning.
- Be constructed with recycled-content materials where possible.

Indoor Integrated Pest Management Plan

Develop, implement and maintain an indoor Integrated Pest Management (IPM) plan. An IPM plan is developed to reduce the level of exposure that occupants have to toxic chemicals used to treat pests. A robust pest prevention and maintenance program should address both human health and environmental concerns.

- The plan must include continuous and regular evaluation, inspection, and monitoring to address problems at the onset.
- The plan must address immediate reporting and remediation procedures for pest problems on the project site.
- Pesticides can still be used on site, but in limited amounts and only when necessary. The plan should clearly outline the specifics of how and when pesticides can be applied. A process to notify parents and building occupants of the use of pesticides should also be included in the plan.

Quality Assurance Plan

While the program is being implemented, a plan for actively assessing its effectiveness and gathering feedback should be developed. The *Quality Assurance Plan* should:

- Evaluate the facility's overall cleanliness. Use the APPA's *Custodial Staffing Guidelines* and its five-level rating system to assess.
- Conduct a quarterly inspection of purchasing records and manufacturer and supplier data sheets to ensure records are up to date.
- Review training attendance logs to make sure relevant staff members have been trained. This can be a ratable item for custodial supervisors' performance evaluations.
- Convene an annual working session conducted by custodial supervisors to assess the effectiveness of each component of the green cleaning program. Challenges and opportunities for improvement should be noted and a plan to address problem areas should be developed.

Track Sustainable Purchasing

A green cleaning program should also include a plan to track sustainable purchasing to record the amount of each product purchased. Tracking can help with future cost analysis of the program and be used to benchmark as the district works to improve the program over time. USGBC's sustainable purchasing tracking spreadsheet can be used to track materials and equipment purchases, including green cleaning products, ongoing consumables, and durable goods. A link is provided in the Resources section below.

LEED Certification: A Way to Define Green for New and Existing Schools

In 2000, the U.S. Green Building Council (USGBC) established the LEED® rating system as a way to define and measure “green buildings.” In school terms, LEED is like a report card for buildings, demonstrating to the community that a facility is built and/or operated in a way that supports the health and well-being of occupants and saves energy, resources and money. LEED is an internationally recognized certification system that measures how well a building performs using several metrics:

- sustainable land use
- energy savings
- water efficiency
- CO₂ emissions reduction
- improved indoor environmental quality
- stewardship of resources

LEED provides a concise framework for identifying and implementing practical and measurable green building solutions. Based on established sustainable building practices and emerging concepts, the LEED rating systems are performance-based and comprehensive in scope. Points are awarded on a 100-point scale, and credits are weighted to reflect their potential environmental impacts. Different levels of certification are granted based on the total number of earned points. The four progressive levels of certification are: Certified, Silver, Gold and Platinum.

Once the credits are implemented and the energy-efficiency and performance requirements met, the final step for certification is submitting the project certification documentation using the Web-based LEED Online system. The Green Building Certification Institute (GBCI) reviews the application and provides feedback. If all requirements are met, GBCI awards LEED certification to the building.

LEED Rating Systems:

LEED® for New Construction & Major Renovations™
LEED® for Existing Buildings: Operations & Maintenance™
LEED® for Commercial Interiors™
LEED® for Core & Shell™
LEED® for Schools™
LEED® for Neighborhood Development™
LEED® for Homes™
LEED® for Retail™
LEED® for Healthcare™

Green Building Certification Institute (GBCI)

Established in 2008, GBCI is the institution that grants both project certification and professional credentials that recognize excellence in green building performance and practice. GBCI administers project certification for commercial and institutional buildings and tenant spaces under USGBC’s LEED rating systems. GBCI also manages the professional credentialing programs based upon the LEED rating systems, including the LEED Green Associate and LEED AP credentials.

How Much Does LEED Cost?

The cost to certify a school facility is based on the project’s square footage. The process provides a comprehensive third-party review of the energy and environmental performance of the school and ensures that the stated goals of the project are met.

The cost to register and certify at 100,000-square-foot school for USGBC members is less than \$4,000 using LEED for Existing Buildings: Operations & Maintenance, and less than \$5,500 using LEED for Schools.

Prices are determined by GBCI and are subject to change. For complete pricing information, visit www.gbci.org.

Glossary

Biodegradable Product: Biodegradable cleaning products use organic material such as plant and animal matter and other substances originating from living organisms. These products break down through natural processes.

ENERGY STAR: ENERGY STAR is the government-backed symbol for energy efficiency. The label was established to make it easy for consumers to identify and purchase energy-efficient products that offer savings on energy bills without sacrificing performance, features, and comfort.

Environmentally Preferable Product:

Environmentally preferable products are certified by a third-party environmental label, such as Green Seal or EcoLogo. The label indicates that the product and its packaging were developed based on a consideration of human health and safety, ecological toxicity, environmental impacts, and resource conservation.

Low-emitting Materials: Low-emitting materials are products that do not release significant pollutants into the indoor environment. These products contain zero- and low-volatile organic compounds (VOCs).

Volatile Organic Compounds (VOCs): VOCs are carbon-based chemicals that easily evaporate at room temperature. Breathing low levels of VOCs for long periods of time may increase some people's risk of health problems. Common symptoms of exposure to VOCs include eye, nose and throat irritation; headaches; nausea; dizziness; and worsening of asthma symptoms.

LEED for Existing Buildings: Operations & Maintenance Rating System Credits Related to Green Cleaning

The LEED for Existing Buildings: Operations & Maintenance rating system credits that apply to green cleaning fall under the Indoor Environmental Quality (IEQ) credit category.

IEQ Prerequisite 3 – Green Cleaning Policy

Develop and maintain a green cleaning policy for the school building and site addressing the following green cleaning credits:

IEQ Credit 3.1: Green Cleaning – High Performance Cleaning Program

Develop and maintain a high-performance cleaning program, supported by a green cleaning policy.

IEQ Credit 3.2: Green Cleaning – Custodial Effectiveness Assessment

Conduct an audit in accordance with APPA Leadership in Educational Facilities' *Custodial Staffing Guidelines* to determine the appearance level of the facility.

IEQ Credit 3.3 – Purchase of Sustainable Cleaning Products and Materials

Implement sustainable purchasing for cleaning materials and products, disposable janitorial paper products and trash bags.

IEQ Credit 3.4 – Sustainable Cleaning Equipment

Implement a program for the use of janitorial equipment that reduces building contaminants and minimizes environmental impact.

IEQ Credit 3.5 – Indoor Chemical and Pollutant Source Control

Employ permanent entryway systems (grilles, grates, mats) to capture dirt and particulates entering the building at all public entry points.

IEQ Credit 3.6 – Indoor Integrated Pest Management (IPM)

Develop, implement and maintain an indoor integrated pest management (IPM) plan.

U.S. Green Building Council Publications and Resources

Green Existing Schools Implementation Workbook (PDF)

The *Green Existing Schools Implementation Workbook* includes sample policies, programs, and plans; data collection forms and tables; and sample surveys.

Green Existing Schools Project Management Guide (PDF)

The *Green Existing Schools Project Management Guide* includes general guidance on navigating the LEED for Existing Buildings: O&M certification process, including how to conduct personnel and organizational assessments, educate and train staff, initiate the certification process, and manage a school or district-wide sustainability program.

LEED 2009 for Existing Buildings: Operations & Maintenance Project Checklist (XLS)

The LEED Project Checklist is a scorecard to track the credits being pursuing toward certification.

LEED 2009 for Existing Buildings: Operations & Maintenance Rating System (PDF)

The LEED 2009 for Existing Buildings: Operations & Maintenance rating system summarizes the intent, requirements, and technologies/strategies for each credit.

[Sustainable Purchasing Tracker – Materials and Resources](#)

[Sustainable Purchasing Tracker – Indoor Environmental Quality](#)

[Solid Waste Management Tracker](#)

[Occupant Commuting Survey - Summary Table](#)

The publications and resources can be found at the Centers for Green School's Green Existing Schools Toolkit at www.centerforgreenschools.org/k12toolkit.

Questions?

The Center for Green Schools at USGBC has assembled a panel of experts, facilities staff, and school district sustainability officers to answer your questions. Please email schools@usgbc.org with the subject line "Green Existing Schools," and we will promptly connect you with a peer who can help you find the answers.

Green Cleaning References and Resources

Association of Physical Plant Administrators (APPA):
Leadership in Educational Facilities
<http://www.appa.org>

The Carpet & Rug Institute
<http://www.carpet-rug.org/>

The Center for Green Schools at USGBC
<http://www.centerforgreenschools.org/>

Cleaning for Healthy Schools Toolkit
<http://www.cleaningforhealthyschools.org/>

Environmental Choice Certified Products (Ecologo)
<http://www.ecologo.org/en/index.asp>

Green Building Certification Institute (GBCI)
<http://www.gbci.org>

Green Cleaning Resources at the Worldwide Clean
Industries
<http://www.issa.com>

Green Cleaning in Schools
http://www.edfacilities.org/rl/green_cleaning.cfm

Green Existing Schools Toolkit
www.centerforgreenschools.org/k12toolkit

Green Seal
<http://www.greenseal.org/>

Green Shield Certified
<http://www.greenshieldcertified.org>

Healthy Schools Network Guide to Green Cleaning
http://www.healthyschools.org/documents/green_cleaning_guide.pdf

Sustainable Purchasing Tracker – Indoor Environmental Quality
<http://www.usgbc.org/ShowFile.aspx?DocumentID=6416>

U.S. EPA Pesticides
<http://www.epa.gov/pesticides>

U.S. Green Building Council (USGBC)
<http://www.usgbc.org>

***The Quick and Easy Guide to
Green Cleaning in Schools***
www.healthyschoolscampaign.org/programs/gcs/

The Quick and Easy Guide to Green Cleaning in Schools is an easy-to-use, multi-media guide that outlines five simple steps for developing a green cleaning program. It presents comprehensive information, practical advice, tools and resources to help schools take action. The guide also includes an enhanced purchasing directory with more than 600 products that meet the Healthy Schools Campaign's environmental standards for schools.