



Breathing Easier

School Districts Make the Switch to Certified Green Cleaning Products

Success stories from three California school districts

Regional Asthma Management and Prevention (RAMP)

About RAMP

Regional Asthma Management and Prevention promotes strategies for reducing asthma through a broad and comprehensive approach that includes clinical management and environmental prevention. RAMP brings together diverse partners, such as public health, community-based organizations, schools and environmental health and justice groups to collaborate in reducing the burden of asthma, with a focus on communities disproportionately affected by the disease. RAMP coordinates Community Action to Fight Asthma, a network of asthma coalitions that advocates for policy changes at the local and statewide levels.

This report was prepared for RAMP by Your Message Media with funding from The California Endowment.

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 - Green Purchasing Institute
 - Environmental Working Group
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 - Coalition for Clean Air
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Introduction

By Anne Kelsey Lamb

Director, Regional Asthma Management and Prevention

Imagine for a moment an “ideal” school classroom. What do you see? Perhaps a room full of energetic, enthusiastic children busy drawing, reading, answering questions, learning creatively. There’s probably a dynamic teacher roaming the room, too, one that sets high standards and knows and understands the uniqueness of each child.

What about the classroom itself? What does an ideal classroom look like? Likely there is natural light coming in through big windows that also let in a nice, refreshing breeze. The desks are all functional, the floors are smooth and clear, and the atmosphere overall is one of cleanliness—you can tell that the janitorial staff and the teacher have spent time cleaning the floors, wiping off the countertops, dusting the bookcases. All in all it’s a fine place for our children, not to mention teachers and school staff, to be for many hours a day.

Unfortunately, far too often our children and those that teach them spend their day in anything but an ideal environment. The California Air Resources Board has found significant environmental problems, including problems with ventilation, temperature and humidity, air pollutants, floor dust contaminants, moisture, mold, noise and lighting in California’s classrooms¹. For too many of the approximately one in

five Californians that spend their day at a school, it’s far from an ideal environment.

Sadly, when we try to clean that environment up we may be making it worse. Many cleaning products used in schools—the very products used to try to create an ideal learning space—are made up of a wide variety of hazardous chemicals that contribute to asthma, cancer, reproductive harm, and damage to the body². The floors may sparkle, countertops may shine, and the air may smell fresh, but there may be a cost to the lungs and overall health of our children, teachers, and custodial staff.

There are better ways to provide an ideal classroom. Regional Asthma Management and Prevention (RAMP) created this report on green cleaning in schools to highlight one important and effective way to improve air quality in schools, creating healthy environments in which students can learn and teachers can teach.

Such improvements are needed now, as asthma is a major problem for school-aged children. One in every six children in California has been diagnosed with asthma³, a disease in which airways constrict, making breathing difficult, even impossible. Asthma is the leading cause of school absences due to chronic disease in the country⁴, costing children their education and schools their resources in lost attendance-based funding.

Reducing those environmental “triggers” that cause



What are Green Cleaning Products?
 These case studies showcase some of the hundreds of products that have been certified for institutional use by an independent, third party process to ensure that the products meet certain criteria for reduced health and environmental impacts. Two examples of such third-party certification are *Green Seal* and *EcoLogo* (see “Resources” for contact information).



airways to constrict, in addition to proper, high-quality clinical management is essential to control asthma. All too often, however, students and school staff with asthma are confronted with poor air quality and triggers from malfunctioning or under maintained ventilation systems, air pollutants, nearby freeways or rail-yards, dust, mold, pests, and chemical fumes and residues, pesticides, furnishings, building materials—and cleaning products⁵. Removing these triggers, meanwhile, has a scientifically demonstrated positive impact on student achievement and staff well-being⁶.

Reducing triggers such as harmful cleaning products isn't always easy, and we need leadership and commitment from a variety of stakeholders to make it happen. Some of that leadership is in place already: RAMP coordinates a California network of asthma coalitions called Community Action to Fight Asthma (CAFA), which shapes local, regional, and state policies to reduce environmental triggers of asthma among children in schools, as well as in housing and the outdoor air. The CAFA Network recently chose to focus on **certified green cleaning**⁷ as a way to reduce the burden of asthma in California's schools. Several local

asthma coalitions have already partnered with schools to adopt green cleaning policies. As this case study report shows, those schools are finding that the switch to certified green cleaners is not only feasible but successful. These steps to a healthier school environment are grounded in the recognition that every child and school employee has the right to a safe, clean school environment that does not make them ill. These steps deserve to be replicated throughout California.

Creating healthy schools requires strong leadership with commitment, flexibility, and resourcefulness from a variety of school stakeholders at the local and state levels. The bottom line, however, is that we *can* do it: we can create healthy, ideal classrooms that our children and their teachers deserve.

Anne Kelsey Lamb
 Director
 Regional Asthma Management and Prevention

1: California Air Resources Board, California Department of Health Services. *Environmental Health Conditions in California's Portable Classrooms*. November: 12-17. 2004.
 2: Scientific studies include: NTP (National Toxicology Program), NTP Toxicology and Carcinogenesis Studies 2-Butoxyethanol (CAS NO. 111-76-2) in F344/N Rats and B6C3F1 Mice (Inhalation Studies) Natl Toxicol Program Tech Rep Ser, 2000. 484: p. 1-290; Medina-Ramon, M., et al., Short-term respiratory effects of cleaning exposures in female domestic cleaners. *Eur Respir J*, 2006. 27(6): p. 1196-203; Grandjean, P. and P.J. Landrigan, Developmental neurotoxicity of industrial chemicals. *Lancet*, 2006. 368(9553): p. 2167-78; Swan, S.H., et al., Decrease in anogenital distance among male infants with prenatal phthalate exposure. *Environ Health Perspect*, 2005. 113(8): p. 1056-61; Smith, A.H. and C.M. Steinmaus, Health effects of arsenic and chromium in drinking water: recent human findings. *Annu Rev Public Health*, 2009. 30: p. 107-22. For more general background information, see U.S. Environmental Protection Agency, Building Design, Maintenance and Operations: Cleaning Products, EPA 402-F-05-015A, http://www.epa.gov/iaq/schools/pdfs/casesstudies/cleaning_products.pdf, accessed April 28, 2009; Cleaning for Healthy Schools, Frequently Asked Questions: Products and Practices for a Safer Indoor Environment, <http://cleaningforhealthyschools.org/documents/FAQs.pdf>, accessed April 28, 2009. See also the “Finishes, Furnishings, and Cleaning and Teaching Products” section of http://www.calasthma.org/uploads/briefing_kit/asthma_and_indoor_air_quality_in_schools_footnotes.pdf.
 3: California Health Interview Survey, 2003 Data. Ask CHIS. Internet, <http://www.chis.ucla.edu>.
 4: Akinbami L. 2006. The state of childhood asthma, United States, 1980-2005. *Adv. Data* December 16 (381): 1-24. Mannino DM, Homa DM, Kinbami LJ, Moorman JE, Gwen C., Redd SC. 2002. Surveillance for asthma — United States, 1980-1999. *MMWR Surveill Sum*. 51(1):1-13.
 5: For additional information on the indoor air quality and environmental challenges that exist in California's schools, see http://www.calasthma.org/uploads/briefing_kit/asthma_and_indoor_air_quality_in_schools_footnotes.pdf.
 6: For a wide range of references indicating the link between trigger reduction and improved health in schools, see http://www.calasthma.org/uploads/briefing_kit/asthma_and_indoor_air_quality_in_schools_footnotes.pdf.
 7: In this report “certified green cleaning products” and “green cleaning products” are used interchangeably. Unless noted otherwise in the text, these case studies showcase some of the hundreds of products that have been certified for institutional use by an independent, third party process to ensure that the products meet certain criteria for reduced health and environmental impacts. Two examples of such third-party certification are *Green Seal* and *EcoLogo* (see “Resources” for contact information).

When a District Takes an Issue to Heart

1 In 2002 Fairfield-Suisun Unified School District's (USD) Crescent Elementary School was closed because of widespread and unsolvable black mold contamination.

The following year it was literally demolished to make room for construction of a new structure. "We were taking children out in ambulances and teachers were sick," former Crescent Elementary School teacher Joan Gaut recalls. "A whole bunch of teachers have been living with asthma ever since," including herself.

This embarrassing—and costly—catastrophe helped speed up efforts to improve indoor air quality in this sprawling school district northeast of San Francisco. Key to that campaign has been the leadership of Francis Kennedy, Custodial Manager of the Fairfield-Suisun USD, to replace traditional chemical-based cleaners in schools with safer, less harmful and less costly ones.

A genial, soft-spoken man, Francis Kennedy had no shortage of motivation to switch to green cleaning products after arriving in Fairfield. Besides the contamination of Crescent Elementary, the same budget crunch that

cost Kennedy his custodial services job with another school district the previous year was assailing his new district, inspiring a search for cuts in Fairfield's cleaning bill. And, like the estimated 15 percent of children in the Fairfield-Suisun school district who suffer from asthma, Francis Kennedy has asthma as well.

"I was on the job [as a custodian] fourteen years ago and my lungs seized up from an ammonia cleaner I was using," Kennedy recalled. "I was rushed to the hospital and held overnight, and the next day diagnosed as an asthmatic. I used to walk around with two inhalers—one for long term, one short term. I don't need them anymore."

When Kennedy began,

Fairfield-Suisun was purchasing an array of traditional cleaning products from as many as eight separate vendors. "A lot of these had very powerful odors and children were affected by it," Kennedy recalls. "Not only bleaches or ammonia products, but petroleates. We used to use a stainless steel polisher that had a strong petroleum smell that lingered for weeks. The one we use now is water-based with an active ingredient which is basically citrus."

Under Kennedy's direction, today all cleaning products for the district's thirty schools are obtained through just one vendor, which markets a number of certified "green" cleaners. The Fairfield-Suisun USD uses the vendor's peroxide-based "neutral" cleaners



Francis Kennedy, left, with concentrated green cleaner, and Charlene McCoy, with static cling duster, in front of a storage unit for Rolling Hills Elementary School's green cleaning products.

“We talked about the injuries we had with the old products and I told them we had something that would work just as well **but wouldn't be toxic for them or the kids.**”

—FRANCIS KENNEDY

for everything from blackboards to desks, windows and mirrors to floors and toilets. Like all institutional green cleaning products, the new cleaners come in concentrated form and the right dilution is measured out by automatic dispensers that tailor the product to the purpose.

As with other school districts profiled, convincing custodians of the need for wholesale changes in cleaning products and procedures was a labor-intensive process. “The custodians originally objected,” Kennedy recalled. “A lot of them complained, ‘We’ve never

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used this before, it doesn't work as well,’ or ‘I don't like the smell.’” Kennedy held numerous meetings with his 108 custodians, members of the California Service Employees Association (CSEA). “I told them, ‘you're not going to have the same smell with these new products. ‘A lot of favorite products from the past like Mr. Clean have a scent they associate with being ‘clean.’ Anything else and they didn't want to consider it. But we talked about the injuries we had with the old products and I told them we had something that would work just as well but wouldn't be toxic for them or the kids.”

Fortunately for Kennedy, he had plenty of help for his green cleaning crusade. In early 2007, the Solano Asthma Coalition (SAC), one of the original 12 Community Action to Fight Asthma (CAFA) members, began to build relationships with other indoor air quality stakeholders in Fairfield-Suisun. That included the U.S. EPA which had awarded Fairfield-Suisun its National “Good Start Award” for improving indoor air quality in its schools. Later that year, former kindergarten teacher and Fairfield-Suisun Unified Teachers Association (F-SUTA) president Melanie Driver joined the Solano Asthma Coalition, bringing the clout of the California Teachers Association into the picture. Driver is also

an asthma sufferer.

SAC's monthly meetings are regularly attended by a broad array of nurses, teachers, pediatricians, county officials, child care providers, officials from Kaiser Permanente, public health agencies and others committed to reducing indoor and outdoor asthma triggers. SAC has helped convene meetings of stakeholders, documented the costs and burdens of asthma in Solano County, and supported the green cleaning efforts of Francis Kennedy, whom coalition members affectionately refer to as their “Green Guru” for his promotion of green cleaning products and procedures.

“As a district, Fairfield-Suisun is committed to making our classrooms as safe as possible for everybody—teachers, students and staff,” says Melanie Driver. “This is what happens when a school district takes an issue to heart.”

At Rolling Hills Elementary School on the northern edge of the Fairfield-Suisun district, head custodian Charlene McCoy is charged with keeping the gleaming two year old campus clean despite the presence of 530 students and several dozen faculty and staff. She's also sensitive to the issue of green cleaning products: like Joan Gaut, Francis Kennedy and Melanie Driver, Charlene McCoy suffers from asthma.

“These products are really

Joan Gaut, K-6 Music teacher, registered nurse, and chair of the California Teachers Association School Health and Safety Committee, shows her asthma medications. Ms. Gaut previously taught at mold-infested Crescent Elementary School before it was demolished in 2003. “We have less chemical allergic responses in children and teachers in Fairfield-Suisun since green cleaning began,” she reported.

easy to use,” she pointed out as she demonstrated the ‘quick draw’ option that automatically measured the green cleaning concentrate in the school’s dilution center. “You know exactly what you’re going to get instead of with the ‘glug-glug’ method (i.e. unmeasured pouring).” Whereas the old products—bleach, ammonias, heavy duty cleaners—had very powerful odors and were hard on students, teachers, custodians and other staff, people like the new products because they are “very gentle, there’s practically no smell.”

Today, teachers who want cleaners for classroom chores need only to bring in a spray bottle and school custodians will fill them for free with green cleaning products. Traditional cleaning products are no longer allowed in the district’s schools. “You need to think about others and investigate before using certain kinds of cleaners,” Francis Kennedy believes. “The number of complaints we used to get about smells and odors, we don’t get any more.”

Since adoption of the new cleaning products, the job



injury rate at Fairfield-Suisun’s school sites has also dropped significantly, according to Kennedy. “We’re not having the chemical accidents we used to have, or damage to our carpets from bleaches,” he noted. “Job injuries mostly evaporated that first year. The rooms became cleaner and the teachers noticed it. They didn’t smell residual products after cleaning, which used to be a really big issue. When a room had an odor we used to spray a deodorizer that lingered for two-to-three days. We don’t use products like that anymore.”

Fairfield-Suisun officials estimate that the new cleaning products and procedures have produced savings as high as 20% (their estimate includes labor savings from using restroom cleaning machines and autoscrubbers that dispense new green cleaning products). Francis Kennedy also cited additional, unquanti-

fied savings in better indoor air quality, fewer job injuries due to toxic chemicals, and less damage to the facilities because of spills or misuse of toxic products. “The last couple of years the district has been preoccupied with balancing the budget,” Kennedy noted. “It seemed like a perfect time to push an agenda that used savings as well as safety for a motivation.”

This summer the maintenance staff of Fairfield-Suisun plans to test a green certified zinc-free floor finish at Rolling Hills Elementary they hope will be compatible with detergent-free floor strippers that they have been testing. “The health and safety of our kids and our workers is very important to us,” Francis Kennedy confided. “I’m an asthmatic and I can explain to my doctor or to my family what’s wrong with me. Children can’t do that. Rather than be part of the problem, I’d rather be part of the solution.”

Green Before it Was Cool

2 Elk Grove Unified School District (USD) just south of Sacramento was one of the fastest growing school districts in California before the recent economic downturn.

Eighteen new schools were added in the last ten years, an astonishing rate of growth. Elk Grove today has 73 educational sites—48 of them elementary schools—the majority of which are multi-track, year-around sites that take a daily pounding from kids, staff and community groups.

In 2000 Linda Lopez, Manager of Custodial Services for the Elk Grove USD, began looking for less expensive, more effective, more environmentally friendly products to clean the growing number of sites in her charge. “I’ve worked for school districts for thirty years,” confided Lopez, a former custodian. “I like being on the cutting edge. I like trying new products that will cut cleaning time for custodians and help improve the health of kids. I’m a mother

with two kids, plus I’m allergic myself to a lot of cleaning products and I know kids are out there with the same allergies.”

In 2000 Elk Grove was using as many as fifteen separate chemical products for cleaning, custodial staff estimated. Lopez heard about a new hydrogen peroxide cleaner whose manufacturer claimed that its signature “green” cleaner in varying strengths and dilutions could clean just about every surface in a school—from toilets to counter tops.

“I said to the product rep,

‘You have a product that cleans windows *and* toilets? You gotta show me!’” Linda Lopez recalls. And he did. “I’ve never seen one cleaner be able to handle multiple uses,” Lopez told *Services* magazine in an article about green cleaning in schools. “I’ve also seen a lot of ‘green’ cleaners that don’t perform. But this one really works, and it’s safe.”

But Linda Lopez didn’t just take the salesman’s pitch on face value. She ordered that the product be put to the test at Franklin High School, a facility in her district with three thousand kids and “lots of

Many school districts that have switched to environmentally preferable cleaners have saved money by replacing a “ready to use” conventional product with a highly concentrated “green” cleaner (all institutional cleaning products certified by Green Seal and EcoLogo are concentrates). The cost savings are even more dramatic when institutions use automatic dilution equipment like this, which reduces the unnecessary, expensive and potentially hazardous over-concentration of cleaning products when diluted manually.



“As educators, we know we can’t teach to an empty desk—and **the leading cause of school absenteeism due to chronic illness is asthma.** In fact, an average of one out of every six children—or five students out of a classroom of thirty—suffers from asthma.”

—DAVID SANCHEZ, PRESIDENT, CALIFORNIA TEACHERS ASSOCIATION

community use,” she recalls.

Tony Almeida was the site supervisor at Franklin High in 2000. Today he’s Area Supervisor for Custodial Services for the entire Elk Grove USD, working directly with Linda Lopez implementing new cleaning solutions throughout the district. He wasn’t always enthusiastic about green cleaning.

Often custodians, including Almeida, are not convinced of the effectiveness of green products. But in addition to strong health and environmental protections, green certification standards have strict performance requirements as well. Once he tried the hydrogen peroxide-based cleaner, Almeida found that the product worked. He has test results

to prove it. A meter measuring bacteria on a classroom door touched hundreds of times throughout the day by students and staff showed an initial reading of 710 RLUs (Relative Light Units—a measurement of common bacteria). It shrunk to 8 RLUs after cleaning with the new product. Similarly, the lip of a dollar feed slot on a soda machine registered 4741 RLUs before cleaning—and just 26 RLUs afterward.

Elk Grove Unified transitioned to its new all-purpose green cleaner district-wide in 2000—“before green was cool,” Lopez said proudly. *Services* magazine, the magazine for the building service contracting industry, reports that hydrogen peroxide

cleaners such as the one used by Elk Grove, when appropriately diluted, is not only an effective cleaner, but also kills 99.9% of major germs and viruses, and deodorizes. Furthermore, it can do all this on a variety of surfaces: glass, walls, floors, tile, grout, toilets, urinals, carpets and kitchen counters. After it’s used, it breaks down into water and oxygen, which are naturally-occurring environmental elements, leaving behind little to no residue.

“We use it for everything now, in every school,” Almeida reports. “It’s diluted in a dilution center and used for different levels of cleaning—windows, floors, counter tops, restroom cleaning, frequency touch points [door knobs, light

switches, handles, etc.], sinks and more.”

Superintendent Dr. Steven Ladd came to Elk Grove in 2004, after the movement to green cleaning products was well under way. “I support these changes absolutely,” Dr. Ladd said. “It’s good for the kids and good for the staff. But taking away harsh chemicals is also a benefit to the planet and the environment. We also get to build into the children’s education the importance of using green products so they can go on to be champions both in their own homes and in their own futures.”

In addition to the health and educational benefits, there are financial benefits to green cleaning as well. The same year that the new hydrogen perox-

ide-based cleaner was introduced to Elk Grove, absenteeism dropped two percent.

“That’s probably coincidental with attendance efforts on other fronts,” said Linda Lopez, “but it [absenteeism] has been down significantly since then and it’s stayed down.” Higher attendance means more money for the school district, as state support for schools is based on Average Daily Attendance (ADA).

Today Elk Grove Unified School District is recognized as a bona fide pioneer in the school green cleaning movement. Elk Grove custodians are featured in training posters for the California Occupations Safety and Health department (CAL-OSHA). Custodians from Elk Grove grace the cover of

Services magazine, applying hydrogen peroxide-based cleaners to carpets and table tops in a kindergarten classroom.

“Some of the old products, you couldn’t stand them they were so harsh, plus they didn’t work as well,” says Richard Bonfond, chief custodian at Joseph Sims Elementary School. “I prefer this new product. I like how it works for us. Just because you clean something doesn’t mean it’s clean. With this stuff, it’s clean.”

As befits a school district that claims it was green before green was cool, the search for new green products and procedures continues. Tony Almeida is testing a certified green floor stripper, as well as a promising detergent-free cleaning system recently approved by the FDA that uses ion-charged water for heavy duty cleaning. Meanwhile Linda Lopez is investigating the cost effectiveness of both products.

“Going green takes a lot of hard work,” Linda Lopez says. “But cleanliness, safety and health are major concerns of this district and this superintendent. I’m proud of what we’ve done here. It’s something we should do for the kids.”



Key players in Elk Grove green cleaning transition. (l-r) Linda Lopez, Custodial Services Manager for Elk Grove USD; Richard Bonfond, head custodian, Joseph Sims Elementary School; Tony Almeida, Area Supervisor; Chris Nugent, Asst. Principal, Joseph Sims Elementary



Fresno USD custodial staff from left to right: Esther Moultrie, Buyer; Dennis Pendergrass, Plant Coordinator at McCardle Elementary; Phil Puente, Custodial Operations; Levi Alonzo, Custodial Operations; Isaac Rodriguez, Warehouse Manager.

Aligning the Stars

3 Fresno Unified School District (FUSD) is the 4th largest school district in California after Los Angeles, San Diego and Long Beach, with a K-12 enrollment of 76,236 students in the 2007/2008 school year.

This large public school system at the center of the San Joaquin Valley faces another challenge besides its growing and diverse enrollment: more than 16 percent of the children living in Fresno County have asthma, one of the higher rates of any county in California.

Beginning in late summer 2008, Fresno Unified School District took the first steps towards reducing chemicals

that can cause or trigger asthma—cleaning products. According to the U.S. Environmental Protection Agency (EPA), air inside a school building can be 2-5 times and sometimes up to 100 times more polluted than outside air. For students with asthma, learning and participating in school activities can be a challenge. For teachers with asthma, it can mean fatigue, poor morale and missed workdays.

“Students are losing thousands of classroom days due to asthma and other problems linked to indoor air quality, and children of color are being

especially hard hit,” California Teachers Association president David Sanchez said about schools across the state.

In 2007, the percentage of children of color—Latinos, Asian and African-American—had grown to more than 85 percent of Fresno’s student population. According to Ruth Quinto, Associate Superintendent for Administrative Services for Fresno’s school district, the impetus to change to green cleaning products sprang from Fresno Unified’s public commitment to “providing a safe environment that is conducive to learning” for every child in every school.

“This was an excellent opportunity to partner with various stakeholders in our school system to implement the most effective and efficient green initiative as possible,” she believes. “Our goal is to help protect the health and safety of our children and our workers, and to improve the environment for learning.”

At the beginning of the 2008-09 school year, Fresno Unified began testing green cleaning products at four district schools—Chavez Adult School, Terronez Middle School, McCardle Elementary, and Computech Middle School

(there are 108 school sites in the district, including adult learning centers and charter schools). The man charged with supervising this initiative is John Quinto, Maintenance Service Manager for the Fresno Unified School District, and Ruth Quinto's cousin.

"We were charged by our superintendent to provide a safe working and learning environment, which is crucial to student learning," Quinto recalled. "We try to do things

here with one overriding goal in mind: what's in the best interests of our students?"

Three types of green cleaning products were tested: a window cleaner, an all-purpose cleaner and a degreaser. Getting buy-in from all the stakeholders in the state's fourth largest school district wasn't easy. "At the time I thought, 'here they go again, they're barking up the wrong tree,'" recalled Dennis Pendergrass, Head Custodian at McCardle Elementary School, one of the testing sites. "We had some history of the district introducing cleaning solutions that didn't quite work. I didn't think green products would work any better."

In this case, however, Pendergrass discovered that the green products, subject to the same performance standards as the chemicals they were using at their school sites, worked fine. "It surprised me," he recalled. "These products did what they said they would do. They generated a nice clean on the unit where we tested. They did an outstanding job."

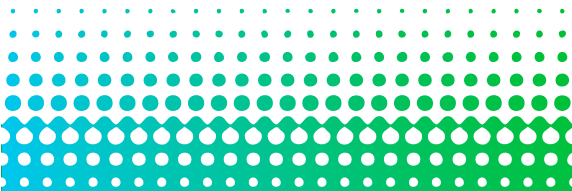
The products Fresno selected included a green multi-surface cleaner and a green glass cleaner. Like other certified green cleaners discussed in this report, Fresno USD's new cleaning products are concentrates, distributed through a calibrated dispens-

ing system to minimize handling and waste and maximize effectiveness.

Guiding change through a complicated school bureaucracy "is all about process," concludes John Quinto. "It's about your networking skills, the ability to align the stars. You have to partner with the custodians in SEIU [Service Employees International Union]. You have to talk to the purchasing person. You have to talk to the Executive Board and get the support of the CFO and the Superintendent. In a bureaucracy, there has to be someone who's a stubborn idiot in persisting—and in this case, that's me."

Fresno Unified began rotating in the new green products this April (2009) in the city's eight high schools and thirteen middle schools. The district's elementary schools will benefit from the changes once existing supplies of old chemical products are used up. While green cleaning products were more expensive than conventional cleaners when they first came out, prices have dropped for some of the better quality products.

"The custodial supply line item in our budget has not increased since implementing this initiative," reports Ruth Quinto, who also serves as Chief Financial Officer for Fresno Unified. "Steady is certainly good in this economic climate." Fresno officials



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—DENNIS PENDERGRASS,
CUSTODIAN, MCCARDLE ELEMENTARY

estimate that the school district could save as much as 8-10% off future maintenance bills thanks to the effectiveness and efficiency of the new cleaning products.

For Stephen Ashkin, a 27-year industry veteran who has introduced green cleaning programs in more than one thousand buildings in the U.S. and Europe, such savings are no surprise. "In my experience, green cleaning programs more than pay for themselves. Benefits result from cost savings from simplified chemical and product purchases, reduced workplace injuries and sick leave, higher worker retention, and improved student attendance and academic performance." President of the Ashkin Group, LLC, Ashkin received the 2006 Children's Environmental Health Excellence Award from the EPA for his work promoting green cleaning.

Fresno officials are noticeably proud of the steps their school district has taken to transition to green cleaning products. "These products are safer, easier to use and are at least as effective as the products we were using before, if not more so," Dennis Pendergrass said enthusiastically. "I've gotten more compliments. People come in and look at the school and say, 'they've cleaned here.'"

Plans are underway to test a new generation of green floor

strippers, green floor finishes, green gym seals and green carpet cleaners. And officials are hopeful about spreading the word about their efforts across the asthma-inflicted San Joaquin Valley.

"We want to share with others what works," John Quinto says. "We want to get the word out to all the superintendents in the valley that this is a win-win situation. Not only are these products safer for our children, who are susceptible to chemicals, [but] if we go green we can eliminate the chemicals used at every one of our school sites, and that's a lot of chemicals."

When it comes to improving indoor air quality and reducing asthma, John Quinto had a more personal motivation for change: two of his four daughters have asthma. "To see your own daughters gasp for air, to see someone you love [who] can't breathe, that's tough," Quinto says. "A lot of that you can attribute to the chemicals we use, along with all the pesticides we use in the Valley and all the other pollutants, the cars ... it's overwhelming. I think it's good that our school district has been able to make smart choices and lead by example with these green cleaning products."

Thanks to him and others working to improve indoor air quality in Fresno schools, the stars look to be aligned for that kind of change.

Dust Busting

Dust is a major asthma "trigger" and dust removal has become a major focus of indoor air quality advocates. All three school districts studied have switched to a backpack vacuum, which according to Elk Grove's Linda Lopez "takes less effort, works faster, provides greater range, and removes 99% of the dust" unlike traditional upright vacuums with 'beaters' which throw a significant amount of dust into the air rather than capturing it. Other green tools used to beat the dust problem include static cling dusters and microfiber cloths.



Computech Middle School;
Chong Moua Vang, Custodian

Recommendations

Healthy school environments have been shown to improve student learning and staff productivity*. Here are recommended policies, tools, and resources that schools, school districts, staff, students, parents, advocates and local and state governments can use to create healthy, asthma-friendly schools:

WHAT SCHOOLS AND SCHOOL DISTRICTS CAN DO:

The best policies for creating healthy school facilities are proactive and prevent unhealthy conditions from taking root. The following recommendations are steps schools and school districts can take to prevent unhealthy conditions from arising. Taking one step is a great start. When combined, these activities create a strong strategy for maintaining healthy schools.

- Following the lead of the school districts highlighted in this report, developing **environmentally preferred cleaning practices**, including the use of certified green cleaning products, is a major first step schools can take to creating environments more conducive to learning and teaching (see **Resources** for more guidance).
- Implementing indoor air quality maintenance and prevention practices is another important step schools can take to ensure healthy school facilities.
 - One of the most comprehensive models is the **U.S. EPA's Tools for Schools Program**, which provides guidance for schools to identify, correct, and prevent indoor health problems, including simple, low-cost options (www.epa.gov/iaq/schools/).
 - Developing multiyear, comprehensive, school-specific **indoor air quality management plans** is a useful approach to systematizing the policies and procedures for maintaining healthy schools. Minnesota provides guidance on this tool (www.health.state.mn.us/divs/eh/indoorair/schools/plan/index.html).
 - Another comprehensive resource that includes assessments of ventilation and indoor air quality related items is the Facilities Inspection Tool Guidebook, published by the Coalition for Adequate

School Housing (CASH). While it provides specific instructions for best practices and information on how California schools can complete the required Facilities Inspection Tool to determine a school's "good repair rating" for its School Accountability Report Card, the guide has a general applicability use, too. See www.cashnet.org/resource-material/CASHPublications.html under 2008 publications.

- Training teachers, students, and staff on the causes of unhealthy indoor environments and the role they can play in keeping the school safe provides a role for everyone in maintaining the healthiest school environment possible.

WHAT STUDENTS, PARENTS, AND ADVOCATES CAN DO:

Eliciting change in schools require champions for that change. In Fresno and Elk Grove, those champions arose from within the school districts themselves. In Fairfield-Suisun, a partnership between school officials, teachers, and asthma advocates led the charge for healthier school facilities. Students, parents, and others concerned about school health can become their school's local champion. Finding partners in teachers, custodial staff, and administrators (and their unions) is the most effective way to see your school adopt policies and practices to maximize school health.

WHAT LOCAL AND STATE GOVERNMENT CAN DO:

Many jurisdictions have required schools to use certified green cleaning products (including the states of Illinois and New York) and have provided guidelines to assist schools in transitioning to safer cleaning products (including the states of Maine and Missouri). Additionally, local and state governments can ensure adequate funding for school maintenance and further requirements and guidance for schools to adopt the most health protective cleaning policies and practices.

* National Research Council of the National Academies. *Review and Assessment of the Health and Productivity Benefits of Green Schools: An Interim Report*. The National Academies Press. Washington, D.C. 2006.

Resources



WHAT IS A 'GREEN' CLEANER? THIRD-PARTY GREEN CERTIFICATION STANDARDS

Environmental Choice (EcoLogo) www.environmentalchoice.com

Green Seal www.greenseal.org

HOW TO GO GREEN: GUIDES AND TOOLKITS FOR MAKING THE CHANGE

Cleaning for Healthy Schools Toolkit www.cleaningforhealthyschools.org

Green Cleaning Toolkit www.informinc.org/project_cleaning_health.php

Green Schools Buying Guide www.greenschools.net

IAQ Management Plan
Development Package www.health.state.mn.us/divs/eh/indoorair/schools/plan/index.html

Implementing Environmentally Preferable
Cleaning Practices: An Eight step Plan www.informinc.org/chpimp.pdf

Quick & Easy Guide to Green
Cleaning in Schools www.healthyschoolscampaign.org/campaign/green_clean_schools/guide.php

U.S. EPA's Tools for Schools www.epa.gov/iaq/schools

ADDITIONAL ASSISTANCE: GREEN CLEANING IN SCHOOLS RESOURCES

Collaborative for High Performing Schools www.chps.net

Green Purchasing Institute e-mail info@greenpurchasing.org for hands-on technical support

Green Schools Initiative www.greenschools.net

Healthy Schools Network www.healthyschools.org/clearinghouse.html

HEALTH RISKS OF TRADITIONAL CLEANING PRODUCTS

Potential Hazards of Home
Cleaning Products www.womenandenvironment.org/campaignsandprograms/SafeCleaning/HazardsReport.pdf

Janitorial Products Pollution Prevention Project (JP4) www.wrppn.org/Janitorial/jp4.cfm

Regional Asthma Management and Prevention (RAMP)

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