

A large, light gray, stylized leaf graphic is centered on the page. It has a central stem and three main lobes, each with several smaller, rounded leaflets. The leaf is positioned behind the title text.

Perspectives on Implementation and Effectiveness of School Green Cleaning Laws

Emma Arnold, *Center for Green Schools at the U.S. Green Building Council*
Elizabeth R. Beardsley, *U.S. Green Building Council*

July 29, 2015

Copyright © 2015 by the U. S. Green Building Council, Inc.

Introduction

Background

Green cleaning is an established practice generally referring to both cleaning procedures and products that meet cleaning objectives while reducing the use of potentially hazardous chemicals. The intent behind green cleaning is to use products that are environmentally friendly and are less harmful to human health. Research has shown that traditional cleaning products contain ingredients known to pose risks to human health,¹ while green products are less likely to contain harmful ingredients,² potentially reducing student and school staff absences.³

Green cleaning has particular appeal in schools, in light of increased awareness and incidence of childhood asthma and, more generally, children's potential sensitivities to chemicals.⁴ Government agencies such as the Environmental Protection Agency (EPA) and the U.S. Department of Education; nonprofit organizations, such as the Healthy Schools Campaign; and green cleaning industry groups have promoted the use of green cleaning in schools.⁵ A significant body of resources has been developed to support schools in implementing green cleaning, such as how-to guides, models, and best practices for effective and affordable school green cleaning policies and programs.⁶

A variety of mechanisms, both informal and formal, may spur schools to implement green cleaning. Many states, school districts, and individual schools have voluntarily implemented green cleaning through mechanisms ranging from ad-hoc changes initiated at a school-level, to school district policies, to state procurement approaches or technical assistance programs. A mechanism with the potential for large-scale impact is a statewide school green cleaning law or directive such as an Executive Order.⁷ Since 2005, 10 states and the District of Columbia (collectively, the states, for purposes of this paper) have enacted laws addressing, in various forms, green cleaning in schools. The Environmental Law Institute (ELI) has developed comprehensive summaries of these state laws, and additional policy materials are available from the Healthy Schools Campaign, ISSA: The Worldwide Cleaning Industry Association (ISSA), and others.⁸ The effectiveness of the state laws as a mechanism to accomplish school green cleaning programs has not, however, been reported, nor have lessons learned from the states been compiled or analyzed systematically. This paper seeks to supplement the available resources with a side-by-side comparison of key features of the state laws and to fill the gaps in reporting about the laws' implementation.

¹ The European Academy of Allergy and Clinical Immunology task force found that, in comprehensive review of literature linking exposure to cleaning products and the risk of asthma, increased risk of asthma has been shown in many studies, and that "cleaning sprays, bleach, ammonia, disinfectants, mixing products, and specific job tasks [in cleaning industries] have been identified as specific causes and/or triggers of asthma." (Siracusa, A., et al., "Asthma and Exposure to Cleaning Products - a European Academy of Allergy and Clinical Immunology Task Force Consensus Statement." *Allergy* 68.12 (2013): 1532-545.)

² One comparative life cycle assessment of conventional and Green Seal-compliant industrial and institutional cleaning products found that the Green Seal Standard for Cleaning Products for Industrial and Institutional Use, a green cleaning product standard, "identifies products with notably lower environmental impact compared to typical alternatives in the market." (Kapur, Amit, et al. "Comparative Life Cycle Assessment of Conventional and Green Seal-compliant Industrial and Institutional Cleaning Products." *Int J Life Cycle Assess The International Journal of Life Cycle Assessment* 17.4 (2012): 377-87)

³ For example, the Elk Grove Unified School District in California replaced their conventional cleaning supplies with one all-purpose green product and found it to be effective in eliminating bacteria. They also reported a two percent reduction in school absenteeism, though this decrease in absenteeism may be partly due to the school's attendance efforts. The Fairfield-Suisun, California school district reported benefits after replacing their conventional cleaning supplies with certified green products and reported a drop in custodial injury rate caused by toxic chemicals, as well as economic savings. (Breathing Easier: Schools Make the Switch to Certified Green Cleaning Products, <http://www.rampasthma.org/wp-content/uploads/2009/11/Breathing-Easier-Report.pdf>)

⁴ See EPA, Children's Environmental Health Facts, <http://www2.epa.gov/children/childrens-environmental-health-facts> (last visited July 20, 2015); EPA, Children Are Not Little Adults, <http://www2.epa.gov/children/children-are-not-little-adults> (last visited July 20, 2015).

⁵ See generally EPA, <http://www.epa.gov/schools1/buildingmaintenance/maintenance/cleaning.html> (last visited July 20, 2015); Coalition for Healthier Schools, <http://www.healthyschools.org/coalition.html>;

⁶ See resources in Appendix A.

⁷ We note that in states with such laws, numerous schools and districts embraced green cleaning practices prior to the existence of legislation.

⁸ See, e.g., Healthy Schools Campaign, Green Cleaning Advocacy Handbook, available at www.greencleanschools.org.

Purpose and Methodology

The purpose of the research leading to this paper was to determine, to the extent possible, the 11 laws' implementation effectiveness. We considered "effectiveness" to include two dimensions: first, outcomes related to health and environmental goals, and second, effectiveness in achieving widespread implementation of green cleaning in schools of the particular state. Ideally, we sought to examine any association between the features of the state law and information on the law's effectiveness. We also intended to distill anecdotal information regarding the experiences of the state agencies and other stakeholders into recurring themes and lessons learned.

To conduct the study, we reviewed the laws and available materials, such as the ELI reports, concerning these laws, and checked the statutes' currency (e.g., for recent amendments). We identified common attributes, similarities, and differences among the state laws. We also reviewed each state website for information on the law and state agency activities related to the law or more broadly to school green cleaning. On these sites, we also sought to identify and gather available information regarding the laws' effectiveness, such as any data and reports.

After our initial research, we contacted individuals from state agencies and stakeholder organizations who had knowledge of how the law was implemented in their states, and we conducted semi-structured interviews.⁹ In all, we interviewed 17 people; of these, 13 were state agency employees, three were affiliated with nonprofit organizations, and one was a federal agency official. For 10 states, all except Illinois, we communicated with at least one person with knowledge of the state law's implementation. Additionally, we conducted an analysis of state responses to a national survey regarding agency involvement in school green cleaning policies and practices to determine if there was a difference in response patterns between states with these laws and states without.

This paper presents a summary of the state laws, analysis of national survey data, the research results concerning data and opinions on the effectiveness of the laws, and detailed analysis of the similarities and differences of the laws. We did not attempt to determine compliance of state agencies or schools with their apparent responsibilities under the laws.

⁹ A common set of questions was used to generally guide the interview.

¹⁰ 2015 Nevada Laws Ch. 371 (S.B. 25).

¹¹ See Appendix A.

¹² See Appendix A.

Overview of State Green Cleaning Laws

Ten states and D.C. have enacted laws concerning green cleaning in schools. The laws have been enacted over a decade; New York was the first in 2005, while Vermont's law was enacted in 2014.

One state, Nevada, repealed portions of its school green cleaning law – which was a limited law, applying only to floor products – in 2015.¹⁰ According to Nevada Department of Education officials, the department had not implemented the law prior to this time because officials did not believe it was in the expertise of the department to issue regulations relating to environmentally sensitive floor cleaning products. As discussed below, the portions of the statute directing state agency actions were repealed, but the portion pertaining to school requirements remain, as amended.

As noted, ELI has developed several helpful resources pertaining to state green cleaning laws.¹¹ ISSA, The Worldwide Cleaning Industry Association (ISSA), also includes these laws among the policies featured in its guide.¹²

Table 1 provides an overview of each law. Several common parameters are useful in considering the similarities and differences among these laws. The laws were reviewed in detail to identify key parameters, which we define as the following:

- ▶ the nature of the green cleaning law, e.g., whether schools are required or encouraged to take action with respect to green cleaning and what type of action;
- ▶ which entities are obligated under the law;
- ▶ the types of schools targeted by the law;
- ▶ the definition of green cleaning and how the preferred cleaning products are identified;
- ▶ the state agencies involved; and
- ▶ whether and how training is addressed.

We also considered reporting requirements, particularly in connection with effectiveness.

Table 1: Overview of State School Green Cleaning Laws

State	Citation and Title	Date Law Became Effective	Overview Description of Legislation
Connecticut	C. G. S. A. § 10-231g, CT ST § 10-231g Green cleaning program at schools: Definitions. Implementation. Notice.	July 1, 2011	Every school district is required to implement a green cleaning program, which applies to all of the school buildings and facilities in that district. All cleaning products used must meet guidelines set by the Department of Administrative Services. The Department of Education shall amend the school facility survey form to include questions regarding the implementation of green cleaning programs in schools. Upon request, the local board of education must provide a written statement regarding each school's green cleaning policy to parents and staff.
D.C.	DC CODE § 38-825.01 D.C. Healthy Schools Act of 2010	September 20, 2012	Requires that all public schools use environmentally friendly cleaning products. Schools are permitted to exhaust their current supply of conventional cleaners prior to adopting new standards. Prior to December 31, 2012, the Mayor shall prepare a comprehensive report on the implementation of this and other environmental programs.
Hawaii	H R S § 302A-1509, HI ST § 302A-1509 Environmentally-sensitive cleaning and maintenance products for use in public schools	July 15, 2009	Requires that all public school facilities give "first preference, where feasible" to the purchase and use of environmentally-sensitive cleaning and maintenance products certified by Green Seal. The state will also review and evaluate existing research regarding environmentally-sensitive cleaning in order to maintain a list of approved products.
Illinois	105 ILCS 140 Green Cleaning Schools Act	August 13, 2007	Requires that all public schools and all non-public schools of 50 or more students establish a green cleaning policy and exclusively purchase and use environmentally-sensitive cleaning products, as specified by the Illinois Green Government Coordinating Council (IGGCC). Regional offices of education and the IGGCC will "provide ongoing assistance" to schools to carry out the requirements.
Iowa	I. C. A. § 8A.318, IA ST § 8A.318 Building cleaning and maintenance-environmentally preferable cleaning products	July 1, 2011	Requires that all state agencies, school districts, community colleges, and institutions under the control of the state board of regents purchase only cleaning and maintenance products identified by the Department of Administrative Service or products that meet nationally recognized standards. These institutions may opt out of the requirements if the majority of members of the board of directors of the school district or president or administrative officer chooses to.

State	Citation and Title	Date Law Became Effective	Overview Description of Legislation
Maine	LD 88 (SP 32) Resolve, To Encourage the Use of Safe Chemicals in Public Schools ¹³	May 18, 2007 Amendment C "A," Filing Number S-84 Adopted on 5/9/2007 by House and 5/8/2007 by Senate	Requires that state promote the implementation of green cleaning programs in schools through compiling and annually distributing a list of independently certified green cleaning products. The state is also required to develop recommendations for cleaning procedures that will reduce the use of toxic chemicals and improve indoor air quality in schools. The Department of Education will compile and maintain a publicly available list of school administrative units that have committed to implementing a green cleaning program.
Maryland	MD Code, Education, § 5-112 Contracts for school buildings, improvements, or supplies	July 1, 2012 Proposed Legislation: 2015 MD H.B. 967 (NS) and 2015 MD S.B. 725 (NS)	Requires county school boards to purchase green cleaning supplies, “to the extent practicable and economically feasible” for use in schools. County boards are also required to adopt written policies that establish guidelines for purchasing, establish green cleaning practices, and require staff training on implementation of policy.
Missouri	V. A. M. S. 161.365, MO ST 161.365 Department to establish guidelines and specifications for program—districts to be provided with information—rulemaking authority.	August 28, 2008	Requires the Department of Elementary and Secondary Education to establish and amend on an annual basis guidelines and specifications for green cleaning programs in schools. The guidelines are to be provided to districts, for dissemination to schools.
Nevada	N. R. S. 386.419, NV ST 386.419 Environmentally sensitive cleaning products for floor surfaces in public schools	July 1, 2009	Requires that every school district require the exclusive use of environmentally sensitive cleaning and maintenance products in the cleaning of all floor surfaces in public schools. The Department of Education shall set forth standards for these environmentally sensitive cleaning and maintenance products and provide a sample list of approved products.
	N. R. S. 386.4195, NV ST 386.4195	Amended by 2015 Nevada Laws Ch. 371 (S.B. 25)	Repealed paragraphs assigning state agency responsibilities.

State	Citation and Title	Date Law Became Effective	Overview Description of Legislation
New York	McKinney's Education Law § 409-i, NY EDUC § 409-i Procurement and use of environmentally sensitive cleaning and maintenance products	September 1, 2005 Proposed Legislation: 2015 NY A.B. 5296 (NS)	Requires that every elementary and secondary school facility adhere to environmentally-sensitive cleaning and maintenance guidelines set forth by the state. The commissioner of general services will provide assistance and guidance to schools in carrying out the requirements. The department of education will issue a report providing an analysis of the impact of the guidelines on schools.
Vermont	18 V.S.A. § 1781-§ 1784, VT ST T. 18 § 1781-§ 1784 Cleaning products in schools	July 1, 2012	Requires that distributors and manufacturers of cleaning products only sell environmentally preferable products to schools and school districts. Any person who contracts with a school to provide cleaning services may only use environmentally preferable cleaning products. Environmentally preferable cleaning products are those products certified by an independent third party and those used by the Department of Buildings and General Services. Distributors and manufacturers of cleaning products must provide green cleaning training to each school district it provides with product at no cost to the district.

Effectiveness

Several states gathered limited data with which to assess to what extent their respective state laws were effective in achieving widespread use of green cleaning in schools, as discussed below. None of the state officials or organizations we interviewed, however, were aware of statewide data or analyses of health or attendance outcomes for school occupants; some of those interviewed commented that such analyses would be inherently very difficult.

Connecticut, New York, Iowa, and Vermont reported relevant data concerning whether their laws accomplished green cleaning in target schools. In addition, Maryland had efforts underway to assess implementation but had not released data or findings at the time of this publication.

The reporting of data tracks largely with the laws; of the four states with reported data, three of the state laws call for some sort of report.¹⁴ These reports (Connecticut, New York, and Iowa) are written in accordance with the specific requirements of each law. The remaining state laws did not require the relevant state agency to evaluate effectiveness. With the exception of Vermont and Maryland, our research generally did not find that the state agencies involved in the laws' programs had undertaken such evaluations or tracked participation.

Connecticut

Connecticut's law requires green cleaning to be included in a triennial report on a broader set of indoor air quality requirements. Connecticut Department of Administrative Services issued the first such report in 2013.¹⁵ The state report is based on required reporting from school districts

¹³ In the State of Maine, a Resolve is a type of law that is defined as “[l]aws having a temporary or limited purpose that do not amend the general public laws,” and like a resolution or order, is not considered an Act. See Maine Legislature, Glossary, available at <http://legislature.maine.gov/opla/glossary.htm>. The Resolve is included and treated as a law for this paper because it was enacted by the state legislature, and mandates actions by state agencies.

¹⁴ The D.C. law did as well; as of this writing, D.C. has not yet completed its report. See Healthy Youth and Schools Commission, Annual Report to the Mayor and the Council, at 9 (Nov. 30, 2014) (noting that no record of the report was found).

¹⁵ Connecticut Department of Administrative Services, report on the Condition of Connecticut Public School Facilities (2013), available at <http://das.ct.gov/images/1090/School%20Report.pdf>.

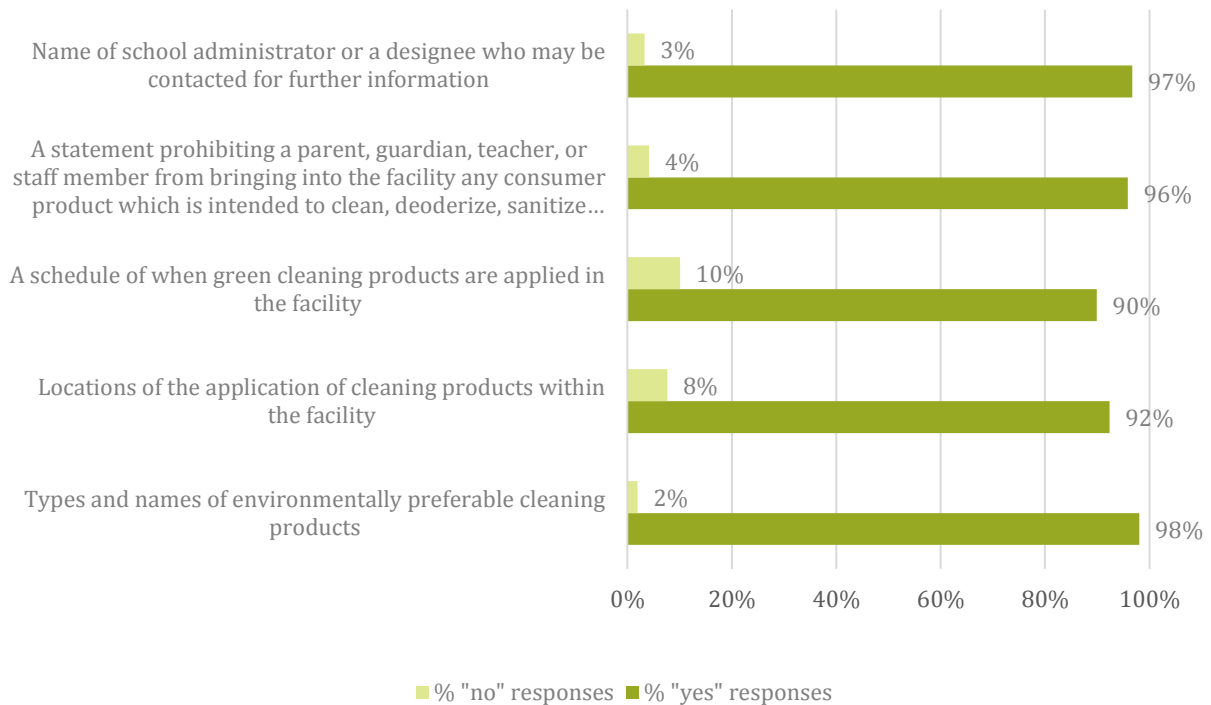
on facilities conditions, and the data include all 151 Connecticut school districts.¹⁶ The data are reported by the number of schools represented (rather than number of districts). The report includes nine survey questions on green cleaning.

Notably, the survey reports that for 99 percent of schools (1,031 out of 1,041) the local or regional board of education has adopted and implemented a Green Cleaning Program for the school. The rates for the board of education having a written statement of the Green Cleaning Program for the school was similarly high (94 percent). As can be seen in Figure 1, 90 percent of these written statements included at least one of the elements—such as types and names of products and schedule for cleaning product application—about which the survey asked. Regarding compliant cleaning products, the responses

indicated that for about 94 percent of schools, the local or regional board of education provided for procurement and use of environmentally preferable cleaning products that meet the guidelines or environmental standards of one of the certification programs approved by the state Department of Administrative Services; however, only 43 percent used the state procurement system.

The survey also included questions on distribution and posting of the Green Cleaning Program statement, as required by the Connecticut law. Responses for 74 percent of schools indicated that the statement is provided to new school staff hired during the year, and 80 percent provide the statement upon request to parents of students. The responses also indicated that the Green Cleaning Program statements are posted on board of education websites for 84 percent of schools having such websites.

Figure 1: Connecticut DAS Survey Responses
 "Does the written statement for this facility include the following..."



¹⁶ The report is issued pursuant to Section 10-220(a) of the Connecticut General Statutes (CGS) which requires, triennially, each local or regional board of education to submit to the Commissioner of Administrative Services a report on the condition of its facilities

Overall, these data support a high level of self-reported implementation by school districts, as required by the Connecticut law. In addition to schools, the survey also reported some data for school districts; in particular, 69 percent of districts self-rated their green cleaning program as good or excellent, and 29 percent self-rated their program as “poor or missing.” Lastly, the report also finds 88 percent of school districts reported that custodial and maintenance staff have been trained in the proper use of cleaning products.

New York

The New York law required an agency report on implementation. The New York State Education Department (NYSED) released its “Environmentally Sensitive Cleaning and Maintenance Product School Impact Report” in 2007, amending it in 2010.¹⁷ NYSED’s report relies on findings from a survey disseminated to Boards of Cooperative Educational Services (BOCES), public school districts, nonpublic schools, and charter schools. The survey was not mandatory, and it achieved an 11 percent response rate from potential respondents. The survey sought feedback on the NY State Office of General Services’ (OGS) list of approved products and asked about things such as cost of green cleaning supplies; specific elements of the school or district’s green cleaning policy; use of disinfectants, bleach-based products, antibacterial soaps, and hand sanitizers; and performance of green cleaning.

The NYSED report found that the “main goal of the legislation, to provide environmentally preferable cleaning products for use in schools that are available in the same *form, function, and utility*, as traditional products, has largely been achieved.”¹⁸ The report further revealed that state guidance was important for schools and districts in the implementation of green cleaning programs; 83 percent of the 310 responding entities reported accessing the OGS product list for guidance in purchasing cleaning products.

Emphasizing the importance of education and training, the report finds that “those districts and schools that have been the most successful appear to be those which fully embrace the concept of using less toxic, environmentally friendly cleaning products in schools, and who actively work with vendors and others to provide appropriate training to custodial and maintenance staff on the proper use of new products.”^{19, 20}

In addition to the 2007 voluntary survey of all schools in New York, in 2007 the Office of the New York State Comptroller conducted an audit of nine school districts and one Board of Cooperative Educational Services (BOCES) (collectively referred to herein as districts) in New York to determine whether they were purchasing green cleaning products in compliance with the law.²¹ The audit sought to answer two primary questions:

- ▶ Did the school districts comply with the green cleaning legislation?
- ▶ Was proper guidance for green cleaning supply purchases given to school employees by their local boards of education?

The report found that, cumulatively, the purchases of the audited districts were 93 percent compliant with the law. However, of the 10 units audited, only three complied completely with the green cleaning legislation. In the other districts, the audit found that the majority of purchases that were non-compliant were soap products and vacuum cleaners, explaining that “District officials either did not realize these products were covered by the Law, preferred different products, or indicated that different bathroom dispensers would be necessary to use these products.”

The report did find that local boards of education were aware of the legislation, but this did not always mean that

¹⁷ NYSED, “Environmentally Sensitive Cleaning and Maintenance Report, School Impact Report Pursuant to Chapter 584 of the Laws of 2005 [with] Updated Information on Cleaning Product Costs and Efficacy,” (June 2007, Updated 2010), available at <https://greencleaning.ny.gov/Docs/GCSurveyFinalReport072707Revised030910.pdf>.

¹⁸ *Id.* at 3.

¹⁹ *Id.* at 4.

²⁰ An additional finding in the original 2007 report was that procurement of green cleaning products was reported as being associated with increased cost in schools. About two thirds of respondents reporting spending an additional 10 percent or more on green cleaning supplies. Within a few years, however, the added cost appeared to have declined or disappeared, perhaps with market growth and competition. In 2010, the state provided an updated introduction to the report, stating that the survey “should not be viewed as the definitive survey on green cleaning, particularly on product costs” (see cover). In fact, anecdotally the state has found that green cleaning products cost the same or less and work just as effectively as their non-green counterparts. This later finding is generally supported by the interviews we conducted across the range of states.

²¹ NYSED, “Environmentally Sensitive Cleaning and Maintenance Report, School Impact Report Pursuant to Chapter 584 of the Laws of 2005 [with] Updated Information on Cleaning Product Costs and Efficacy,” (June 2007, Updated 2010), available at <https://greencleaning.ny.gov/Docs/GCSurveyFinalReport072707Revised030910.pdf>.

they had adjusted their procurement policies. Accordingly, the report offers the following recommendations:

1. Local boards of education should provide policy guidance related to purchasing green cleaning supplies
2. School districts should continue to purchase green cleaning supplies that are consistent with the Law
3. School districts should purchase non-green products only when allowable exceptions to the Law permit
4. School districts and BOCES should monitor the levels of non-green cleaning supplies purchased prior to September 1, 2006 and properly dispose of any supplies that will not be used

Iowa

Iowa’s law required the Department of Education to submit a one-time report to the state legislature on the school districts electing to opt-out of green cleaning.²² The report, issued in 2012, identified 70 of 345 school districts as having opted out, generally citing cost concerns, as can be seen in Figure 2. In other words, 80 percent of school districts did not opt-out and could be presumed to be following the guidelines to some degree.²³ The state agency is not required by the law to track ongoing compliance, and has not done so. Nonetheless, one state official interviewed

believes most districts that originally opted out have now transitioned to green cleaning, in part because distributors in the state primarily sell green cleaners.

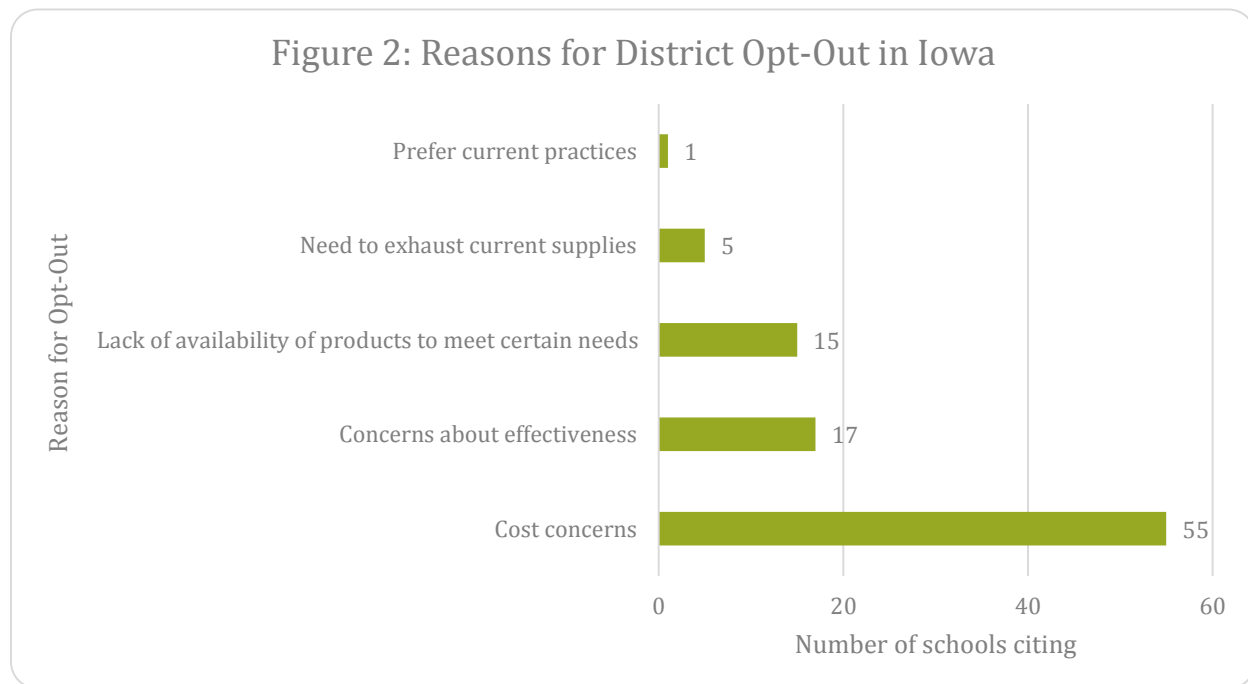
Vermont

Vermont Department of Health’s Envision program, which promotes healthy school environments, conducted a survey of schools related to the state’s broader school indoor air quality program.²⁴ Based on 71 (22 percent) of the state’s 325 schools reporting, the report noted that “survey respondents indicated that the most popular policy for chemical purchasing was for cleaning and custodial supplies, which may be a result of the 2012 legislation, Act 68, related to the sale of commercial cleaning products to schools.”²⁵ The report found 51 of 69 schools (74 percent) answered yes to the question “does your school have least-toxic / non-toxic purchasing policies for the procurement of products or supplies for cleaning or custodial supplies and products?”

Maryland

Maryland State Department of Education (MSDE) has recently initiated efforts to understand school district implementation of green cleaning policies. Although the

Figure 2: Reasons for District Opt-Out in Iowa



²² House File 823, Iowa Code 8A.318, Environmentally Preferable Cleaning Products Mandate (July 1, 2012).

²³ Some districts cited more than one reason for opting out and are included in all categories which they cite.

²⁴ The Vermont Department of Health’s Envision program began in 2000 in response to the School Environmental Health Act 125. The program provides grants, technical assistance, referrals, and trainings for schools focused on indoor air quality.

²⁵ Vermont Department of Health, 2012–2013 Envision Participation Survey Report.

state has not published any data, a stakeholder involved in the law's implementation indicated that a survey of a sample of schools showed the need for improvement in school district implementation of the law. The state is now taking steps to improve implementation, such as developing training for schools.

Effectiveness Summary

Anecdotally, many of the individuals interviewed offered opinions that the state laws in their states were effective. In particular, of the 10 states for which we conducted at least one full interview, in seven the stakeholder believed the law was effective to some degree. Stakeholders of four states identified the law as effective, stating that the law, for example, "changed the way cleaning staff clean schools." These four include all three states (Connecticut, New York, and Iowa) for which there are reporting requirements in the law, as well as one of the additional states which has separately reported some data (Vermont). This alignment suggests that reporting requirements may provide a significant benefit to overall effectiveness by fostering accountability among state agencies and schools.

Stakeholders in two states indicated the law was partially effective; that is, the law was not effective on its own but was instrumental in enabling change in school cleaning practices. For example, a stakeholder knowledgeable about Maryland's experience indicated the law was not widely known nor acted upon for several years, but recent engagement by the MSDE around the law is leading to changes and bringing green cleaning into schools. Similarly, a D.C. stakeholder indicated that the law was aggressive and posed some challenges, such as from lack of specificity and the need for guidance, but that the law and associated agency support is playing a role in moving schools to green cleaning. Finally, stakeholders from two states indicated the law was not effective. A stakeholder familiar with the Maine Resolve indicated that schools were not aware of the statement, and that it was not known among the school community whether the state agency had developed information to support school green cleaning. Likewise, in Nevada, the state agency had not issued regulations after several years, leading to the elimination of the state role in legislative amendments.

In sum, the data on effective implementation of green cleaning in schools are generally available where state laws

require tracking and reporting; two states have initiated tracking without such a requirement. Where data are available, reported compliance is high. Anecdotal evidence suggests a majority of laws are at least partially effective, and those viewed as effective are also in states with reported data. Finally, the state laws deemed ineffective are those in which stakeholders indicated the state agency was believed not to have taken any action.

Analysis of Responses to CDC SHPPS Survey for States with and without School Green Cleaning Laws

To supplement the available state data on effectiveness, we considered other sources of data that may help inform our understanding of whether the laws have been effective; one such source was identified. The Centers for Disease Control and Prevention (CDC) School Health Policies and Practices Study (SHPPS) is a national survey conducted every six years designed to assess school health policies and practices at the state, district, school, and classroom levels.²⁶ The most recent SHPPS results available are from the 2012 survey, which examines eight key components of school health: health education, physical education and activity, health services, mental health and social services, nutrition services, healthy and safe school environment, faculty and staff health promotion, and family and community involvement.²⁷

The state-level questionnaire is distributed to key administrators in education agencies for all 50 states and the District of Columbia. For each state-level questionnaire and module, the response rate was 100 percent.

There were eight survey items on the state-level Healthy and Safe School Environment questionnaire that addressed green cleaning and indoor air quality (IAQ) (see box). Using the responses to these questions, it is possible to compare states that have laws requiring green cleaning in schools with those states that do not. Because the green cleaning laws in Iowa and Vermont were effective starting July 2012 and the green cleaning law in Maryland was

²⁶ See <http://www.cdc.gov/healthyouth/shpps/index.htm>

²⁷ Centers for Disease Control and Prevention (2012). *2012 School Health Policies and Practices Study* [data file]. Retrieved from <http://www.cdc.gov/healthyouth/shpps/data.htm>

effective starting July 2014, these three states were excluded from the analysis.

For the survey items which address green cleaning specifically, states with green cleaning laws at the time responded affirmatively with a much higher frequency than those that did not have green cleaning laws (see Figure 3). For example, 75 percent of the states with green cleaning laws reported that their state provided technical assistance to district or school staff on green cleaning. This is compared to only 25 percent of the states without green cleaning laws. Further, 63 percent of states with green cleaning laws reported providing funding for or offering professional development sessions to districts or schools on how to implement green cleaning policies, as opposed to 23 percent of states without green cleaning laws.

Similar trends can be seen when comparing responses to questions concerning IAQ (see Figure 4). With respect to state assistance on policy development for school and district policy on IAQ, 75 percent of states with green cleaning laws responded affirmatively to question one (did state provide guidance for development of district or school green cleaning policy), whereas only 35 percent of states without green cleaning laws reporting offering such assistance. Further, 63 percent of states with green cleaning laws reported providing technical assistance to district or school staff on IAQ, whereas 47 percent of states without green cleaning laws reported providing technical assistance.

The SHPPS responses suggest a strong association between a state having a school green cleaning law and the state education department self-reporting involvement in school green cleaning. Generally, the group of states with laws has three times the rate of positive responses than the group of states without them. The association is not necessarily causal, in that a state may have had a voluntary school green cleaning program prior to and independent of the law. The SHPPS data also has some inherent limitations; it is self-reported and reflects only the knowledge and activity of the state education department.

With respect to IAQ, the SHPPS responses show a similar but more muted pattern, with the group of states with laws having higher rates of positive responses than the group of states without them. The most significant difference observed is for the state role in developing model policies, guidance, and other materials.

The data indicate that there is a positive relationship for a state with a school green cleaning law and the education department's involvement in school green cleaning activities. This relationship perhaps suggests that school green cleaning laws are associated with increased awareness of and support for green cleaning activities in state education departments.

SHPPS Questions Related to Indoor Air Quality and Green Cleaning

For each of the following questions, the state was asked to respond Yes or No to the question for the topics of (a.) indoor air quality and (b.) green cleaning products and practices:

1. During the past two years, did your state develop, revise, or assist in developing model policies, policy guidance, or other materials to inform district or school policy on each of the following topics?

- a. Indoor Air Quality
- b. Green cleaning products and practices

2. During the past two years, did your state distribute or provide to district or school staff model policies, policy guidance, or other materials to inform district or school policy on each of the following topics?

- a. Indoor Air Quality
- b. Green cleaning products and practices

3. During the past 12 months, has your state provided technical assistance to district or school staff on...?

- a. Indoor Air Quality
- b. Green cleaning products and practices

4. During the past two years, has your state provided funding for or offered professional development to districts or schools on how to implement school-wide policies and programs related to...?

- a. Indoor Air Quality
- b. Green cleaning products and practices

Figure 3: Green Cleaning Questions
(Percentage "yes" responses)¹

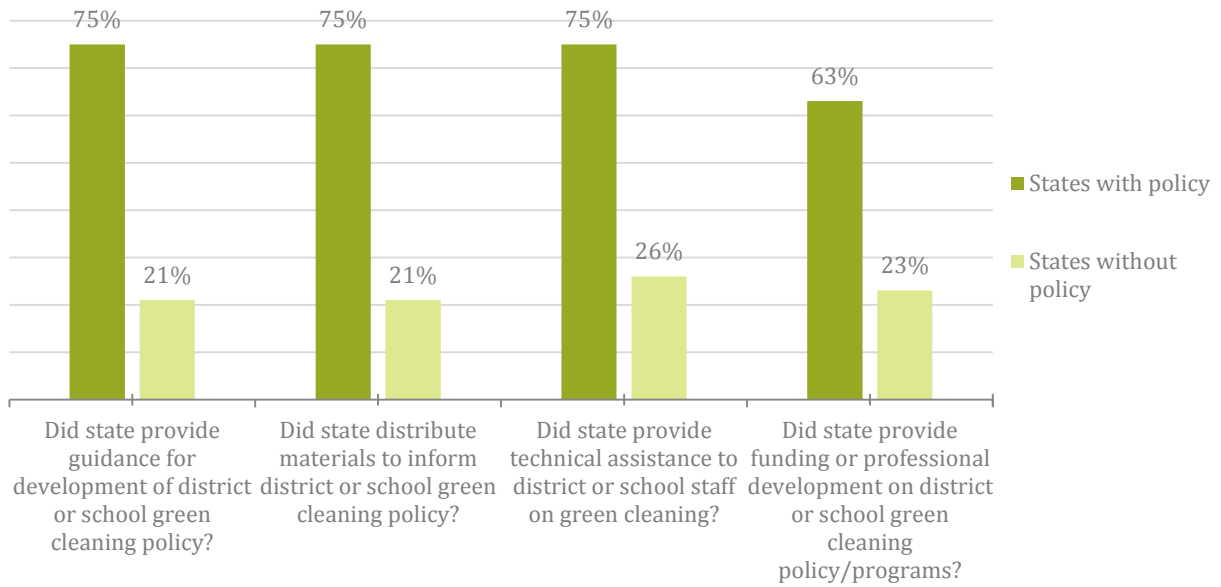


Figure 4: IAQ Questions
(Percentage "yes" responses)¹

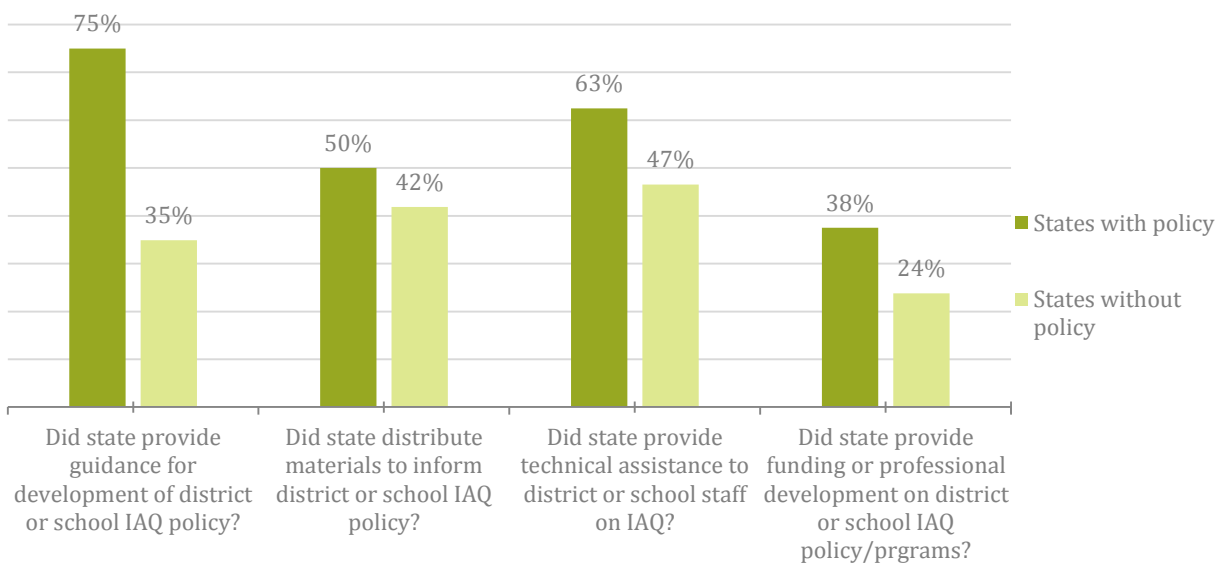


Figure Notes

(1) Note that the question text in Figure 4 is abbreviated. For full text, see box above titled "SHPPS Questions Related to Indoor Air Quality and Green Cleaning."

Comparison of and Perspectives on Key Features of State Laws and Resulting Programs

Nature of the Law

As noted by ELI, a key distinction to consider when reviewing state green cleaning laws is that some laws require schools to take an action related to green cleaning, while others only encourage action. Specifically, five state laws require schools or school districts to procure or implement green cleaning, and one state law indirectly requires schools to do so through a mandated state agency action (see Table 2). Of these five, three states have an opt-out option, such as where the school or school district finds the requirement impracticable or economically infeasible. Iowa, one of these states, tracked and reported the opt-outs (see “Effectiveness” section). In some instances, state agencies are responsible for maintaining lists of the opt-outs.

None of the state laws that feature a requirement provide enforcement mechanisms. In one instance, in Vermont, advocates had initially sought the inclusion of enforcement in the law. Early drafts of the policy had included a clause to fine cleaning product sellers and distributors that did not comply with the legislation. The clause was taken out in the legislative process, and an express exemption against otherwise applicable fines was added.²⁸

Several laws serve to merely recommend or encourage schools to conduct green cleaning. Missouri’s law

provisioned that the Department of Elementary and Secondary Education establish and amend guidelines. However, once established, the guidelines explained that implementation of the recommended practices is not required by law.²⁹

The least prescriptive law is Maine’s Resolve, which aims to “promote” implementation of green cleaning programs in schools but does not require any actions by schools or school districts. Whereas the Maine Resolve is voluntary for schools, the Maine Department of Education is charged with issuing a list of school districts that have committed to green cleaning. As noted above, this law was not viewed as effective by stakeholders. Vermont’s law is notable for regulating distributors and manufacturers rather than schools and school districts. As mandated by the law, distributors and manufacturers of cleaning products “shall sell, offer for sale, or distribute” to schools only environmentally preferable cleaning products.

The Vermont law is unique in shifting responsibility away from schools themselves. However, the law was originally developed with the opposite emphasis. Early drafts of the legislation were more similar to other states’ laws, and schools and school districts would have been required to procure green cleaning supplies. Once introduced, according to a stakeholder familiar with its consideration, lawmakers did not want to put any more onus on schools than already exists. As a result, legislators changed the focus of the law by placing the responsibility on distributors and manufacturers. The Alliance for a Clean and Healthy Vermont, a health-based coalition focused on protecting human health from toxic chemical exposure and which advocated for the legislation, believes that distributors and manufacturers have largely been responsible when it comes to complying with the legislation.

²⁸ See section 1784. Penalty exemption. (Added 2011, No. 68 (Adj. Sess.), 1a.)

²⁹ Missouri Department of Elementary and Secondary Education, *Missouri Green Cleaning Guidelines and Specifications for Schools* (January 15, 2009).

Table 2: State agencies responsible, as dictated by text of school green cleaning law

State	Nature	Obligation	Entities Obligated to Green Cleaning Activities		
			School is Directly Obligated	School District/Board or County	Other
CT	Requirement	To “implement [green cleaning] program”	•		
DC	Requirement	To “use” green cleaning products ¹		•	
HI	Conditional requirement	To “give first preference, where feasible, to purchase and use” of green cleaning products ²	•		
IL	Requirement; opt-out with written notice if not economically feasible	To “establish a green cleaning policy” and “to exclusively purchase and use” green cleaning products	•		
IA	Requirement; opt-out with written notice	To “purchase only cleaning and maintenance products identified by the department or that meet nationally recognized standards”	•		
ME	Encouragement	To “consult” in “promoting the implementation of green cleaning programs in schools” ³			•
MD	Requirement; opt-out with written notice if not economically feasible or practicable	To “procure for use” and to “adopt policy” requiring use and training		•	
MO	Recommendation	N/A ⁴			•
NV	Requirement	To “ensure” use of only green cleaning products on floors		•	
NY	Requirement	To “follow guidelines” to identify and purchase for use	•		
VT	Requirement	To “sell, offer for sale, or distribute to a school... only environmentally preferable cleaning products” ⁵			•

Table notes:

- (1) D.C. Public Schools is responsible for managing D.C.’s public schools and is more analogous to a school board than a state agency.
- (2) The requirement is indirect, mandating that the Hawaii Department of Education shall require schools to take actions.
- (3) Maine’s Resolve does not place any obligations for green cleaning on schools or school districts; only state agencies are obliged to take certain actions to encourage green cleaning.
- (4) Missouri’s law does not place any obligations for green cleaning on schools or school districts; districts are required only to disseminate information from the state to the schools.
- (5) Vermont’s law places responsibility on distributors and manufacturers of cleaning products that sell or provide services to schools.

Targeted Schools

While all of the laws are related to schools, the scope of affected schools varies. All of the laws target elementary and secondary schools; only one state's law also includes public universities (Iowa). All of the state laws target public schools, while only three states' laws apply to both public and selected private schools (Illinois, New York, and Vermont).

In Washington, D.C., the law only makes DCPS responsible for using green cleaning supplies in DCPS schools, but it does not apply to public charter schools. About half of the Districts public school population is in charter schools, which are more independent in terms of their purchasing and are not included in the environmental section of the Healthy Schools Act, where the green cleaning law is.

Green Cleaning Definitions, Products, and Standards

How each law defines "green cleaning" and establishes product standards significantly shapes each resulting program. States' definitions of "green cleaning" products and "green cleaning programs" vary, as displayed in Table 3. Four of the 10 state laws do not include an express definition.

The nature of definitions vary, with some referring to a list of products to be developed by a state agency (two states), and others stating the general goals of reduced impact on human health and the environment (four states). None of the laws specify cleaning equipment, although one stakeholder noted the importance of schools purchasing cleaning equipment that supports green cleaning.

Four state laws exclude disinfectants or antimicrobials. Iowa, for example, has such an exclusion for disinfectants, which a stakeholder believed important to the law's acceptance by schools. Conversely, Illinois and Missouri do not exclude disinfectants and antimicrobials, and their guidance addresses issues and factors for selecting and using preferred disinfectants in a green cleaning program.

Most states use green cleaning product certifications in their operational definition of "green cleaning." That is, all

but Vermont have established either in the law or administratively a list of approved certifications. Three laws mention specific green cleaning product certifications within their text: Hawaii recommends that products approved by the Green Seal program be used as a "first preference guideline;" Maine's law recommends cleaning products that "have been certified as meeting health-based criteria for safety and efficacy by a third-party independent agency such as Green Seal;" and Maryland allows for "multiple avenues" to obtain green cleaning supplies certification including "Green Seal, Green Label, Environmental Choice, TerraChoice, or Ecologo," but also "any other nationally recognized independent third-party entity that certifies environmentally preferable products that the county board deems to be appropriate."

A state official from the Hawaii Department of Health (DOH) explained that because of the specific reference to the Green Seal program, the DOH did not develop or maintain a product list as required by the law. Because the Green Seal program is constantly evolving, any list maintained by the DOH would have to be continually updated and would likely be frequently outdated. The Department of Health gave testimony during the consideration of the bill stating that they supported the US Environmental Protection Agency's Design for the Environment (DfE) program. Rather than update their own list periodically, the DOH preferred to provide a web link to the EPA's website. Furthermore, although the law requires the DOH to "review and evaluate existing research regarding environmentally-sensitive cleaning and maintenance products," the interview with the state official revealed that the DOH did not complete this review due to resource limitations.

Five of the other laws (Connecticut, Illinois, Iowa, Missouri, and New York) involve guidelines that are (or are to be) internally established or approved by the managing department or other state agency, often the department of health. For example, Illinois³⁰ and Missouri³¹ have each issued guidance that specifies covered products and attributes and have identified certifications as prequalified or default compliant. The Missouri law requires that the guidelines are amended on an annual basis. However, a state official from the Missouri Department of Elementary & Secondary Education (DESE) confirmed that the content of the 2009 document has not changed, as there has been no reason to amend it.

³⁰ State of Illinois Green Governments Coordinating Council, *Guidelines and Specifications for the Green Cleaning Schools Act* (May 2008).

³¹ Missouri Department of Elementary and Secondary Education, *Missouri Green Cleaning Guidelines and Specifications for Schools* (January 15, 2009).

Table 3: Defining “Green Cleaning”

State	Selected Definitions Provided in Law	Disinfectant/Antimicrobial Exclusions
CT	“Green cleaning program’ means the procurement and proper use of environmentally preferable cleaning products in school buildings and facilities,” and “environmentally preferable cleaning product” is defined with reference to approved certification standards ¹	Does not include “any disinfectant, disinfecting cleaner, sanitizer or any other antimicrobial product” regulated under the federal pesticide law, FIFRA, ² or “any product for which no guideline or environmental standard has been established”
DC	<i>No definition</i>	<i>N/A</i>
HI	<i>No definition</i>	<i>N/A</i>
IL	<i>No definition</i>	<i>N/A</i>
IA	“Environmentally preferable cleaning and maintenance products’ includes <i>but is not limited to</i> cleaning and maintenance products identified by the department and posted on the department’s internet site” (emphasis added)	Should not “be interpreted in a manner that prohibits the use of disinfectants, disinfecting cleaners, sanitizers, or any other antimicrobial product regulated by [FIFRA] when necessary to protect public health”
ME	“A green cleaning program is one that uses cleaning products and disinfectants on the lists distributed under section 1 in a manner consistent with the green cleaning procedures described under section 1”	<i>N/A</i>
MD	“Green product cleaning supplies’ means environmentally preferable cleaning and maintenance products and supplies intended for routine cleaning and cleaning maintenance that perform well and have positive health and environmental attributes, including; biodegradability, low toxicity, low volatile organic compound content, reduced packaging, low life cycle energy use, and lesser or reduced effects on human health and the environment when compared to competing products that serve the same purpose.”	State guidelines “may not preclude the use when necessary of a disinfectant, disinfecting cleaner, sanitizer, or other antimicrobial product regulated by [FIFRA]”
MO	<i>No definition</i>	<i>N/A</i>
NV	“Environmentally sensitive cleaning and maintenance products’ means cleaning and maintenance products that reduce the chemicals, hazardous wastes and other environmental hazards to which pupils and school personnel may be exposed.”	<i>The exclusion in the original law was deleted when the law was amended</i>
NY	“Environmentally-sensitive cleaning and maintenance products’ means those cleaning and maintenance products that minimize adverse impacts on children’s health and the environment.”	<i>N/A</i>
VT	“Environmentally-preferable cleaning product’ means a cleaning product that has a lesser or reduced effect on human health and the environment when compared to competing products serving the same purpose.”	Nothing in the law “shall be construed to regulate the sale, use, or distribution of antimicrobial pesticides”

Table notes:

(1) Schools are also directed to use cleaning products that, among other things, “to the maximum extent possible, minimize the potential harmful impact on human health and the environment.” Conn. Gen Stat. Ann. § 10-231g (b).

(2) The Federal Insecticide, Fungicide, and Rodenticide Act, known as FIFRA.

Connecticut has also identified certifications for cleaning products, with information provided via the agency website.³² Further, several state laws feature, alongside listed labels, expansive clauses, such as “but is not limited to” (Iowa) and “any other nationally recognized independent third-party entity that certifies environmentally preferable products” (Maryland).

Vermont offers an option for cleaning products being sold to schools, authorizing either products that are certified by an independent third party or products that are used by the state’s department of buildings and general services under state contract. Rather than rely on a specific certification label, the Vermont Department of Buildings and General Services screens product proposals for a range of environmentally preferable criteria – incorporating exclusion criteria, desirable criteria, and asthmagens and respiratory irritant information – before awarding a state contract.³³

Only Connecticut’s law expressly prohibits the use of non-approved products. Specifically, the law states that “no parent, guardian, teacher, or staff member may bring into the school facility any consumer product which is intended to clean, deodorize, sanitize or disinfect.” Notably, the Connecticut School Indoor Environmental Resource Team (CSIERT) training program reported in 2011 that custodial and administrative staff identified staff and parents bringing outside products into schools as a significant problem.³⁴

Several laws include specific requirements for communicating information to help affected schools or districts identify green cleaning products. Four states (Connecticut, Illinois, Iowa, and Missouri) require that guidelines, specifications, or sample lists for green cleaning supplies be posted on specific state agency websites. Other states, such as Maine, require that such sample lists be distributed directly to school districts by the managing agency.

Maintaining a comprehensive product list online has been key to the success of New York’s green cleaning program, according to two interviewees, a state official, and a stakeholder. The website of the New York Office of General Services Environmental Services Unit, the agency responsible for the law’s implementation, maintains a continually updated product database. An official from this unit discussed how, when the law was initially enacted,

there were few products to choose from on the website and some schools were hesitant about efficacy and cost of products. Now, the website has close to 2,000 products listed, spanning five categories (green cleaning, floor finish, floor finish strippers, hand soap, and vacuum cleaners).³⁵ Anecdotally, the New York Office of General Services Environmental Services Unit found that with this more comprehensive list there have generally been very few calls about the law, which a stakeholder interpreted as indicative that schools are increasingly compliant.

State Agency Roles

Green cleaning is multifaceted, concerning purchasing, human health, environmental factors, and educational facilities. Therefore, a statewide program can involve engagement from several different agencies. The 10 state laws name an array of state agencies as responsible for implementation, including departments of education, health, the environment, and administrative services (see Table 4). In some cases, a law requires an agency to take a one-time action – such as issue guidelines – but in several states, the law intends ongoing actions. For example, Connecticut’s law requires triennial reporting, and Illinois’ law calls for ongoing assistance to schools and annual amendment of guidelines and specifications.

The state department of education has responsibilities under all of the state laws except Vermont, which shifts responsibility to distributors and sellers of cleaning products. Typical department of education responsibilities include developing guidance or product lists and providing information to school districts or schools. In several states, the department of education is effectively the managing agency. In five states, departments of administrative services have responsibilities relating to purchasing, including approving green cleaning standards, assisting with communication of standards, and assisting schools in implementing requirements. Most of the laws also involve the state department of health, generally to assist in developing guidelines, specifications, or product

³² See <http://www.csiert.org/index.php/ieq-tech-topics/cleaners-green-alternatives>.

³³ See Vermont Department of Buildings & General Services, Policy 0032: Use of Cleaning Products in State Facilities and Leased Properties, <http://bgs.vermont.gov/adminpolicies/policy32> and Environmentally Preferable Purchasing, <http://bgs.vermont.gov/sites/bgs/files/pdfs/BGS-Purchasing-enviro.pdf>.

³⁴ Connecticut Department of Public Health Environmental Health Section, *Final Report on School Facilities Training Project* (2011).

³⁵ See <https://greencleaning.ny.gov/Product/Default.aspx>.

Table 4: State Agencies with Green Cleaning Law Responsibilities

State	Departments Named in Law, by type				
	Education	Health	Environment	Administrative Services	Other
CT	•	•	•	•	
DC	•			•	
HI	•	•			
IL	•	•	•		Illinois Green Government Coordinating Council
IA	•			•	
ME	•		•		Board of Pesticides Control; Department of Agriculture
MD	•				
MO	•	•			
NV ¹					
NY	•	•	•	•	
VT		•		•	

Table Notes

(1) In Nevada, the law in effect from 2009 to 2015 assigned responsibility to the Department of Education with consultation from the departments of health and environment. The 2015 amendment repealed paragraphs assigning state agency responsibilities

lists. State environmental departments are included in several laws as collaborating with their respective state departments of education. Involving multiple state agencies can pose challenges. For example, in the District of Columbia, the D.C. Healthy Schools act establishes roles for several agencies that are related to green cleaning in schools. The Department of General Services is charged with promoting the EPA Indoor Air Quality Tools for Schools program (of which green cleaning is a component), and D.C. Public Schools (DCPS) is responsible for using environmentally friendly cleaning supplies in DCPS schools. In the District, custodial staff are employees of DCPS and report to their schools’ principals; and schools have significant independence for purchasing. To further complicate things, D.C. has an Office of Contracting and

Procurement, and both the Department of General Services and DCPS have independent procurement divisions as well. The existence of multiple purchasing avenues and decentralized school purchasing makes coordinating green cleaning purchases challenging. Finally, the District Department of the Environment, although it is not listed in the act, is also involved and planning to offer training and technical guidance to schools.

In New York, these challenges were avoided by the establishment of the New York State Office of General Services (OGS) Environmental Services Unit. The office is the primary agency responsible for the implementation of the New York Green Cleaning law and reports significant success from their management of a comprehensive

website. This website was set up to be a “one stop shop” for those affected by the law. Its creation and continued updating has allowed the program to be relatively self-sustaining, where schools and district staff rely on the website as a key resource, according to the stakeholder.

Other comments from stakeholders suggested that laws were sometimes passed without engagement from the respective agencies that would be tasked with their management. Furthermore, these agencies sometimes lacked expertise in green cleaning. This mismatch can contribute to agencies failing to complete tasks prescribed by the law. For example, according to the Nevada Department of Education, the agency lacked expertise and consequently did not issue regulations; this responsibility was recently repealed. In two other states, stakeholders noted a lack of awareness of the laws’ existence and were unsure if state agencies had completed responsibilities, suggesting capacity and/or lack of expertise. Another issue that can affect agency activities related to green cleaning is administration changes; in Illinois, the entity responsible for implementing the state’s responsibilities under its school green cleaning law appears to have become defunct after a new governor came into office.

Training

Education on a green cleaning law’s requirements and technical implementation can assist custodial staff, teachers, parents, students, and administrators in their roles. Training can also help make the case for green cleaning, educating the community about why it matters and why specific policies have been developed.

Only two states (Maryland and Vermont) have express requirements for green cleaning training in their school green cleaning laws. Maryland specifies that the green cleaning policies implemented by county boards must require training on implementing the policy. Vermont’s law requires distributors and manufacturers of cleaning products to provide green cleaning training at no added cost to every school district they serve. Vermont’s Envision Program report noted that over a third of responding schools desired more training in green cleaning.³⁶

Connecticut and New York, in particular, have developed robust training programs incorporating and focused on green cleaning, respectively. Connecticut’s law includes a provision for indoor air quality maintenance training for

building staff, and this requirement has generally been implemented to incorporate green cleaning (see effectiveness discussion above). The laws of the remaining six states and the District of Columbia do not mention training; however, some of these states have implemented training regardless (e.g., the District).

One common theme that emerged from interviews was that training programs for custodial staff are often not given enough time or attention. One official discussed how custodial trainings consist of a large quantity of information crammed into a day-long, lecture style session.

Connecticut School Facilities Training Project

Connecticut’s Indoor Environmental Quality Training Project was initiated by the state prior to the green cleaning law. The Environmental Health Section of Connecticut’s Department of Public Health established the School Facilities Training Project, a multi-year collaborative project to provide custodial and facilities staff the training and support to deal with indoor environmental quality (IEQ) issues.³⁷ The agency issued a one-time report summarizing the results of these efforts.

Though the Training Project was implemented prior to the passage of the law, it illustrates the utility of targeted training. The program includes refresher training and training of facility staff beyond custodians. In addition to training on general indoor air quality, the training also included a module on proper infection control in response to the H1N1 flu outbreak, during which schools were closed to perform expensive and unnecessary disinfections. In introducing this module, the training sought to further educate custodial staff on how to deal with future challenges in a more environmentally and financially responsible manner.

Since 2008, 44 training sessions reached 607 schools and 55 school districts throughout Connecticut. In total, 1,611 facilities staff were trained through the program. The final report on the Training Project found that 88 percent of the participants in the trainings rated the workshop as “useful to very useful” in helping the district implement a green cleaning program. The report also found that the green cleaning module of the training provided participants with information about the health effects of cleaning, which encouraged them to use green products. Overall, the report states that “the Custodians Training Program is a good example of a collaborative public health intervention.”

³⁶ Vermont Department of Health, 2012–2013 Envision Participation Survey Report

³⁷ Connecticut Department of Public Health Environmental Health Section, *Final Report on School Facilities Training Project* (2011).

New York

Similar conclusions were reached in New York. In its 2007 report on the impact of green cleaning guidelines and specifications following the legislation, NYSED found that, anecdotally, schools and districts that are most successful “appear to be those which fully embrace the concept of using less toxic, environmentally friendly cleaning products in schools, and who actively work with vendors and others to provide appropriate training to custodial and maintenance staff on the proper use of new products.”³⁸

New York also offers online green cleaning training through the website maintained by the OGS Environmental Services Unit. The website features a “program toolkit,” which provides guidance through eight online courses. Most of these training courses have pre- and post-tests to assess effectiveness, as well as a certificate of completion, which can be downloaded by users and presented to supervisors for professional development credit. The website additionally has a guide to establishing a green cleaning program, as well a database of customizable templates and documents that includes resources such as educational handouts, forms and spreadsheets for inventory and tracking of product usage, and policy guidance.³⁹

Missouri

The Missouri School Plant Manager’s Association (MSPMA) is an organization that seeks to provide information on school plant management, maintenance, and care, through training and resources.⁴⁰ Assisting in the implementation of Missouri’s green cleaning law, the organization holds an annual fall conference that is a multi-day training for school maintenance staff, including sessions that focus on green cleaning. Additionally, one of the largest cleaning suppliers in the state assists with training, providing updates on green cleaning products, equipment, and best practices every year. A state official discussed how valuable this supplier’s effort and technical expertise has been to the state agency in its support of the state law.

Concluding Remarks

State laws can go a long way to achieve school commitments to green cleaning, and the provisions within these laws can have a significant effect on the relative impact of each law. Interviews with state agency staff, associations, and nonprofit stakeholders indicated that laws perceived as effective tended to include reporting requirements and to require, rather than encourage, implementation of green cleaning. Lack of adequate staff support at the state level, as well as lack of resources, can pose significant challenges to a law’s effectiveness. The need for school-focused education about the purpose and requirements for green cleaning was also identified as critical, including not just training but broader awareness-building about green cleaning among school boards, administration, faculty, building maintenance staff, and the greater school community.

One unexpected finding was the extent to which outside contributions of cleaning products were viewed as potentially limiting the effectiveness of school green cleaning policies, indicated through the results of surveys in New York and Vermont, in particular. Nearly half of NYSED’s 2007 survey respondents indicated that students, faculty, or staff bring in outside cleaning products,⁴¹ and 74 percent of schools reporting to the Vermont Envision Program indicated that they allow staff to furnish their own cleaning supplies.⁴² This practice, largely not addressed by state-level laws, suggests that teachers and staff require additional resources and support for acquiring cleaning supplies.

Concerns about perceptions of higher costs of green cleaning products and practices need to be addressed and overcome both to mobilize and to ensure that enacted laws can be successful. Interviews and research suggest that comparative costs of green cleaning supplies has often been a concern for schools, districts, and state agencies.⁴³ With so many green practices and sustainable products, cost premiums decrease as time passes. Because of the ongoing efforts of individuals, organizations, and states mentioned

³⁸ New York Education Department, “Environmentally Sensitive Cleaning and Maintenance Product School Impact Report Pursuant to Chapter 584 of the Laws of 2005” (June 2007, revised 2010).

³⁹ <https://greencleaning.ny.gov/DownloadCenter/Default.aspx>

⁴⁰ <http://www.mspma.com>

⁴¹ *New York State Environmentally Sensitive Cleaning and Maintenance Product Use in Schools Impact Survey*

⁴² Vermont Department of Health, 2012–2013 Envision Participation Survey Report

⁴³ See, e.g. House File 823, Iowa Code 8A.318, Environmentally Preferable Cleaning Products Mandate (July 1, 2012), in which many school districts opting out of the Iowa green cleaning mandate cited cost concerns.

in this paper, today we know that many green cleaning products do not have to cost more for U.S. schools.

Twenty percent of states have enacted laws addressing green cleaning products and practices in schools, marking significant progress; yet it still means that the majority of our public schools do not have a mandate from their states and, quite likely, direction on products that can help them keep schools healthy and safe. Our research and interviews suggest that state school green cleaning laws have tremendous potential for raising awareness around and encouraging green cleaning products and practices in schools. Whether or not they consider a law addressing school green cleaning, the remainder of the states now have the opportunity to build on these experiences to find even better, more creative ways to mobilize schools in their use of cleaning materials that will promote and enhance a healthy environment for our children.

Acknowledgements

The authors gratefully acknowledge the contributions of time by state and federal officials and nonprofit organization staff, who shared their experiences and relevant information with us. We thank Lesliam Quirós-Alcalá, Assistant Professor, Applied Environmental Health, University of Maryland for her contributions to framing the report. We thank Mark Bishop of the Healthy Schools Campaign for his expertise; ISSA, The Worldwide Cleaning Industry Association for providing useful resources; and anonymous reviewers of the paper, each of whom provided helpful insights. We also thank Tobie Bernstein of the Environmental Law Institute, who provided helpful perspective as we initiated this project, and our colleague Anisa Baldwin-Metzger for her guidance and encouragement throughout.

Appendix A: Key Resources Related to State School Green Cleaning Laws

Department of Education

- ▶ Green Strides: Tools to Green Your School, <http://www.greenstrides.org/>
- ▶ Institute of Education Sciences: Education Resources Information Center (ERIC), <http://ies.ed.gov/ncee/projects/eric.asp>

Environmental Law Institute (ELI)

- ▶ Topics in School Environmental Health: Overview of State Laws, <http://www.eli.org/buildings/topics-school-environmental-health-overview-state-laws>
- ▶ Green Cleaning in Schools: Developments in State Policy, <http://www.eli.org/buildings/green-cleaning-schools>

Healthy Schools Campaign (<http://www.healthyschoolscampaign.org/>)

- ▶ Green Cleaning in Schools Program, <http://greencleanschools.org/>
- ▶ Green Cleaning Advocacy Handbook, <http://greencleanschools.org/policies/handbook/>

Healthy Schools Network (<http://www.healthyschools.org/>)

ISSA, The Worldwide Cleaning Industry Association (<http://www.issa.com/>)

- ▶ Green Cleaning Product Procurement Policies, Initiatives, and Requirements in the U.S. (2006, revised January 25, 2012)
- ▶ ISSA's Cleaning Industry Management Standard for Green Buildings (CIMS-GB), http://www.issa.com/certification-standards/cleaning-industry-management-standard-cims/cims-green-building.html#.VbZh6_IViko

Healthy Schools Network (<http://www.healthyschools.org/>)

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

- ▶ EQp Green Cleaning Policy Template, <http://www.usgbc.org/resources/eqp-green-cleaning-policy-template>

National Association of State Boards of Education (<http://www.nasbe.org/>)

National Clearinghouse for Educational Facilities, a program of the National Institute of Building Sciences (http://www.ncef.org/rl/green_cleaning.cfm)