

*2003 School District Waste  
Reduction Survey—  
Final Report*

*March 2004*

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## Executive Summary

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The School Diversion and Environmental Education Law<sup>1</sup> (DEEL), specifically PRC Section 42646, specifies that, by January 2004, the Board is to evaluate the implementation of waste reduction programs in the State's schools. The School DEEL further requires that if, as a result of this assessment, the Board determines that less than 75 percent of schools have implemented a waste reduction program, it must recommend to the Legislature those statutory changes needed to require schools to implement such programs.

To assess statewide school districts' implementation of waste management programs, the California Integrated Waste Management Board (Board) conducted a survey in 2003. The 2003 Survey was developed and made available to school districts in an on-line survey format, through coordination with the Board's Information Management Branch (IMB). A copy of the Survey tool is included as Appendix C.

### Recommendations

State law provides that if the Board determines that less than 75% of schools are participating in diversion programs it must make recommendations for statutory changes needed to require schools to implement such programs. While the response rate of 42% of school districts, representing approximately 55% of all schools and students, is considered good, it is not possible to determine if 75% of schools are participating in diversion programs. This is the result of schools not being mandated to participate in the survey process. For this reason Board staff does not recommend statutory changes at this time; however, there are a number of voluntary actions that can be taken over the next eighteen months that may be quite effective in promoting the implementation of school district waste reduction programs.

### Short Term

Within the next six months, Board staff plans to initiate the following efforts as they relate to the findings of the 2003 Survey.

1. The 2003 Survey Final Report and individual school district responses will be made available on the Board's Web site. A number of new data reports will also be provided through coordination with IMB. The Board's Web-based School Profiles pages will also be updated to reflect current school district program implementation and contact information.
2. The Board's Office of Local Assistance (OLA) staff will continue to promote these new and updated resources to local jurisdictions and school district representatives, including information regarding how the new Survey responses and reports can be used to improve the environmental and economic performance of their districts.

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<sup>1</sup> Senate Bill 373 (Torlakson, Chapter 926, Statutes of 2001)

3. To promote sustainable school buildings, OLA staff will coordinate with the Board's Sustainable Building Section as appropriate to connect them with those school districts reporting planned school construction projects.
4. Similarly, to promote increased communication of school waste management education and assistance information, OLA staff will coordinate with the Board's Office of Integrated Environmental Education to connect them with those districts reporting interest in receiving the Board's Environment Matters electronic newsletter.
5. OLA staff will continue to coordinate with the Board's Buy Recycled staff to evaluate the Board's existing buy-recycled information, tools and outreach efforts for school districts in an effort to increase the implementation of district-wide buy-recycled and other environmentally preferable purchasing programs.
6. OLA staff will further research the reported composting program implementation. The findings and any related follow-up will be coordinated with the Board's Organics Materials Management staff.
7. Similarly, OLA staff will perform follow-up analyses regarding the responding districts' efforts to divert food waste. Again, the findings and any related follow-up will be coordinated with the Board's Organics Materials Management staff.
8. OLA staff will continue to promote the Board's School Waste Management Education and Assistance resources and encourage districts to explore the different options for addressing recycling program implementation through existing or new solid waste management contracts to achieve not only increased diversion, but also potential cost savings.

#### Long Term

Over the next eighteen months, Board staff plans to initiate the following efforts as they relate to the findings of the 2003 Survey.

1. OLA staff will continue to partner with school district professional organizations to promote the implementation of school district waste reduction programs and the Board's related School Waste Management Education and Assistance tools and resources.
2. The Survey data will be used to tailor outreach efforts to assist local jurisdictions hosting school districts with minimal diversion programs. Additionally, OLA staff will continue to research school district diversion trends and develop the Board's assistance information, tools and other resources to address changing needs. OLA staff will also continue to develop school district diversion models for the Board's School Waste Management Education and Assistance Web pages.
3. OLA staff will investigate the trends in reported barriers (to implementing waste reduction programs) related to district size, and seek models to illustrate how other districts have attempted to address and overcome these specific challenges.

4. The Board will conduct school district waste reduction surveys in the future. As an initial step in developing the Survey, OLA staff will evaluate and revise, as necessary, the Survey tool to facilitate the collection of desired data. Additionally, Board staff will identify and implement actions in an effort to increase the Survey participation rate. Collecting additional information may also be useful for identifying and developing case studies.

## **Background**

### Survey Approach

The Board contacted all 983 school districts as provided by the California Department of Education (CDE). Board staff sent an announcement of the Survey's availability, which included a link to the Survey Web page, user name and password, to each school district superintendent the first week of December 2003. Additionally, the Board sent an e-mail notification to each City and County AB 939 coordinator to inform them of the Survey and encourage them to coordinate with their school districts. Upon receiving the first Survey results, staff sent out another notification to school districts, as well as personally contacting additional districts. The Survey data represents every county in the State, and a range of school district sizes. A complete enumeration of the data collection efforts is provided in Table 1 of the full report.

### Response Rate

Of the 983 school districts that were sent surveys, 412 districts responded (42%). According to a documented statistical source, completion rates on mail questionnaires with figures of 40 to 50 percent response rates are considered good. The responding 412 school districts represent approximately 55% of the total schools and student population statewide. Additionally, all counties are represented by at least one responding district. The survey results also include responses from each of the Board's Environmental Ambassador Pilot Program (EAPP), and 11 of the 12 Unified Education Strategy (UES) grantees.

### Survey Results

The following is a summary of the districts' Survey responses by waste reduction activity. A complete summary of the Survey data is provided in Appendices A and B.

#### *Waste Prevention*

- The Survey data suggest that having of a formalized waste reduction policy or plan relates to school district size. School districts in the largest size category (with greater than 5000 students) reported the highest level of formalized waste reduction policy or plan and districts in the smallest size category (with less than or equal to 5,000 students) responded with the lowest level.
- 98% of the responding school districts indicated that they participate in some type of waste prevention activity. The most common waste prevention activities reported include: e-mail and electronic faxes, double sided copying, and returning toner cartridges for refill.

#### *Recycling*

- 92 % of districts appear to be participating in some level of recycling programs. Of the districts that reported participating in recycling activities, the most commonly recycled materials include: aluminum cans, white paper, and cardboard.
- Based upon the survey results, implementation of a formalized district-wide recycling program appears to relate to school district size. A greater percentage of larger school districts reported having the district coordinate district-wide recycling activities as well as having a service contract for collection of recyclables than reported by smaller districts.

#### *Composting*

- Overall 44% of school districts have implemented some type of composting program. The most common material types these districts reported composting are grass clippings, landscape trimmings and garden trimmings.

#### *Buy Recycled*

- 8% have a **written** policy for the procurement of recycled-content products.
- Additionally, 62% indicated that they purchase some type of recycled-content products. The buy-recycled activities more frequently reported include: purchase of recycled-content paper products, purchase of recycled-content products other than paper, and use of mulch generated by the district.

#### *Construction*

- 58% plan new building construction or renovation projects to begin within the next two years.

#### *Technical Assistance*

- 32% indicated they would be interested in receiving technical assistance to help implement a district-wide diversion program.

#### *Environment Matters Newsletter*

- 58% requested to be put on the mailing list to receive the Board's quarterly electronic newsletter on environmental issues.

For additional information about the survey findings and analysis, please contact Chris Kinsella at (916) 341-6274 or [ckinsell@ciwmb.ca.gov](mailto:ckinsell@ciwmb.ca.gov).

## **SECTION 1.0 INTRODUCTION**

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The School DEEL specifies that, by January 2004, the Board is to evaluate the implementation of waste reduction programs in the State's schools; and if, as a result of this assessment, the Board determines that less than 75 percent of schools have implemented a waste reduction program, it must recommend to the Legislature those statutory changes needed to require schools to implement such programs. To evaluate school districts' implementation of waste management programs, the Board conducted a survey in 2003. The Board's 2003 Survey results are the focus of this report.

The Survey results are also a powerful tool for identifying assistance needs at the school district, jurisdictional and statewide levels. School district waste reduction programs can significantly assist cities and counties in meeting the solid waste diversion goals set forth in PRC Section 41780 (AB939 requirements). Additionally, waste reduction programs can help school districts minimize the expenditure of education dollars on solid waste collection and disposal. School districts continue to demonstrate that they can achieve greater economic and environmental performance through improved solid waste management programs that emphasize waste prevention, reuse and recycling. By understanding which waste diversion programs districts are already implementing, and identifying areas of need, Board staff can better assist local jurisdictions and their respective school districts through the continued development and improvement of technical assistance tools and resources.

## **SECTION 2.0 SURVEY METHODOLOGY**

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### **2.1 Survey Tool**

A significant change in the 2003 Survey from prior years was the development and availability of an on-line survey format, made possible through coordination with the Board's IMB. A copy of the Survey tool is included as Appendix C. The on-line survey format provides the following benefits:

- Affords the school districts with a convenient tool to complete the Survey;
- Offers Board staff greater data accessibility to help those school districts and local jurisdictions requesting assistance;
- Provides built-in quality control and automates data calculations;
- Allows for more efficient publishing of Survey results and subsequent reports on the Board's Web site; and
- Increases the ease of performing future on-line school district waste reduction surveys.

### **2.2 Survey Design**

The Board contacted all 983 school districts<sup>2</sup> as provided by the CDE. A number of methods were used to inform and encourage school districts to submit their Survey. Board staff sent an

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<sup>2</sup> The Survey population included all the school districts provided by the CDE for the 2003-2004 school year, with the exception of County Offices of Education and districts with incomplete profile data (e.g., no data for number of schools or student enrollment).

announcement of the Survey’s availability, which included a link to the Survey Web page, user name and password, to each school district superintendent the first week of December 2003. Additionally, the Board sent an e-mail notification to each City and County AB 939 coordinator to inform them of the Survey and encourage them to coordinate with their school districts.

Attempts were also made to assure that the Survey data represented every county in the State, and a range of different sized school districts. Upon receiving the first Survey results, Board staff sent out another notification to school districts, as well as personally contacting additional districts via phone and/or e-mail. In the interest of getting a response rate that represented the greatest number of schools and student enrollment, the largest school districts were contacted more frequently. Data collection continued through March 8, 2004. A complete enumeration of these data collection efforts is provided in Table 1 below.

**Table 1: Timeline of Data Collection Steps for the 2003 Survey**

Survey Data Collection Steps	Approach	Date	Week of Data Collection
1. Sent letters to superintendents regarding the Survey and to request submittal by December 19, 2003.	First-Class Mail	December 3, 2003	1
2. Sent letters to 2000 Survey respondents regarding the 2003 Survey and to request submittal by December 19, 2003.	First-Class Mail	December 3, 2003	1
3. Updated all local jurisdictions regarding Survey mailing to superintendents encouraging them to offer their local school districts assistance in completing the Survey.	E-mail	December 4, 2003	1
4. Requested the Board’s Environmental Ambassador Pilot Program (EAPP) and Unified Education Strategy (UES) grantees submit their Surveys.	E-mail Phone	December 4, 2003	1
5. Published article in the Board’s “Environment Matters” Electronic Newsletter	Electronic news- letter and Posting on the Board’s Web-site	December 29, 2003	5
6. Sent a reminder notice to district superintendents via the CDE electronic newsletter to complete the Survey and to note an extension of the deadline to January 16, 2004.	E-mail (electronic newsletter)	December 30, 2003	5
7. Called the largest 14 non-responding school districts to encourage them to complete the Survey.	Phone E-mail	January 24, 2004 through February 11, 2004	8-11
8. Sent letter to superintendents of the next 136 largest districts requesting submittal of the Survey by the extended deadline (February 11, 2004).	First-Class Mail	January 29, 2004	9
9. Followed-up with UES grantees requesting them to complete the Survey.	E-mail Phone	February 3, 2004	10
10. Contacted the school districts that had logged on, but had not completed and submitted the Survey (50 districts) requesting that they complete and submit the Survey.	E-mail	February 4, 2004	10
11. Reminded all school districts that had previously logged-on to please complete and submit the Survey (and thanking those that had submitted their Surveys).	E-mail	February 11, 2004	11

### 2.3 Response Rate

Of the 983 school districts that were sent surveys, 412 districts, or 42%, responded. According to a documented statistical source, response rates on mail questionnaires with figures of 40 to 50 percent response rates are considered good.<sup>3</sup> The 412 responding school districts represent approximately 55% of the total schools and student population statewide. Additionally, all counties are represented by at least one responding district. The survey results also include responses from each of the Board's EAPP grantees and 11 of the 12 UES grantees.

Additionally, for analysis purposes (see Appendix B), the survey data were grouped into enrollment categories:

- ≤2,500 students;
- 2,501 to 5,000 students;
- 5,001 to 10,000 students; and
- >10,000 students.

The percentage of responding districts within each of these enrollment categories is generally reflective of the percentages of total districts in each respective enrollment category. Additionally, the individual response rates calculated within each enrollment category are relatively comparable across these district size categories. More school districts in the largest enrollment category responded to the Survey than districts in the other three enrollment categories, which is consistent with the follow-up Survey solicitation efforts to target the largest school districts.

## SECTION 3.0 SURVEY RESULTS

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The Survey results are presented first by a summary of the 2003 Survey responses, followed by analyses of these data.

### 3.1 Summary of Survey Responses

The following is an overview of the Survey responses by waste reduction activity. A complete summary of the districts' responses is provided in Appendix A.

#### *Waste Prevention*

- Of the reporting school districts, 11% have a **formal** (i.e., written) waste prevention plan or policy.
- Independent of having a formal waste prevention policy, 98% of the responding school districts indicated that they participate in some type of waste prevention activity.
- The most common waste prevention activities reported include:
  - 91%- Use e-mail and electronic faxes
  - 79%- Make double-sided copies
  - 65%- Send back toner cartridges for refill

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<sup>3</sup> Warwick. Donald P. and Lininger, Charles A., The Sample Survey: Theory and Practice (New York: McGraw-Hill, Inc., 1975), 129

### *Buy Recycled*

- 8% of the participating school districts reported having a **written** policy for the procurement of recycled-content product.
- Additionally, of the reporting school districts, 62% indicated that they purchase some type of recycled-content products.
- The buy-recycled activities reported include:
  - 52%- Purchase recycled-content paper products
  - 29%- Purchase recycled-content products other than paper
  - 24%- Use mulch/compost generated from the district
  - 4%- Purchase rerefined oil for vehicles, buses, etc.

### *Recycling*

- Of the responding districts, 28% reported that the district office coordinates district-wide recycling activities.
- 92% of the reporting school districts indicated that some or all of their schools are engaged in various levels of recycling.
- Of the districts that reported participating in recycling activities, the most commonly recycled materials include:
  - 77% - Aluminum cans
  - 72% - White paper
  - 69% - Cardboard

### *Composting*

- 44% of the school districts reported having implemented some type of composting program.
- The most common material types composted are:
  - 38% - Grass clippings
  - 31% - Landscape trimmings
  - 20% - Student garden trimmings

### *Transportation*

- Of the school districts surveyed, 66% reported having a contract for solid waste hauling, and 45% indicated that the school district has a service contract for collection of recyclables.
- The most commonly reported modes of transportation of recyclables are:
  - 55% - Private hauler, same one that hauls the garbage
  - 44% - Self haul (e.g. teacher, janitor, volunteer)
  - 19% - Recycler, different from garbage hauler

### *Barriers*

- 92% reported experiencing some type of barrier to their waste reduction efforts. The following are the primary barriers identified by these school districts:
  - 63% - Staffing and/or supervision
  - 55% - Storage of recyclables
  - 42% - On-site collection

### *Construction*

- 58% of the reporting districts stated that they planned new school building construction or renovation projects to begin within the next two years.

### *Technical Assistance*

- 32% of schools district that returned the Survey indicated they would be interested in receiving technical assistance to help implement a district-wide diversion program.

### *Environment Matters Newsletter*

- 58% of the school districts that returned the Survey requested the Board's quarterly electronic newsletter on environmental issues, Environment Matters.

### *School District Contact for Waste Reduction Activities*

- Most of the Surveys were completed by the Superintendent, Assistant Superintendent, Chief Business Official, Business Manager, Administrative Assistant, Principal, Director of Maintenance and Operations and/or Facilities or District Secretary.

## **3.2 Analysis of Survey Results**

The School DEEL provides that if the Board determines that less than 75% of schools are participating in diversion programs, it must make recommendations for statutory changes needed to require schools to implement such programs. Staff made numerous attempts to get Survey responses from all public schools in the State from which to evaluate whether 75% of the schools are participating in diversion programs (see Table 1). Board staff, however, was unable to make this determination because school districts and schools are not required to submit information to the Board despite the various attempts by Board staff. While the Survey response rate of 42% of school districts, representing 55% of total student enrollment and schools, is considered good, Board staff cannot use the data to determine with acceptable statistical confidence whether 75% of schools are participating in diversion programs. While it cannot be determined if 75% of schools are participating in waste reduction programs, Board staff do provide a number of short and long term recommendations that do not require statutory changes. Board staff will also continue to use the Survey data to assist local jurisdictions and school districts reduce solid waste generation at schools, and to tailor the Board's School Waste Management Education and Assistance program.

All of the responding school districts reported participation in a number of waste prevention and/or recycling activities in 2003. A majority of the programs reported being implemented address the largest two components of the waste stream: paper and organics. The Survey results also suggest some notable differences in program implementation efforts relative to district size. A complete summary of the districts' responses by district size is provided in Appendix B.

*District-wide Waste Reduction Efforts*

- One of the key findings from the Board’s 2000 School District Diversion Study<sup>4</sup> was the importance of institutionalizing school waste reduction programs in the business practices of districts. As with the 2000 School District Diversion Study, the 2003 Survey results demonstrate that although school districts are implementing a number of waste reduction activities, these efforts are typically not implemented in a consistent manner across school sites. For example, although a high percentage of districts reported that at least one of their schools implements one or more of the waste reduction programs included in the Survey, only 11% have a formal (i.e., written) waste reduction plan or policy. This, again, highlights the need to institutionalize the waste reduction programs throughout the school districts. As a result, Board staff will continue to promote and highlight the benefits of implementing a district-wide waste reduction program.
  
- Of the responding school districts, 66% reported having a contract for solid waste hauling, and 45% indicated that the school district has a service contract for collection of recyclables. Additionally, 55% responded that the same hauler that collects the garbage also transports the district’s recyclables to market (see Chart 1). These data suggest that a large percentage of the responding school districts are addressing their solid waste management needs at a district-wide level, and there is a continued opportunity for the Board to promote its resources to encourage districts to explore the different options for addressing recycling program implementation through existing, or new solid waste management contracts. Incorporating recycling activities into a new or existing solid waste management contract is an efficient and cost effective way to institutionalize such practices into the district’s business practices

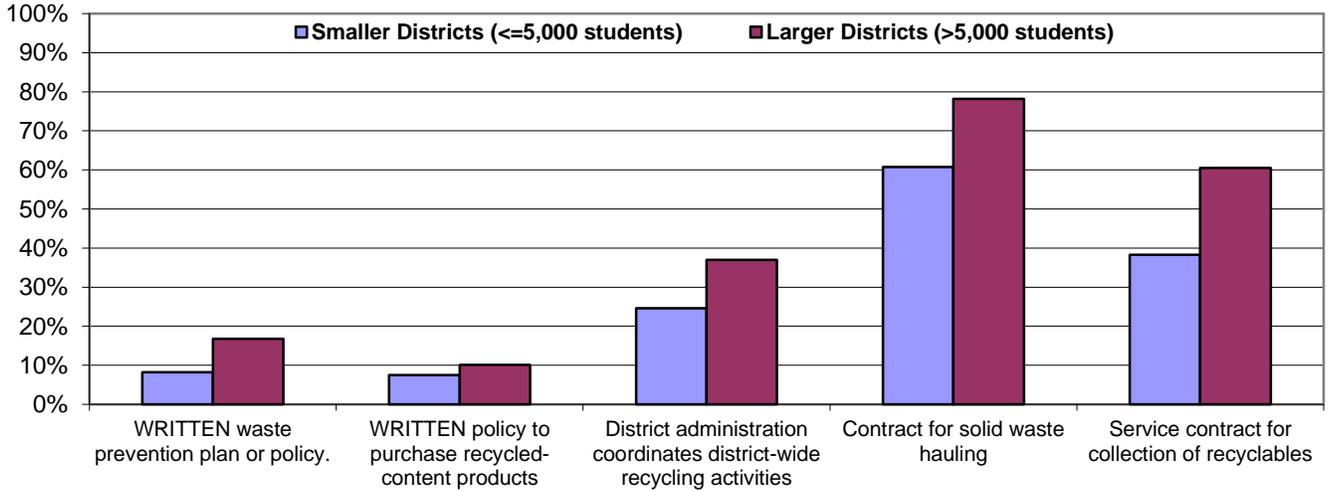
The fact that only 28% of districts reported that the district administration coordinates district-wide recycling activities may be due to confusion regarding the Survey questions. Generally, contracts for recycling collection are a part of a district’s solid waste management contract. Regardless, such contracts typically serve the entire district and are normally managed through a district administrative office such as procurement, business services or the maintenance and operations department. As a result, districts that report having such contracts would, in fact, have recycling activities coordinated through the district administration. Board staff will evaluate the Survey tool and make adjustments as necessary to clarify these questions and ensure more reliable data for future surveys.

<b>Chart 1: District-wide Solid Waste Management Information</b>	<b>Percentage of Districts</b>
School district with a WRITTEN waste prevention plan or policy	10.68%
Districts that have a WRITTEN policy to purchase recycled-content products	8.25%
School districts whose administration coordinates district-wide recycling activities	28.16%
Districts with a contract for solid waste hauling	65.78%
School district that have a service contract for collection of recyclables	44.66%
A private hauler (same one that hauls the garbage) transports recyclables to market	55.34%

<sup>4</sup> This report is available at <http://www.ciwmb.ca.gov/schools/WasteReduce/Report2000/>

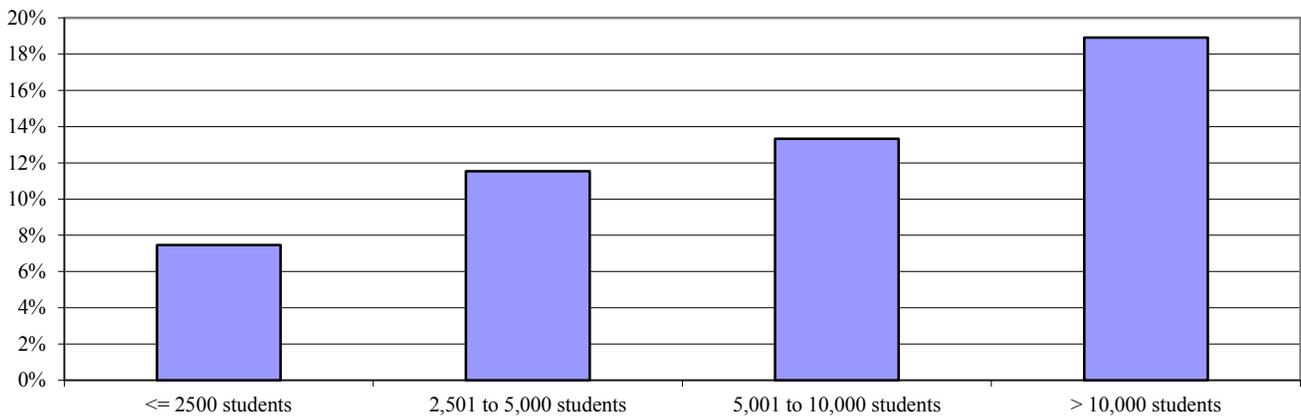
- The Survey data demonstrate a potential trend in the implementation efforts between larger (student enrollment greater than 5,000) and smaller school districts (student enrollment equal to or less than 5,000). It appears that a greater percentage of larger school districts implement *district-wide* solid waste management programs (see Graph 1).

**Graph 1: District-wide Solid Waste Management Program Information**



For example, school districts in the largest size category reported the highest percentage of formalized waste reduction policies or plans, and districts in the smallest size category responded with the lowest level, as illustrated in Graph 2 below. Board staff will investigate the opportunity to develop more customized school-related waste reduction resources tailored to district size and the corresponding needs.

**Graph 2: Does the school district have a WRITTEN waste prevention plan or policy?**

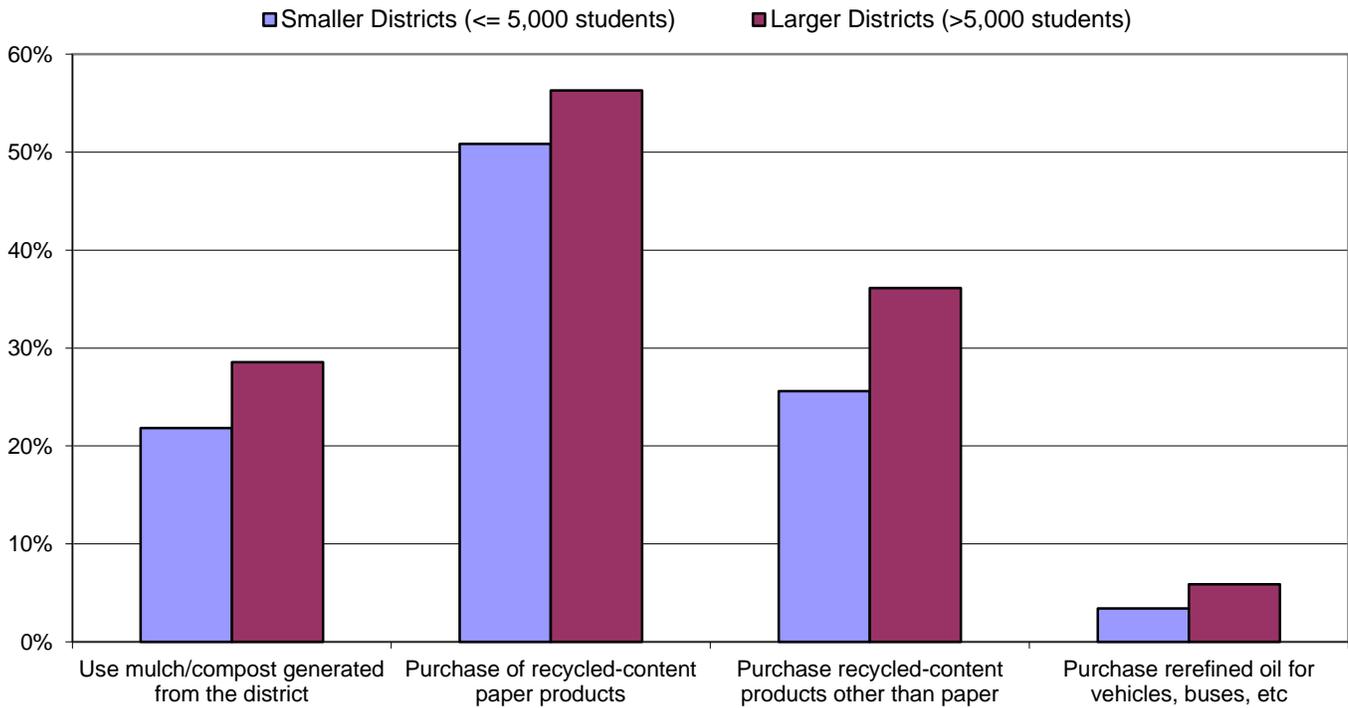


### Buy-Recycled

- 52% of responding school districts reported purchasing recycled-content paper products.
- The data suggest that buy-recycled activities relate, again, to district size, with a higher percentage of the larger districts reporting the purchase of recycled-content products than smaller districts (see Graph 3). The percentage of school districts reporting buy-recycled activities increases with the school district size.

School districts purchase a significant amount of paper and other material available with recycled-content and have options to piggy-back onto existing local and/or State buy-recycled contracts to achieve potential cost savings. Board staff will consider how to promote the benefits of purchasing recycled-content products and to improve the effectiveness of the Board's related resources, such as developing case studies highlighting the benefits (e.g., cost savings and quality) of using recycled-content and other environmentally preferable products.

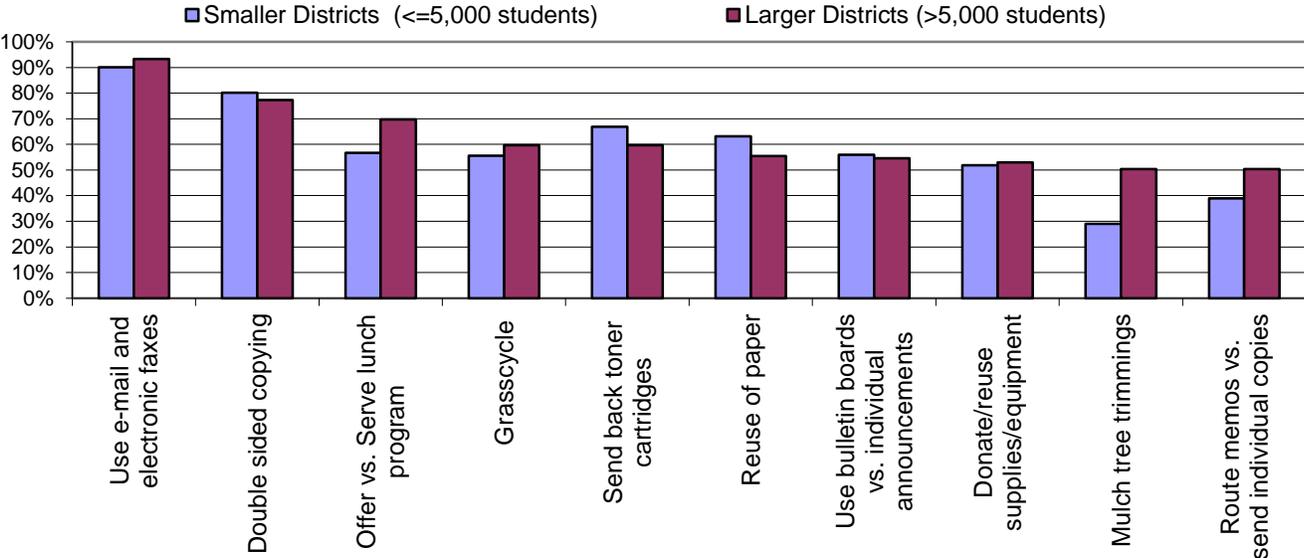
**Graph 3: Buy-Recycled Program Implementation**



*Waste Prevention Activities*

- Based on the Survey results, use of e-mail and electronic faxes, double-sided copying, Offer vs. Serve lunch program and grasscycling appear to be common practice (see Graph 4). These programs have not only proved to reduce the generation of waste, but also typically demonstrate a cost benefit to districts. Collecting additional information for case studies on the environmental and economic benefits of such programs could help promote these programs statewide.
- Organic waste, specifically food waste, is a significant component of the school waste stream. The data demonstrate, however, a relatively low percentage of districts reporting food scrap recycling (9%), donating excess food (10%) and composting/vermicomposting (compost w/worms) efforts (19%). In contrast, a high percentage of districts reported participation in the Offer vs. Serve lunch program<sup>5</sup> (61%). Board staff will perform follow-up analyses on school district organic waste diversion efforts to investigate whether these findings suggest a movement towards waste prevention as the primary material management strategy.
- 39% of the responding school districts indicated implementing “other waste prevention” activities. OLA staff will consider collecting additional information from these districts to determine what other types of activities are occurring, and to develop case studies.
- A larger percentage of smaller school districts reported washing cafeteria trays, dishes, or reusable implements than larger districts. This may be connected to the increasing popularity of centralized food service systems as viable alternatives with respect to cost and labor efficiencies for larger school districts, and the relative ease of implementation for smaller districts that may be more likely to have on-site kitchen facilities.

**Graph 4: Waste Prevention Program Implementation**

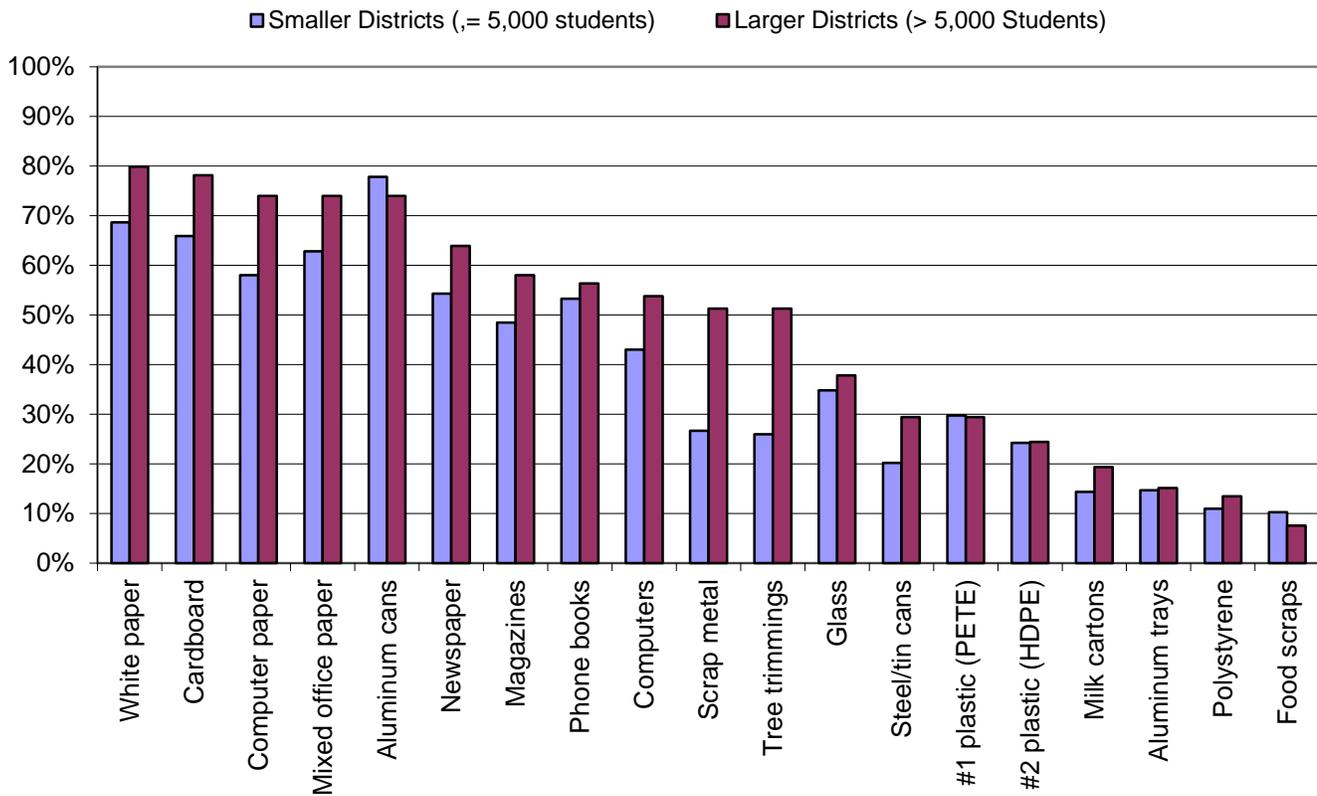


<sup>5</sup> Offer vs. Serve allows students to decline lunch items they do not intend to eat. This strategy reduces food waste by not requiring students take food they do not plan to eat, while still meeting federal nutritional standards.

### Recycling Activities

- Again, based upon the survey results, implementation of a formalized district-wide recycling program relates to school district size. A greater percentage of larger school districts reported having the district coordinate district-wide recycling activities, as well as having a service contract for collection of recyclables than reported by smaller districts.
- The largest school districts report a higher level of participation in recycling all but three of the twenty materials [aluminum cans, #1 plastic (PETE), and food scraps] included in the Survey. This may be related to the greater ability of larger districts to generate and market larger volumes of recyclables, as well as closer proximity to recycling markets (see Graph 5).
- Smaller districts reported the greatest participation in aluminum can and food scrap recycling. These districts also reported the highest participation in self-hauling recyclables to market compared to districts in the other enrollment categories. Self-haul, as well as food scrap recycling, require increased coordination between program participants, and in many cases, the assistance of volunteers. It is therefore not surprising to see smaller districts having greater implementation of such programs, as it is likely easier for smaller school districts to facilitate such coordination. This is supported by the higher percentage of larger districts reporting barriers to implementing waste reduction programs regarding motivating staff, faculty or students and meeting resistance from staff, faculty or students to change.

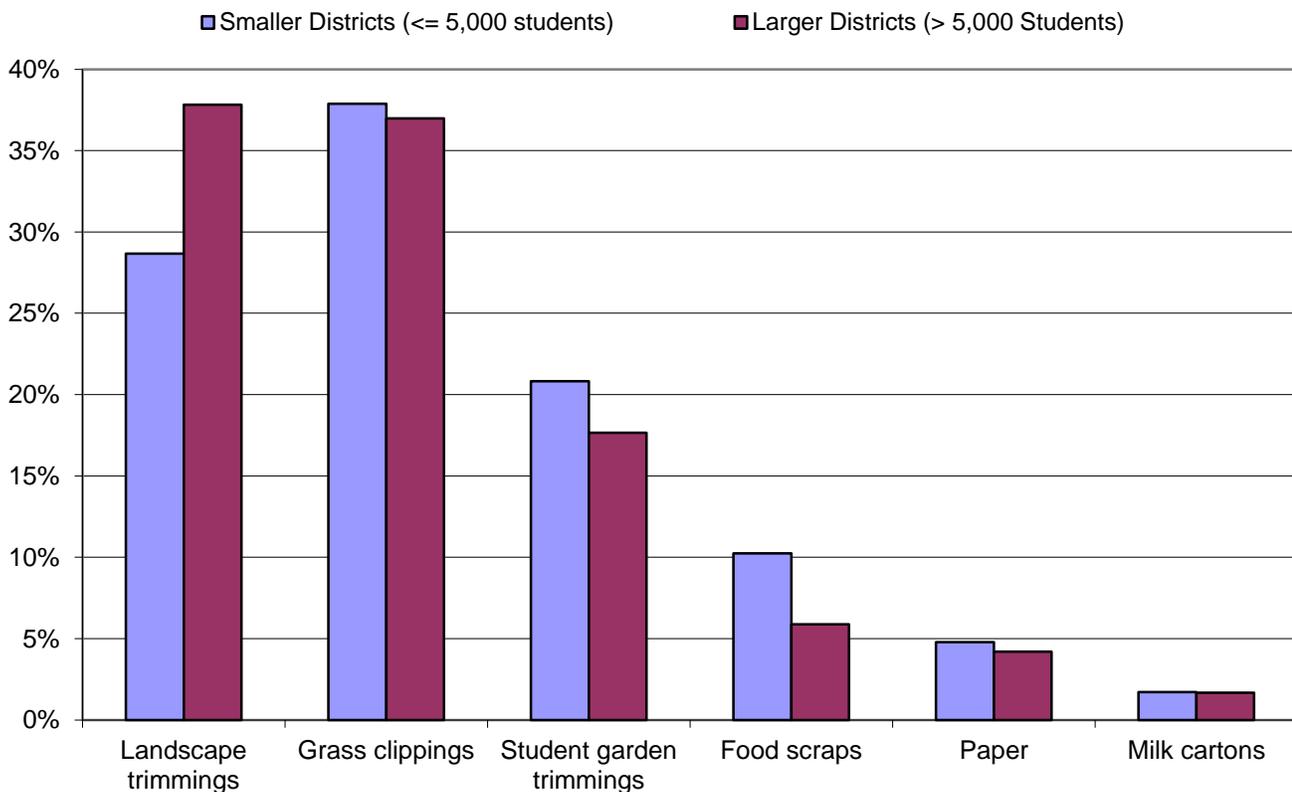
**Graph 5: Recycling Program Implementation**



### Composting Activities

- With organic waste as the second largest component of the school waste stream, Board staff will further analyze the Survey data to assess whether the lower implementation rates for composting activities (grass clippings at 38% and landscape trimmings at 31%) and higher rates for waste prevention programs, such as grasscycling (57%), may relate to a shift in material management towards waste prevention. Additionally, Board staff will strategize on how to assist school districts in effectively targeting this waste type.
- A greater percentage of smaller districts reported implementing each of the composting activities included in the Survey with the exception of landscape trimmings (see Graph 6).
- A small percentage of school districts reported composting milk cartons, but a greater percentage report recycling this material. This appears to be another example of a potential shifting the method of material management. If local recycling opportunities exist, it is most likely less labor intensive to have this material collected for recycling than collecting and composting it on-site.

**Graph 6: Composting Program Implementation**

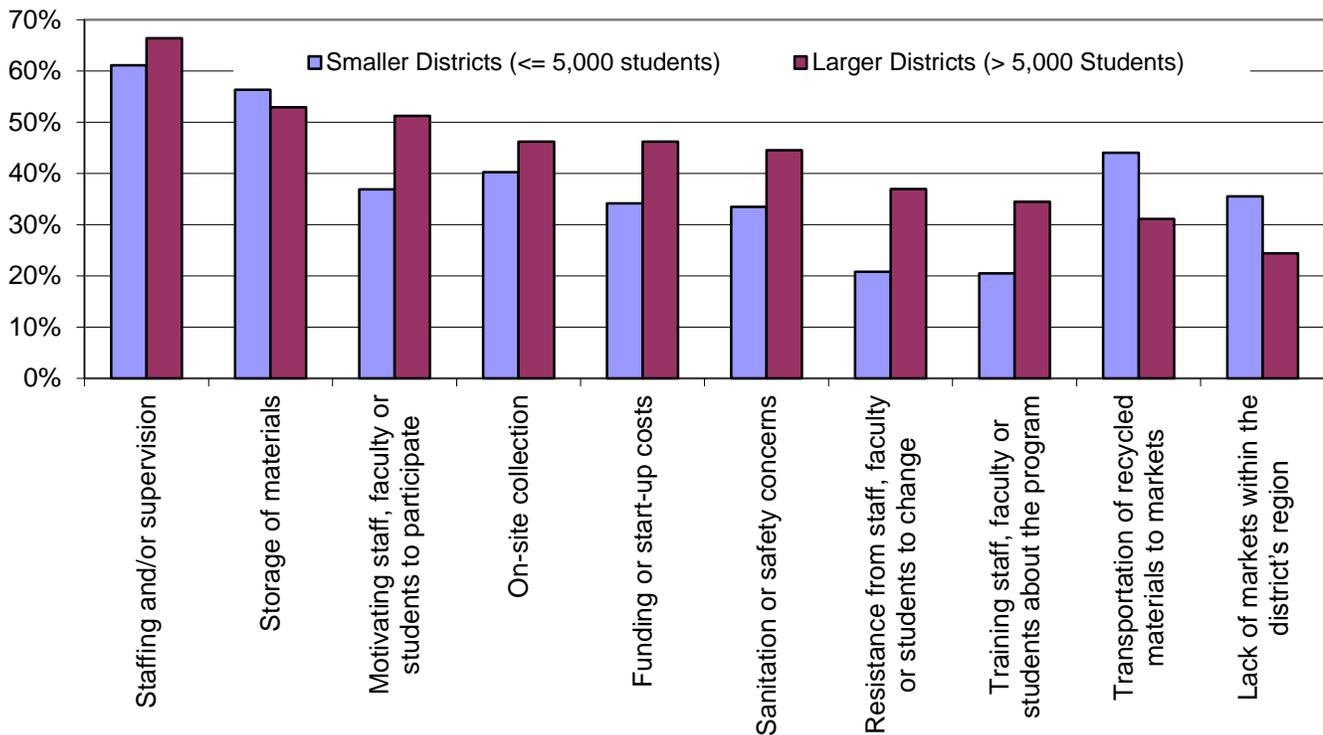


*Barriers*

- Barriers appear to relate to the size of the school district. The larger the school district, the more barriers reported (see Graph 7).
  1. The largest school districts reported having the highest percentage of barriers relating to motivating staff, faculty or students, meeting resistance to change from staff, faculty or students and training staff, faculty or students about the program when compared to smaller districts. Districts with the highest student enrollment also reported the highest percentage of barriers relating to on-site collection, sanitation or safety concerns and funding or start-up costs.
  2. Smaller districts reported having the highest rate of barriers relating to transportation of recycled materials to markets and lack of recycling markets compared to the larger districts.

Board staff will be further analyzing the reported barriers to develop tools and other resources that can assist school districts in addressing and overcoming such challenges.

**Graph 7: Barriers to Waste Reduction Program Implementation**



## **SECTION 4.0      RECOMMENDATIONS**

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The School DEEL specifies that if the Board determines that less than 75% of schools are participating in diversion programs it must make recommendations for statutory changes needed to require schools to implement such programs. While the response rate of 42% of school districts, representing 55% of total student enrollment and schools, is considered good, it is not possible to determine if 75% of schools are participating in diversion programs. This is the result of schools not being mandated to participate in the survey process. For this reason Board staff does not recommend statutory changes at this time.

Board staff will use these data to assist local jurisdictions and school districts to reduce solid waste generation at schools and to tailor the Board's related School Waste Management Education and Assistance program. The following are the short term and long term plans for Board staff to accomplish these objectives.

### **4.1      Short Term**

Within the next six months, Board staff plans to initiate the following efforts as they relate to the findings of the 2003 Survey.

1. The 2003 Survey Final Report and individual school district responses will be made available on the Board's Web site. A number of new data reports will also be provided through coordination with IMB. The Board's Web-based School Profiles pages will also be updated to reflect current school district program implementation and contact information.
2. The Board's Office of Local Assistance (OLA) staff will continue to promote these new and updated resources to local jurisdictions and school district representatives, including information regarding how the new Survey responses and reports can be used to improve the environmental and economic performance of their districts.
3. To promote sustainable school buildings, OLA staff will coordinate with the Board's Sustainable Building Section as appropriate to connect them with those school districts reporting planned school construction projects.
4. Similarly, to promote increased communication of school waste management education and assistance information, OLA staff will coordinate with the Board's Office of Integrated Environmental Education to connect them with those districts reporting interest in receiving the Board's Environment Matters electronic newsletter.
5. OLA staff will continue to coordinate with the Board's Buy Recycled staff to evaluate the Board's existing buy-recycled information, tools and outreach efforts for school districts in an effort in increase the implementation of district-wide buy-recycled and other environmentally preferable purchasing programs.

6. OLA staff will further research the reported composting program implementation. The findings and any related follow-up will be coordinated with the Board's Organics Materials Management staff.
7. Similarly, OLA staff will perform follow-up analyses regarding the responding districts' efforts to divert food waste. Again, the findings and any related follow-up will be coordinated with the Board's Organics Materials Management staff.
8. OLA staff will continue to promote the Board's School Waste Management Education and Assistance resources on the benefits of implementing a district-wide waste reduction program. Specifically, OLA staff will identify opportunities to encourage districts to explore the different options for addressing recycling program implementation through existing or new solid waste management contracts to achieve not only increased diversion, but also potential cost savings.

#### **4.2 Long Term**

Over the next eighteen months, Board staff plans to initiate the following efforts as they relate to the findings of the 2003 Survey.

1. OLA staff will continue to partner with school district professional organizations to promote the implementation of school district waste reduction programs and the Board's related School Waste Management Education and Assistance tools and resources.
2. The Survey data will be used to tailor outreach efforts to assist local jurisdictions hosting school districts with minimal diversion programs. Additionally, OLA staff will continue to research school district diversion trends and develop the Board's assistance information, tools and other resources to address changing needs. OLA staff will also continue to develop school district diversion models for the Board's School Waste Management Education and Assistance Web pages.
3. OLA staff will investigate the trends in reported barriers (to implementing waste reduction programs) related to district size, and seek models to illustrate how other districts have attempted to address and overcome these specific challenges.
4. The Board will conduct school district waste reduction surveys in the future. As an initial step in developing the Survey, OLA staff will evaluate and revise, as necessary, the Survey tool to facilitate the collection of desired data. Additionally, Board staff will identify and implement actions in an effort to increase the Survey participation rate. Collecting additional information may also be useful for identifying and developing case studies.

## **SECTION 5.0 CONCLUSION**

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The Survey is the portal through which Board staff views successful school districts waste reduction program implementation, and identifies assistance needs at the school district, jurisdictional and statewide levels. Board staff uses the Survey data to assist local jurisdictions and school districts reduce solid waste generation at schools and to tailor the Board's related School Waste Management Education and Assistance program accordingly.

As a result of the 2003 Survey responses, Board staff will:

- Follow-up with districts to develop case studies;
- Develop new and expand existing tools to address barriers (to implementing waste reduction programs) the districts reported facing;
- Collaborate with local jurisdictions to identify and to address waste reductions needs within their respective school districts;

Through these efforts, Board staff will continue to promote the environmental, educational and economic benefits of school district waste reduction programs.

## APPENDIX A OVERVIEW of SURVEY RESULTS

The following represents an overview of the responses provided by the 412 school districts completing the 2003 School District Waste Reduction Survey as of Monday, March 08, 2004.

### Part I: General Information

Questions	Districts Responding "Yes"	Percentage Positive Responses
Does the school district have a WRITTEN waste prevention plan or policy?	44	10.68%
Does the school district have a WRITTEN policy to purchase recycled-content products?	34	8.25%
Does the district administration coordinate district-wide recycling activities?	116	28.16%
Does the school district have a contract for solid waste hauling?	271	65.78%
Is any renovation/construction planned for school buildings within the next two years?	240	58.25%
Does the school district have a service contract for collection of recyclables?	184	44.66%
Is the school district interested in receiving technical assistance to help implement a district-wide diversion program?	131	31.8%
Would you like to receive E-Matters <a href="http://www.ciwmb.ca.gov/Schools/Newsletter">http://www.ciwmb.ca.gov/Schools/Newsletter</a> , our quarterly electronic newsletter on environmental issues as they relate to schools?	237	57.52%

### Waste Prevention Activities (Questions 4 and 9)

Waste Prevention Activities	Districts Participating	Percentage Participating
Offer vs. serve lunch program	249	60.44%
Reusable cafeteria trays, dishes, or flatware in student cafeteria	137	33.25%
Donate excess food to food banks/rescue programs	40	9.71%
Compost/vermicompost (compost w/worms) onsite	78	18.93%
Grasscycle (leave grass clippings vs. collecting)	234	56.8%
Mulch tree trimmings	145	35.19%
Reuse packaging material or vendors take back (e.g., boxes)	142	34.47%
Require minimal packaging from vendors	32	7.77%
Route memos vs. sending individual copies	174	42.23%
Use bulletin boards vs. individual announcements	229	55.58%

<b>Waste Prevention Activities</b>	<b>Districts Participating</b>	<b>Percentage Participating</b>
Use e-mail and electronic faxes	375	91.02%
Reuse of paper	251	60.92%
Double sided copying	327	79.37%
Donate or reuse supplies and/or equipment	215	52.18%
Send back toner cartridges for refill	267	64.81%
Other waste prevention activities	159	38.59%

### **Buy Recycled (Questions 5 and 10)**

<b>Buy Recycled Activities</b>	<b>Districts Participating</b>	<b>Percentage Participating</b>
Use mulch/compost generated from the district	98	23.79%
Purchase of recycled-content paper products	216	52.43%
Purchase recycled-content products other than paper	118	28.64%
Purchase rerefined oil for vehicles, buses, etc.	17	4.13%

### **Recycling Practices (Questions 6 and 11)**

<b>Recycling Activities</b>	<b>Districts Participating</b>	<b>Percentage Participating</b>
Cardboard	286	69.42%
White paper	296	71.84%
Computer paper	258	62.62%
Mixed office paper	272	66.02%
Newspaper	235	57.04%
Magazines	211	51.21%
Phone books	223	54.13%
Aluminum cans	316	76.7%
Aluminum trays	61	14.81%
Steel/tin cans	94	22.82%
Scrap metal	139	33.74%
Glass	147	35.68%
Polystyrene	48	11.65%
#1 plastic (PETE)	122	29.61%

<b>Recycling Activities</b>	<b>Districts Participating</b>	<b>Percentage Participating</b>
#2 plastic (HDPE)	100	24.27%
Milk cartons	65	15.78%
Computers	190	46.12%
Tree trimmings	137	33.25%
Food scraps	39	9.47%
Other recycling	15	3.64%

### **Composting (Question 13)**

<b>Composting Activities</b>	<b>Districts Participating</b>	<b>Percentage Participating</b>
Grass clippings	155	37.62%
Landscape trimmings	129	31.31%
Milk cartons	7	1.7%
Paper	19	4.61%
Food scraps	37	8.98%
Student garden trimmings	82	19.9%
Other composting	9	2.18%

### **Recyclable Collections (Questions 8 and 12)**

<b>Transporting Recyclables to Market</b>	<b>Districts Participating</b>	<b>Percentage Participating</b>
Private hauler, same one that hauls the garbage	228	55.34%
Recycler, different from garbage hauler	77	18.69%
City/county government	38	9.22%
Non-profit organization (e.g. scouts, local shelter)	45	10.92%
Self haul (e.g. teacher, janitor, volunteer)	180	43.69%
Backhauling (picked up by vendor when new product is delivered)	22	5.34%
Other transport	14	3.4%

## Barriers (Question 14)

Barriers to Implementing Waste Reduction Programs	Districts Participating	Percentage Participating
Sanitation or safety concerns	151	36.65%
On-site collection	173	41.99%
Staffing and/or supervision	258	62.62%
Funding or start-up costs	155	37.62%
Resistance from staff, faculty or students to change	105	25.49%
Transportation of recycled materials to markets	166	40.29%
Lack of markets within the district's region	133	32.28%
Storage of materials	228	55.34%
Motivating staff, faculty or students to participate	169	41.02%
Training staff, faculty or students about the program	101	24.51%
Other barriers	14	3.4%

## Planned Construction or Renovation (Question 15)

58% of the reporting districts stated that they planned construction or renovation projects to begin within the next two years.

## Technical Assistance (Question 16)

32% of schools district that returned the Survey indicated they would be in receiving technical assistance to help implement a district-wide diversion program.

## Environmental Education (Question 17)

58% of the school districts that returned the Survey requested our quarterly electronic newsletter on environmental issues.

## School District Contact for Waste Reduction Activities (Question 1)

Most of the surveys were completed by the Superintendent, Assistant Superintendent, Chief Business Official, Business Manager, Administrative Assistant, Principal, Director of Maintenance and Operations and/or Facilities or District Secretary.

For additional information about the Survey findings and analysis, please contact Chris Kinsella at (916) 341-6274 or [ckinsell@ciwmb.ca.gov](mailto:ckinsell@ciwmb.ca.gov).

## APPENDIX B SUMMARY of FINDINGS

The following is the analysis of the data gathered from the 2003 School District Waste Reduction Survey for results received as of March 8, 2004.

### Total School Districts by Enrollment<sup>6</sup>

Enrollment Category	< 2500 students	2,501 to 5,000 students	5,001 to 10,000 students	> 10,000 students
Number of School Districts	626	135	132	153

### Responding School Districts by Enrollment

Enrollment Category	< 2500 students	2,501 to 5,000 students	5,001 to 10,000 students	> 10,000 students
Number of School Districts	241	52	45	74

### General Information –Part I

Question	< 2500 students	2,501 to 5,000 students	5,001 to 10,000 students	> 10,000 students
Does the school district have a WRITTEN waste prevention plan or policy?	7.47%	11.54%	13.33%	18.92%
Does the school district have a WRITTEN policy to purchase recycled-content products?	5.81%	15.38%	11.11%	9.46%
Does the district administration coordinate district-wide recycling activities?	23.24%	30.77%	28.89%	41.89%
Does the school district have a contract for solid waste hauling?	59.34%	67.31%	80%	77.03%
Does the school district have a service contract for collection of recyclables?	35.68%	50%	57.78%	62.16%

### Waste Prevention Activities (Questions 4 and 9)

Percent of School Districts Implementing the Following Waste Prevention Programs	< 2500 students	2,501 to 5,000 students	5,001 to 10,000 students	> 10,000 students
Offer vs. serve lunch program	55.19%	63.46%	73.33%	67.57%
Reusable cafeteria trays, dishes, or flatware in student cafeteria	40.25%	34.62%	20%	17.57%

<sup>6</sup> This chart includes all the original school districts provided by CDE. The Survey population, however, only include 983 school districts, as it does not include County Office of Education or a number of districts with incomplete data (e.g., no data for number of schools or student enrollment per the Ed-Data website (<http://www.ed-data.k12.ca.us/>))

<b>Percent of School Districts Implementing the Following Waste Prevention Programs</b>	<b>&lt; 2500 students</b>	<b>2,501 to 5,000 students</b>	<b>5,001 to 10,000 students</b>	<b>&gt; 10,000 students</b>
Donate excess food to food banks/rescue programs	8.71%	11.54%	11.11%	10.81%
Compost/vermicompost (compost w/worms) onsite	21.99%	13.46%	20%	12.16%
Grasscycle (leave grass clippings vs. collecting)	55.6%	55.77%	51.11%	64.86%
Mulch tree trimmings	28.22%	32.69%	53.33%	48.65%
Reuse packaging material or vendors take back (e.g.boxes)	34.85%	28.85%	28.89%	40.54%
Require minimal packaging from vendors	7.05%	11.54%	2.22%	10.81%
Route memos vs. sending individual copies	38.59%	40.38%	51.11%	50%
Use bulletin boards vs. individual announcements	55.6%	57.69%	62.22%	50%
Use e-mail and electronic faxes	88.8%	96.15%	95.56%	91.89%
Reuse of paper	62.66%	65.38%	64.44%	50%
Double sided copying	82.16%	71.15%	77.78%	77.03%
Donate or reuse supplies and/or equipment	54.77%	38.46%	53.33%	52.7%
Send back toner cartridges for refill	67.22%	65.38%	68.89%	54.05%
Other waste prevention activities	39.83%	36.54%	44.44%	32.43%

### Buy Recycled (Questions 5 and 10)

<b>Percent of School Districts Implementing the Following Buy-Recycled Programs</b>	<b>&lt; 2500 students</b>	<b>2,501 to 5,000 students</b>	<b>5,001 to 10,000 students</b>	<b>&gt; 10,000 students</b>
Use mulch/compost generated from the district	22.41%	19.23%	24.44%	31.08%
Purchase of recycled-content paper products	50.21%	53.85%	60%	54.05%
Purchase recycled-content products other than paper	25.31%	26.92%	33.33%	37.84%
Purchase rerefined oil for vehicles, buses, etc.	3.32%	3.85%	8.89%	4.05%

### Recycling Practices (Questions 6 and 11)

<b>Percent of School Districts Implementing the Following Recycling Programs</b>	<b>&lt; 2500 students</b>	<b>2,501 to 5,000 students</b>	<b>5,001 to 10,000 students</b>	<b>&gt; 10,000 students</b>
Cardboard	63.49%	76.92%	66.67%	85.14%
White paper	65.98%	80.77%	73.33%	83.78%
Computer paper	53.53%	78.85%	71.11%	75.68%
Mixed office paper	59.75%	76.92%	73.33%	74.32%
Newspaper	53.94%	55.77%	60%	66.22%
Magazines	47.72%	51.92%	57.78%	58.11%
Phone books	51.87%	59.62%	51.11%	59.46%
Aluminum cans	79.25%	71.15%	71.11%	75.68%
Aluminum trays	13.69%	19.23%	15.56%	14.86%
Steel/tin cans	20.75%	17.31%	24.44%	32.43%
Scrap metal	24.48%	36.54%	42.22%	56.76%

<b>Percent of School Districts Implementing the Following Recycling Programs</b>	<b>&lt; 2500 students</b>	<b>2,501 to 5,000 students</b>	<b>5,001 to 10,000 students</b>	<b>&gt; 10,000 students</b>
Glass	36.51%	26.92%	37.78%	37.84%
Polystyrene	9.96%	15.38%	15.56%	12.16%
#1 plastic (PETE)	29.46%	30.77%	22.22%	33.78%
#2 plastic (HDPE)	24.07%	25%	17.78%	28.38%
Milk cartons	13.69%	17.31%	17.78%	20.27%
Computers	39.83%	57.69%	51.11%	55.41%
Tree trimmings	23.65%	36.54%	44.44%	55.41%
Food scraps	10.79%	7.69%	6.67%	8.11%
Other recycling	2.49%	0%	4.44%	9.46%

### On-Site Composting (Question 13)

<b>Percent of School Districts Implementing the Following Composting Programs</b>	<b>&lt; 2500 students</b>	<b>2,501 to 5,000 students</b>	<b>5,001 to 10,000 students</b>	<b>&gt; 10,000 students</b>
Grass clippings	38.59%	34.62%	31.11%	40.54%
Landscape trimmings	29.46%	25%	33.33%	40.54%
Milk cartons	0.83%	5.77%	2.22%	1.35%
Paper	4.15%	7.69%	4.44%	4.05%
Food scraps	10.79%	7.69%	6.67%	5.41%
Student garden trimmings	22.82%	11.54%	20%	16.22%
Other composting	2.07%	0%	4.44%	2.7%

### Recyclable Collections (Questions 8 and 12)

<b>Percent of School Districts Reporting the Following Methods of Transporting Recyclables to Market</b>	<b>&lt; 2500 students</b>	<b>2,501 to 5,000 students</b>	<b>5,001 to 10,000 students</b>	<b>&gt; 10,000 students</b>
Private hauler, same one that hauls the garbage	50.21%	51.92%	66.67%	67.57%
Recycler, different from garbage hauler	12.45%	32.69%	13.33%	32.43%
City/county government	5.81%	13.46%	15.56%	13.51%
Non-profit organization (e.g. scouts, local shelter)	10.79%	3.85%	11.11%	16.22%
Self haul (e.g. teacher, janitor, volunteer)	52.28%	38.46%	28.89%	28.38%
Backhauling (picked up by vendor when new product is delivered)	3.73%	3.85%	11.11%	8.11%
Other transport	2.49%	1.92%	6.67%	5.41%

## Barriers (Question 14)

<b>Percent of School Districts that reported having implemented the following waste prevention programs</b>	<b>&lt; 2500 students</b>	<b>2,501 to 5,000 students</b>	<b>5,001 to 10,000 students</b>	<b>&gt; 10,000 students</b>
Sanitation or safety concerns	33.2%	34.62%	42.22%	45.95%
On-site collection	41.91%	32.69%	37.78%	51.35%
Staffing and/or supervision	61%	61.54%	68.89%	64.86%
Funding or start-up costs	34.02%	34.62%	48.89%	44.59%
Resistance from staff, faculty or students to change	18.26%	32.69%	26.67%	43.24%
Transportation of recycled materials to markets	46.47%	32.69%	35.56%	28.38%
Lack of markets within the district's region	36.51%	30.77%	20%	27.03%
Storage of materials	56.02%	57.69%	51.11%	54.05%
Motivating staff, faculty or students to participate	34.85%	46.15%	40%	58.11%
Training staff, faculty or students about the program	19.92%	23.08%	35.56%	33.78%
Other barriers	2.07%	1.92%	11.11%	4.05%

For additional information about the survey findings and analysis, please contact Chris Kinsella at (916) 341-6274 or [ckinsell@ciwmb.ca.gov](mailto:ckinsell@ciwmb.ca.gov).

# APPENDIX C 2003 SURVEY QUESTIONS

## Part I: General Information

1. Who is completing this questionnaire?
2. Does the district have a dedicated recycling coordinator to help implement the district's waste reduction activities?
3. How many schools are in your district?
4. Does the school district have a **WRITTEN** waste prevention plan or policy?
5. Does the school district have a **WRITTEN** policy to purchase recycled-content products?
6. Does the district administration coordinate district-wide recycling activities? If yes, please specify which department coordinates the district-wide activities.
7. Does the school district have a contract for solid waste hauling?
8. Does the school district have a service contract for collection of recyclables?

## Part II: Waste Prevention

9. Which, if any, of the following **WASTE PREVENTION** activities are practiced in your school district?

School Count	Activity
<input type="checkbox"/>	Offer vs. serve lunch program
<input type="checkbox"/>	Reusable cafeteria trays, dishes, or flatware in student cafeteria
<input type="checkbox"/>	Donate excess food to food banks/rescue programs
<input type="checkbox"/>	Compost/vermicompost (compost w/worms) onsite
<input type="checkbox"/>	Grasscycle (leave grass clippings vs. collecting)
<input type="checkbox"/>	Mulch tree trimmings
<input type="checkbox"/>	Reuse packaging material or vendors take back (e.g., boxes)
<input type="checkbox"/>	Require minimal packaging from vendors
<input type="checkbox"/>	Route memos vs. sending individual copies
<input type="checkbox"/>	Use bulletin boards vs. individual announcements
<input type="checkbox"/>	Use e-mail and electronic faxes
<input type="checkbox"/>	Reuse of paper
<input type="checkbox"/>	Double sided copying
<input type="checkbox"/>	Donate or reuse supplies and/or equipment
<input type="checkbox"/>	Send back toner cartridges for refill
<input type="checkbox"/>	Other waste prevention activities

10. Are any of the following purchase options practiced at the district?

School Count	Activity
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Use mulch/compost generated from the district

Purchase of recycled-content paper products

Purchase recycled-content products other than paper

Purchase rerefined oil for vehicles, buses, etc.

**Part III: Recycling**

**11. Mark any of the following materials that are collected for recycling within the school district:**

School Count	Activity
<input type="checkbox"/>	Cardboard
<input type="checkbox"/>	White paper
<input type="checkbox"/>	Computer paper
<input type="checkbox"/>	Mixed office paper
<input type="checkbox"/>	Newspaper
<input type="checkbox"/>	Magazines
<input type="checkbox"/>	Phone books
<input type="checkbox"/>	Aluminum cans
<input type="checkbox"/>	Aluminum trays
<input type="checkbox"/>	Steel/tin cans
<input type="checkbox"/>	Scrap metal
<input type="checkbox"/>	Glass
<input type="checkbox"/>	Polystyrene
<input type="checkbox"/>	#1 plastic (PETE)
<input type="checkbox"/>	#2 plastic (HDPE)
<input type="checkbox"/>	Milk cartons
<input type="checkbox"/>	Computers
<input type="checkbox"/>	Tree trimmings
<input type="checkbox"/>	Food scraps
<input type="checkbox"/>	Other recycling

**12. Who transports the district's recyclables to market?**

School Count	Activity
<input type="checkbox"/>	Private hauler, same one that hauls the garbage
<input type="checkbox"/>	Recycler, different from garbage hauler
<input type="checkbox"/>	City/county government
<input type="checkbox"/>	Non-profit organization (e.g. scouts, local shelter)
<input type="checkbox"/>	Self haul (e.g. teacher, janitor, volunteer)
<input type="checkbox"/>	Backhauling (picked up by vendor when new product is delivered)
<input type="checkbox"/>	Other transport

**13. What materials are composted within the school district?**

School Count	Activity
<input type="checkbox"/>	Grass clippings
<input type="checkbox"/>	Landscape trimmings
<input type="checkbox"/>	Milk cartons
<input type="checkbox"/>	Paper
<input type="checkbox"/>	Food scraps
<input type="checkbox"/>	Student garden trimmings
<input type="checkbox"/>	Other composting

**Part VI: Implementation**

**14. What barriers has the district encountered in implementing waste reduction activities?**

School Count	Activity
<input type="checkbox"/>	Sanitation or safety concerns
<input type="checkbox"/>	On-site collection
<input type="checkbox"/>	Staffing and/or supervision
<input type="checkbox"/>	Funding or start-up costs
<input type="checkbox"/>	Resistance from staff, faculty or students to change
<input type="checkbox"/>	Transportation of recycled materials to markets
<input type="checkbox"/>	<b>Lack of markets within the district's region</b>
<input type="checkbox"/>	Storage of materials
<input type="checkbox"/>	Motivating staff, faculty or students to participate

Training staff, faculty or students about the program

Other barriers

#### Part V: Final Questions

15. **Is any renovation/construction planned for school buildings within the next two years? See the CIWMB's Collaborative for High Performance Schools site <http://www.ciwmb.ca.gov/GreenBuilding/Schools/> for more information.**
16. **Is the school district interested in receiving technical assistance to help implement a district-wide diversion program? See our School Waste Reduction site <http://www.ciwmb.ca.gov/Schools/WasteReduce/> for more information.**
17. **Would you like to receive E-Matters <http://www.ciwmb.ca.gov/Schools/Newsletter/>, our quarterly electronic newsletter on environmental issues as they relate to schools?**