

1.0 Introduction

The 1999 Florida Legislature appropriated money from the Solid Waste Management Trust Fund (specific Appropriation 1276) to the Southern Waste Information eXchange, Inc. (SWIX), a non-profit 501(c)(3) Florida corporation, formed through a cooperative partnership by Florida State University, the Florida Chamber of Commerce and the Florida Department of Environmental Protection, to conduct a Television and Computer Monitor Electronic Equipment Research Project, a Wood Pallet and Industrial Wood Waste Recovery Project, and a Waste Reduction in Florida's Hotel and Motel Industry Project.

This Final Report has been prepared in order to satisfy the requirements of the scope of services for the Waste Reduction in Florida's Hotel and Motel Industry.

In order to complete this project, the following were retained to perform selected services:

Matina Wagner (Independent Contractor), Orlando, FL

Florida Beverage and Industry Recycling Program (FL BIRP), Orlando, FL

TIA Solid Waste Management Consultants, Inc. (TIA), Tampa, FL

Hotels and motels are big business. Nationally, lodging is the third largest retail industry. Florida, with its major resort and entertainment destinations, has historically higher occupancy rates with an estimated 37,800,000 guests annually. The Florida Hotel/Motel Association estimates there are 4,500 hotels/motels in the State representing 400,000 rooms and employing 850,000 people. These numbers represent a major contribution to Florida's waste stream. The purpose of this study is to gather and analyze data on the composition of waste generated in these facilities and to determine the status of existing or planned prevention/recovery efforts.

1.1 Background

The Florida legislature, EPA Region IV, and the Florida Hotel/Motel Association have sponsored several projects dealing with waste reduction in the hospitality industry. In 1991, the Townsend/Earle study was funded through a grant awarded to the University of Florida's Energy Extension Service. The purpose of the study was to evaluate the impact of hotel waste recycling on the amount of waste being disposed of in Florida landfills, design systems for recycling in hotels and motels and develop educational media to assist hotel management in organizing their recycling programs. Six central Florida hotels participated in the project and workshops were held throughout the State to disseminate the educational materials and the findings.

In 1997, the Florida Department of Environmental Protection received a grant from EPA Region IV to conduct waste reduction audits, measure waste stream reduction in three select properties (small, medium, large) and to refocus and update Florida's past hotel/motel waste reduction efforts, services, and products. As anticipated, the largest and oldest of the three properties, Amelia Island Plantation (north of Jacksonville, Florida), had the most opportunities for waste reduction. The smallest facility, the Bahama House (Daytona Beach, Florida), had fewer challenges. The medium sized Comfort Suites Maingate (Orlando area, Florida), had only recently been constructed and had built in many of the industry's latest waste reduction innovations. Input from industry professionals and the findings of the 1997 project lead to the proposal for this study.

This study consisted of three major tasks:

1. A survey of small (less than 50 rooms), medium (50-250 rooms) and large (251 rooms +) hotels and motels using a database supplied by the Florida Hotel and Motel Association.
2. A waste composition analysis at selected hotels.
3. A search and listing of available technical assistance resources for hotels on the subject of waste reduction and recycling.

1.2 Survey

A random sample of Florida hotel, motel, and other lodging establishments were surveyed to determine the source of information on current waste disposal/reduction practices, estimates of generation, waste disposal costs, services utilized, industry interest and/or commitment to waste reduction practices/policies. The FHMA provided their Hotel Systems Directory. This information was utilized to randomly sample and sort prospective participants. Seven hundred and thirty-eight (738) surveys were mailed to hotels throughout Florida. Two hundred and seventy-two (272) hotels/motels participated and

provided information on their facilities. The information was entered into a database and used to compile the statistical information in this report. The survey instrument is attached as Appendix E.

1.3 Waste Composition

The waste composition portion of this study was contracted to TIA Solid Waste Management Consultants, which has extensive experience with designing and executing waste sorts and composition studies. Orange County assisted in coordinating with Waste Management and the Recycle America Facility. Waste and recyclables generated at the Renaissance Orlando Resort, a 780 room, full service convention hotel, were collected and sorted. The Class III and C&D surveys were performed in a “snapshot fashion” with the waste from six central Florida hotels being analyzed. Appendix A contains a description of material categories used for the waste composition analysis at the Renaissance Orlando Resort and the C&D category description (Attachments A and B, respectively).

1.4 Research

A search was made for any information relating to waste reduction in the hospitality industry. National organizations such as the U.S. Environmental Protection Agency, National Recycling Coalition, the Solid Waste Management Association of North America and the American Hotel Motel Association were contacted. National Hotel Chains were interviewed. A search was made utilizing Internet services. State and local governments were contacted. Hotels with existing programs were asked to provide information on their waste reduction efforts. This information has been compiled and a complete resource listing is located in Appendix D.

2.0 Research Findings

Starting in the fall of 1999, an extensive search was initiated for information and data pertaining to waste reduction in hotels and motels. A search was made for any information relating to waste reduction in the hospitality industry. National organizations such as the U.S. Environmental Protection Agency and the National Recycling Coalition were contacted. Surprisingly, they responded that they were unaware of any specific waste reduction materials available on the Lodging Industry. The American Hotel & Motel Association provides information to members only. Non-members can order specific materials at a cost. Several national hotel chains were interviewed with mixed results. Some of the larger chains have centralized programs, but many have decentralized operations and programs are managed at the local level.

State and local governments were contacted. Several in Florida, California, Oregon, North Carolina, Georgia, Metropolitan Washington and Canada have established business waste reduction or pollution prevention outreach programs. A few of these agencies have hotel/motel waste reduction programs, with some of these consisting of only information resources. There are several that offer free audits, assist with program management, and provide evaluation of initiatives. There are even a few government programs that have provided grant funding for establishing programs and purchasing containers.

A search was made utilizing the Internet. There were a few good sources of additional information, especially educational institutions. When good sites are located, the Internet is an excellent way to review program updates and resource information. Email can also provide an easy forum for communicating with program coordinators. List services are also now available on which a request for information can be published. Many organizations such as the Solid Waste Association of North America (SWANA) have list services that are published to a select group of members such as Landfill Managers or Recycling Managers that can then respond directly to the requestor with information. These list services can be very useful especially for specific information or when looking for someone who has experience with specific equipment or systems.

Hotels and motels with successful programs were also asked to provide information on their waste reduction efforts. A few of these programs have been established for five or more years and some have even been incorporated into routine operations. The information collected includes program results, descriptions of specific initiatives, guest and staff educational materials. Most of these properties were thrilled to share this information with other facilities. Several were interested in getting information on what other resorts were doing and finding out how they could gain from their successes.

An assortment of waste reduction information was located. The resulting data is documented in Appendix D and has been categorized into organizations, publications, and Internet sites. The publications are further subdivided into those specifically concerning the lodging industry and property management, those dealing with environmentally preferable purchasing, pollution prevention, general waste reduction, construction & demolition waste management, composting/organics, water conservation, and energy efficiency.

A wide span of organizations provided information on waste reduction and conservation issues. These include: trade associations, educational institutions, governmental entities, lobbying interests, professional and non-profit organizations. All of the groups listed support waste reduction by supplying information, educational resources, or funding. Some of the groups listed assist the government in managing programs or providing expert advice. For purposes of this report, private or for profit companies have not been listed. These listings are usually available through trade associations.

A wealth of educational and informational publications from throughout the United States, Canada, and several island resorts were reviewed. Most of the publications listed in the appendix were published in the 1990's when there was a surge of interest in environmental management and recycling. For the most part, these materials are still pertinent, as the steps in implementing and evaluating programs have changed little in the last decade. The only setback to this older information is that much of the resource sections are out of date. Many area codes and phone numbers have changed, some associations have moved or reorganized. There are several publications, which outline case studies or provide specific program information, which may be dated. As this information can be useful when trying to justify and quantify programs, it is advisable to contact the facility mentioned in the case study directly and get updated information. Most properties are willing to provide recent information on their programs, especially if they are successful.

The United States Environmental Protection Agency has produced many of the publications. There is also a wealth of documents from the California Integrated Waste Management Board (CIWMB). This information is readily accessible and can be viewed and/or ordered over the Internet. The CIWMB has very progressive and well-documented programs. They also provide educational materials and informational assistance to anyone that calls their hotline.

There is a short list of pertinent Internet sites listed in the appendix. The listing is a starting place as there are new sites established daily. This information is also becoming more accurate as there is renewed emphasis on keeping established web sites up to date.

When establishing a program, this research information is a good place to start. One needs to have as much information as possible in order to ensure solid footing for a successful waste reduction program. For established programs, many of the publications offer new and innovative ideas for expanding and increasing waste reduction efforts. There are workbooks with worksheets, CD's, videos, and software is also available, most at no or minimal cost. To make it easier to find the resources mentioned in the appendix, contact information has been provided. Connections can be made either through the Internet, by phone, or fax. There is a brief summary of the information contained in the publications to assist the user in deciding whether the information would be useful to specific applications. Most organizations contacted responded to email requests for information within three days or less.

The challenge related to the wealth of available research information is how to get through it all to determine what will work best for a specific facility or program. Many of the hotel/motel managers that would utilize these resources simply do not have the training or time to access and review this information. In addition, most facilities do not have the funds to hire a staff member or contractor to coordinate waste reduction initiatives. The result is that although many hotels have programs in place, most are not being monitored closely and therefore past and existing waste reduction and conservation initiatives are not optimized.

3.0 Survey Results

The FH&MA Hotel Systems Directory was utilized for mailing the waste reduction surveys. The sample was constructed as follows: The files were sorted by number of rooms in each hotel. The results were sorted into categories: small (less than 50 rooms), medium (50 – 250 rooms), and large (251 + rooms). Next, a random sample was taken of the small properties with one hotel selected in each county, a random sample of medium properties were also selected with equal representation by county, and all large hotels were selected. Surveys were mailed to 738 hotels/motels around the State.

There were 272 hotels, representing a return rate of 37%, that completed the survey. More than 300 surveys were returned but many were only partially filled out. Several attempts were made to contact these respondents to finish the survey and/or to clarify responses but many did not return numerous calls and/or faxes. To maintain statistical integrity, only completed surveys were utilized. Appendix F contains a distribution of responses by county.

About a third of the respondents reported having some type of active waste reduction program which included one or more of the following initiatives: water or energy conservation, recycling, pollution prevention, or buy recycled. Of the facilities that practiced waste reduction, 29% reported practicing water conservation and 31% said their facilities had energy conservation programs in place, 50% said they recycled, 9% had pollution prevention programs, and 12% practiced environmentally friendly purchasing and bought some recycled products. A few properties claimed to have “other programs” but upon further investigation these were discovered to be recycling of grease/bones/oil/fat, florescent bulb recovery/recycling, or some type of organic or integrated pest management.

The facilities with recycling programs were asked which materials they recovered: 93% reported recycling cardboard, 68% office paper, 63% printer cartridges, 54% newspapers, 49% telephone books, 42% linens/towels and plastic bottles, 35% room keys, 27% yard waste and magazines, 25% furniture, 23% steel cans and scrap metal, 21% aluminum cans, 12% computers and televisions, and 10% or less wood and food waste.

There were many hotels which stated that they had waste reduction/conservation programs in the past but these activities were no longer active. Most of these respondents claimed that cost and service availability were a major factor in eliminating programs. Several also cited difficulties with employee training and turnover. Participants who responded negatively to the first survey question concerning whether they practiced waste reduction in any form were also asked if there were any future plans for establishing programs. Approximately 5% stated that they were planning to implement programs in the next twelve months, 15% said they had never had programs and another 15% said they had no interest in practicing waste reduction in any form. The largest percent of these negative responses came from small properties where benefits can be more difficult to quantify and program costs are harder to justify.

Participants who did not have programs were also asked what type of support services would be most useful in establishing successful programs. Nearly 83% responded that training programs and workshops would be the most beneficial. In addition, 80% said they would like to have peer-matching opportunities available. Seventy-two percent (72%) said that they would utilize mentoring or consulting services, but many said that they would have to be at no cost as their budgets were tight. Seventy percent (70%) responded that they would use informational resources if they were available with 50% asking specifically for buy recycled/eco- purchasing information. Fifty-five percent (55%) of those surveyed said they would like to see a newsletter published that specifically targets hotel/motel waste reduction information.

Facilities with established programs were asked to rate the benefits of practicing waste reduction at their facilities. Nearly all of the respondents listed savings and cost avoidance as the number one reason they practiced waste reduction. Ninety percent (90%) said that another major reason for their programs was resource conservation. Seventy-one percent (71%) stated that secondary benefits of waste reduction/conservation included guest satisfaction, employee morale, and efficiency.

The most successful programs reported having a general manager or owner that takes a leadership role and/or challenges the department heads with reduction/economic goals. Only eight of the surveyed hotels have a written waste reduction policy. The surveyed hotels reported that conservation efforts were managed by the following methods: sixty-three said individual areas manage their own programs, twenty-six have a central coordinator or program manager, and eleven have employee groups (e.g. Green Team).

Many of the respondents did not have access or were unwilling to provide financial information concerning the cost of the solid waste collection/disposal. The average annual disposal cost, reported by seventy-two hotels, was \$24,229.93. Even less of the respondents were willing to share recycling cost

information. Many simply did not know or were unfamiliar with the terms of their contracts. The average annual recycling cost, reported by twenty respondents, was \$4,162.

There was minimal response received in reference to Buy Recycled or Environmentally Friendly Purchasing. Only a small number of properties reported purchasing any recycled products. Five percent (5%) stated that they had purchased recycled copy or computer paper, 4% said that they purchased recycled tissue and 3% bought recycled print cartridges, 2% utilized recycled landscape materials, and only 1% reported having procured plastic lumber. Less than 1% had purchased re-refined oil, parking stops, carpet, restroom dividers, or retreads. Many of the properties cited challenges with finding recycled products locally at a justifiable cost. Stores or suppliers did not stock or actively promote recycled products. There were only few comments about product quality and guest perception.

The last section of the survey included information on electronics waste/recovery. Hotels were asked how many televisions and computers they owned, how many they purchased annually, and how frequently they discarded them. These questions were added to the survey as there has been increased interest in electronics recycling in Florida. New technology will make most televisions and computer monitors obsolete in the next five years. Much of this obsolete equipment could find its way to disposal sites. The Florida Department of Environmental Protection has been working to quantify the number of units that will be disposed of in the next several years and to establish a comprehensive program to deal with this growing waste stream. These units are potentially recyclable but contain lead, which can be potentially harmful to the environment if disposed of improperly. All the facilities surveyed reported having at least one television in their guestrooms, but many have two or more. There are additional televisions in lobbies, guest and employee lounges, laundry rooms, and restaurants.

Almost a quarter of the respondents said they leased their televisions and some reported leasing their computers, printers, and phones as well. This is not surprising, as this technology has been rapidly changing. Many of these leasing companies are also involved in supplying cable services to the hotel/motel properties. As room standards change or the leasing period comes to a close, these companies simply place their electronic units (televisions, phones, computers, printers, and faxes) in other hotel properties, sell them to other facilities or market them through various outlets as previously owned. The majority of the hotels surveyed replace televisions every five to ten years, with only 15% replacing sets in one to five years. Several of the facilities located directly on the beach mentioned that the salt air tends to corrode the internal components which causes them to be replaced sooner than five years.

Generally, properties that purchase their own televisions and computers, tend to keep them longer with almost half reporting that televisions are replaced only when they are broken. A little more than a third of the facilities said that they try to repair televisions before disposing of them. 10% of the facilities said they throw their old televisions out with the trash, but several of these reported that they are often collected by local junkmen before the garbage man arrives. Of the remaining properties: 35% sell old televisions to their own employees or local residents, 12% donate to charity, and less than 3% reported that they recycle electronics.

Respondents were also asked if there were computers or fax machines in any of their rooms. Not one property surveyed reported currently having computers in guest rooms although some of the large hotels had business centers where guests could rent time on PC's and utilize fax machines. Many of the hotels that cater to business travelers have retrofitted rooms with second phone lines, which can be used as dataports for portable computers or fax machines. When asked if there were plans to add computers, printers, or fax machines to guest rooms, 5% reported that fax machines would soon be available and 3% said that PC's and printers would be added to some rooms in the next year.

4.0 Waste Composition Studies

The Southern Waste Information Exchange (SWIX) contracted with TIA Solid Waste Management Consultants, Inc. (TIA) to conduct a waste composition study of a hotel in Florida as part of the Florida Department of Environmental Protection (DEP) sponsored Waste Reduction in Florida's Hotel/Motel Industry project. The waste composition project team consisted of SWIX, TIA, Matina Wagner (independent contractor), and Orange County.

Waste composition studies help solid waste and recycling planners identify the types, amount, and marketability of materials generated in the waste stream. Although waste composition studies are generally undertaken during the first phase of planning a comprehensive solid waste management plan, this study was performed in accordance with the instructions of the project team at a hotel that had an existing recycling program. The information from this study is useful for planning ways to further reduce waste, increase recycling and evaluate the existing comprehensive waste management plan for this hotel facility.

4.1 Introduction and Background

Hotels and motels are unique in their solid waste generation and composition, particularly those that house restaurants and convention centers. However, the extent of solid waste generation, recycling and other waste reduction efforts in Florida's hospitality industry is largely unknown. Although hotel/motel waste reduction programs may offer promising opportunities to reduce waste while producing economic benefits, previous efforts to implement statewide hotel/motel waste reduction programs have been limited. This analysis of the composition of waste from a Florida hotel will serve as a valuable planning tool for its waste reduction program. Once a business understands the composition of its waste stream, it can begin to target materials for recycling and initiate other waste reduction activities.

The Renaissance Resort hotel at Sea World in Orlando, Florida was selected and agreed to participate in this study. The hotel has separate containers for commingled recyclables, corrugated paper, and solid waste. Commingled recyclables consist of HDPE Containers, PET Containers, Tin/Steel Cans, Aluminum Cans, and Clear, Green, and Brown Glass Containers. The hotel also recycles telephone books seasonally. According to a hotel representative, the hotel generates approximately 20 tons per week and spends approximately \$70,000 each year on solid waste collection service.

4.2 Methodology

TIA conducted the waste composition study of solid waste and recycling from the Renaissance Resort. The hotel was selected based on its location, and because it houses a restaurant and a convention center. With the cooperation of the Orange County Solid Waste Department, Waste Management, Inc. (WMI), and Recycle America, the study was performed on Wednesday, March 15, 2000 and Saturday, March 18, 2000 at the Recycle America blue bag facility in Orange County. The SWIX project team coordinated with WMI for the delivery of solid waste and recycling containers from the hotel on the specified days. Waste and recyclables sorted on March 15 represented waste and recyclables generated by the hotel on Monday and Tuesday, and waste and recyclables sorted on March 18 represented waste and recyclables generated by the hotel on Wednesday and Thursday.

Prior to the sorting event, the project team worked to develop a list of material categories into which the waste would be sorted. Attachment A (Appendix A), Description of Material Categories, presents the material categories and a description of each. During the sorting event, trained sorters manually sorted 200 to 300 pound samples of waste and recyclables into the designated material categories, and the weights of each category were recorded. After each sort, the sort supervisor recorded any unusual materials or notable condition of the

material that might impact the results. WMI provided the project team with the weights of each container from which the samples were taken. WMI also provided the weight of the Corrugated Paper container.

TIA also conducted a visual audit of construction and demolition (C&D) debris from five hotels in the Orlando area, the Howard Johnson Plaza, the Days Inn at Universal Studios, the Hilton at Walt Disney World Village, the Sheraton World Center, and the Renaissance Resort. On April 19, 2000, TIA performed site visits at these five hotels to estimate the percent of each C&D material by volume present in designated C&D containers. Attachment B (Appendix A), C&D Material Categories Description, lists the C&D material categories and their descriptions. TIA recorded its visual estimate of percent by volume and other important information, including the size of the container, degree of compaction, moisture content, and any other visual observations of the C&D material. Material densities were used to calculate the estimated percent by weight of each material in the C&D waste stream.

4.3 Summary of Findings

TIA summarized information collected during the solid waste and recycling sorting event to obtain weighted averages of the percent by weight for each material category sorted from the Renaissance Orlando Resort's solid waste and recycling containers. Because this study was intended to be a snapshot of one hotel in Florida at one point in time, TIA did not calculate the statistical validity of the data. TIA also summarized information obtained during the C&D visual audit.

4.4 Composition of Solid Waste

Figure 1; Appendix C, Percent Composition by Weight of Solid Waste, shows the percent composition by weight of materials collected in the hotel's solid waste container. Newspaper comprised the largest percent by weight of the solid waste stream, representing 22.5 percent. Food Waste (20 percent) also comprised a substantial portion of the solid waste stream, followed by Other Paper (11.4 percent) and Other Plastics (10.2 percent). Other materials that were also present in relatively large amounts included White Office Paper (5.7 percent), Corrugated Paper (4.6 percent), Yard Waste (3.5 percent), Other Ferrous (3.1 percent), Magazines/Glossy Paper (2.6 percent), and Clear Glass Containers (2.5 percent). A total of five Plastic Room Keys were found in the solid waste.

4.5 Composition of Recyclables

Figure 2; Appendix C, Percent Composition by Weight of Materials in the Recycling Container presents the percent composition by weight of materials

present in the hotel's commingled recycling container. Glass made up the majority of the commingled recyclables collected from the hotel. Green Glass Containers comprised 24.4 percent, Clear Glass Containers comprised 22.9 percent, and Brown Glass Containers comprised 12.3 percent of the materials in the recycling container. Other materials in large quantities in the recycling container included Tin/Steel Cans (14.8 percent), Grit (7.5 percent), Food Waste (4.2 percent), HDPE Containers (4.0 percent), and PET Containers (3.2 percent).

TIA found that approximately 17 percent of the material in the hotel's commingled recyclables container consisted of other materials. Of this 17 percent of contamination, 7.5 percent was Grit. Grit includes recyclables and other materials too small to sort. Approximately 4 percent of material in the commingled recyclables container was Food Waste, almost 3 percent was Other Glass, and over 1 percent contained Corrugated Paper.

4.6 Composition of Total Waste Stream

Figure 3; Appendix C, Percent Composition by Weight of Total Waste Stream, shows the percent composition by weight of materials in the total waste stream, including solid waste, commingled recyclables, and corrugated paper. Newspaper comprised the largest percent (18.8 percent) of the total waste stream, followed by Food Waste (16.9 percent), Corrugated Paper (12.7 percent) and Other Paper (9.6 percent). Other materials comprising substantially large portions of the waste stream include Other Plastics (8.6 percent), White Office Paper (4.8 percent), Clear Glass Containers (3.5 percent), and Yard Waste (2.9 percent).

Of the recyclable materials found in the total waste stream, 96 percent of the Tin/Steel Cans were being recycled, which is the highest recycling rate of any other material at the hotel. Approximately 74 percent of Green Glass Containers, 70 percent of Corrugated Paper, 69 percent of HDPE Containers, 63 percent of Brown Glass Containers, 41.5 percent of Plastic Buckets, and 39.5 percent of Clear Glass Containers were recycled. The recycling rate for Aluminum Cans was almost 20 percent, and PET Containers were recycled at a rate of 13 percent. Overall, the hotel's recycling rate during the time period represented by the sorting event reached 61 percent.

4.7 Composition of C&D Waste Stream

Because the composition of materials in the C&D waste stream is extremely variable and the percent composition by volume of C&D material from hotels was visually estimated, statistical validity is difficult to achieve. Therefore, TIA did not calculate a weighted average for C&D materials. Table 1; Appendix B, Calculated Estimates of Percent Composition by Weight of C&D Containers,

presents the composition of C&D materials at five hotels in Florida.

All five C&D containers audited by TIA contained wood. In fact, one hotel's C&D container contained almost 33 percent wood by weight. Wood materials generally consisted of pallets and scrap lumber. Four out of the five containers audited contained some amount of Plastics, Corrugated Paper, and Other. Materials that were found in three out of the five containers included Clean Rubble, Ferrous Metals, Grit/Soil, and Other C&D Materials. Clean Rubble comprised almost 50 percent of one container and over 60 percent of another. Clean Rubble mainly consisted of roofing tiles and concrete. One hotel's C&D container contained approximately 56 percent ceiling tiles, which was classified as Other C&D Materials.

4.8 Hotel/Motel C&D Debris

Materials found in relatively large amounts in hotel C&D material containers are often recyclable depending on the availability of local markets. These markets can include private facilities or public facilities operated by local county or city agencies. In particular, clean rubble (e.g. concrete), ferrous metals, drywall, and wood can all be recovered in a C&D recycling program that includes a program plan and established markets. TIA observed during the site visits that these materials generally comprised high percentages of the hotels' C&D waste stream. In addition, TIA found large amounts of corrugated paper in four out of the five containers audited, which should be recovered and placed in separate cardboard recycling containers.

Hotels and motels have a variety of options to evaluate for reducing and recycling C&D waste. Green building techniques may be used in renovation and construction of a hotel. For example, a contractor can reduce wood waste by taking time to measure wood accurately before cutting or donating wood material to a local reuse building organization. Untreated wood waste can also be collected for composting or mulched and used on site. In addition, old furniture and appliances can be donated to a charity or thrift store or made available to hotel employees.

If a hotel is interested in the benefits of waste reduction and recycling, hotel management must develop a program based on existing hotel waste composition information or the results of a waste audit conducted for their hotel. In addition, the hotel should obtain staff and management buy-in. The recommendations provided in this report can help hotels understand their solid waste and C&D waste streams, which is the first step for implementing a successful waste reduction and recycling program.

In order to manage solid waste efficiently, managers and staff must first work to develop a comprehensive solid waste management plan. First, hotel staff must

strive to minimize waste generation through reuse of material. Hotel staff and management may even be able to prevent some types of waste from being generated by evaluating material purchasing and usage activities. Second, some waste can be recycled or composted depending on the availability of local processing and marketing venues. Finally, the remainder of the waste stream must be disposed of.

Before implementing a waste reduction and recycling program, a hotel should consider the costs and benefits of the program. When tipping fees are low, incentives to recycle and practice waste reduction may decrease, whereas increased tipping fees promote waste reduction and recycling. Either way, a hotel may want to prepare itself for the possibility of increased landfill fees in the future. Tipping fees are often adjusted annually by each of Florida's 67 counties. Currently, Orange County's MSW tipping fee is \$32.95 per ton.

4.9 Renaissance Orlando Resort's Solid Waste and Recycling

Although Renaissance Orlando Resort hotel has a high recycling rate, the results of this study show that the hotel could continue to improve its waste reduction and recycling program and reduce its solid waste costs. In particular, almost 49 percent of the hotel's solid waste stream was paper. The paper markets are experiencing favorable pricing for materials at this time and the demand for clean, homogenous material is high right now. Identifying practical solutions in conjunction with current market conditions will help to establish a sustainable, long-term recycling program at a hotel facility.

Of the total amount of paper, newspaper comprised the largest portion of the hotel's solid waste stream at 22 percent. It is currently being disposed of. Newspaper is generally simple to collect and recycle in any program with an established and promoted recovery plan. However, unlike other materials recycled at the hotel, newspapers may be found more often in individual hotel rooms. The hotel may wish to set up a program for guests to recycle newspapers or for housekeeping staff to collect newspapers separately from the garbage during room servicing. Magazines and glossy paper, which were found in 3 percent of the solid waste stream, may be marketed with newspaper. For example, SP Recycling (formerly Southeast Recycling) works with many commercial and institutional entities with high volume generation of newspapers by placing collection containers at the site.

In addition, office paper made up 8 percent of the solid waste stream. To target this material for recycling, the hotel could set up an office paper recycling program, which would reduce the amount of material disposed of in its solid waste container. Examples of how to reduce paper waste include encouraging double-sided copying and using the clean backside of discarded drafted correspondence. Establishing practical reduction programs must be evaluated in

relationship to the overall economic benefits and impacts to time and manpower usage. Other paper, as well as food waste and yard waste, are all compostable materials that could also be diverted from disposal. Setting up a composting program could further reduce the hotel's solid waste by 35 percent. Composting programs are generally only implemented if a local facility exists for receiving, processing, and marketing organic materials

Convention facilities and restaurants can be a source of high waste generation rates for a hotel. In particular, large amounts of food waste are generated in addition to glass bottles or aluminum cans. The hotel could provide containers for collecting these materials to the catering staff for recycling.

Another important consideration for any hotel is staff training. Training helps to decrease contamination levels and ensure material marketability. The contents of the Renaissance's recycling container included 17 percent contamination. This amount is considered high by most standards and could pose a problem for both the hotel and the materials recycling facility marketing the material. The hotel could have its load of recyclable materials rejected, treated as garbage, and incur a solid waste tipping fee. But depending on the materials recycling facility sorting procedures and processing equipment, the material could be handled and processed for recovery depending on the type of contamination.

The contamination of the hotel's material consisted of food waste, other glass, other plastics, other plastic containers, grit, and corrugated paper. The majority of the contamination included broken glass and material residue from the broken glass. Periodic training sessions for existing employees, including material handling procedures, and recycling training for new employees should reduce the amount of contamination levels in the recycling container and will teach staff what materials are acceptable for recycling.

5.0 Summary and Recommendations

5.1 Summary

- Florida's lodging industry has a special stake in maintaining and improving environmental conditions in the state. It is the environment - the climate and beauty of the Florida landscape, which brings many guests and visitors into their facilities. The properties which participated in this project are representative of the lodging industry in Florida. This study has demonstrated that there are hotel/motel operations in Florida benefiting from implementing waste reduction programs. Resort facilities of all sizes have reported that aggressive water and energy conservation, pollution prevention, recycling, and environmentally friendly purchasing practices are economically viable as well as being good for our environment.

- Although the hospitality industry has demonstrated an interest in implementing programs and many individual properties have established model programs, there is still a great deal to be accomplished. Resource materials, including information on why waste reduction is important and how to implement programs, are available. However, only one third of the hotel properties in this study have implemented and maintained programs. The task is to convince and encourage the remaining two-thirds.
- There are some lodging corporations with centralized control, however the vast majority are decentralized with General Managers reporting to regional authorities and whose performance bonus is linked to operational objectives and optimizing the budget. Many GM's are simply pre-occupied with core business activities and they have little time to work on "non-core" initiatives.
- The majority of the facilities surveyed said that training would be the most beneficial means of helping hotel/motel properties establish waste reduction programs.

5.2 Recommendations

1. **New facilities should be targeted and persuaded to incorporate "green" planning.** Local communities and the State of Florida would reap the environmental benefits from constructing facilities with built-in efficiencies and customized waste reduction programs. "Green planning" would mean new hotels/motels that incorporate physical designs for ease of implementing recycling and waste reduction activities on the property.
2. One method toward achieving continuous success is to ensure that waste reduction is incorporated into core business activities. **Environmentally friendly purchasing** should become part of daily hotel procurement practices and contract reviews. Pollution prevention should become the facility engineer's operational norm. Waste reduction including recycling and progressive waste management should be every staff member's job.
3. Educating hotel managers, area supervisors, and line employees can promote the implementation of initiatives that prevent waste, minimize and reduce costs. Waste reduction and recycling **training** should be incorporated into all hotel training and certification courses, especially during orientation for line staff and in leadership training for management.

Waste prevention and management should also be incorporated into Hospitality Training Programs at colleges and technical schools. In addition, municipal and county governments could sponsor business outreach programs to familiarize local hotel managers with waste reduction opportunities and the solid waste management practices in their area.

Consideration should also be given to holding annual hotel/motel workshops since training is one of the best ways to make waste reduction an integral part of general lodging industry practices.

4. Challenge the hotel/motel industry by **creating a Florida “green” hotel/motel standards program.**

Keying off programs sponsored by the USEPA, and utilizing pollution prevention audits, hotels could become waste reduction “stars.” Stars could be granted for each area (e.g. energy star) where programs that meet the standards and have been successfully implemented and maintained/documented for one year. To maintain “Star” status, facilities would be required to undergo annual audits, including a physical walk-through and examination of program documentation. Hotel/motel’s and the convention and visitors bureau’s could utilize this standards rating system to direct savvy consumers interested in staying in “green” properties and individual hotel/motels could use this new distinction in marketing their properties.

This document has been developed to support these efforts and to assist local solid waste managers, recycling coordinators, and hotel/motel managers in establishing additional programs and finding new opportunities to reduce waste. There is a wealth of information available on how to set up waste reduction and recycling programs. As long as conservation, waste reduction, and environmentally friendly purchasing are viewed as “nice to have” initiatives, these programs will continue to struggle for commitment and budget dollars. The challenge is to establish programs that become a normal part of day-to-day operations in hotels and to continue to bring attention to hotel management about the potential cost avoidance savings associated with waste reduction, pollution prevention and recycling activities on their properties.

6.0 Appendices:

Appendix A Attachments

Appendix B Tables

Appendix C Figures

Appendix D Research/Resources

Appendix E Survey Instruments

Appendix F Distribution of Responses by County

Appendix B

Research/Resources

Sources of Information on Waste Reduction, Pollution Prevention (P2), Environmentally Preferable Purchasing, Recycling, Composting, managing MSW, Energy and Water Conservation

The following is a list of organizations, publications, and Internet World Wide Web sites that are sources of information on waste reduction, pollution prevention, environmentally preferable purchasing, recycling, composting, managing municipal solid waste (MSW), energy and water conservation. This listing does not cover all available sources of information on these subjects, nor is the mention of any organization, publication, product, or service to be considered a recommendation or endorsement. Contact the organizations below for information on the services and publications they offer.

Organizations

Aluminum Association, Inc.
900 19th Street, NW
Washington DC 20006
Phone: (202) 862-5100; Fax: (202) 862-5164
Home Page: www.aluminum.org

American Forest and Paper Association
1111 19th Street, NW, Suite 800
Washington, DC 20036
Phone: (202) 463-2700; Fax: (202) 463-2785
Email: INFO@afandpa.org
Home Page: www.afandpa.org

American Hotel & Motel Association (AH&MA)
1201 New York Avenue NW, Suite 600
Washington, DC 20005-3931
Phone: (301) 705-7455; Fax: (301) 843-0159
Home Page: www.ahma.com

American Plastics Council
1300 Wilson Blvd, Suite 800
Arlington, VA 22209
Phone: (800) 243-5790 or (703) 253-0700
Fax: (703) 253-0701
Home Page: www.plastics.org

California Integrated Waste Management Board (CIWMB)
CIWMB, 8800 Cal Center Drive, MS12, Sacramento, CA 95826
Phone: (916) 255-2448; Fax: (916) 255-2573
Website: www.ciwmb.ca.gov
Canadian Pacific Hotels & Resorts
Contact: Environmental Affairs Department; Phone: (416) 367-7101

Cornell Waste Management Institute
Cornell University
101B Rice Hall
Ithaca, NY 14853-5601
Phone: (607) 255-1187; Fax: (607) 255-8207
Email: cwmi@cornell.edu
Home Page: www.cfe.cornell.edu.wmi

Energy Efficiency and Renewable Energy Network (EREN)
U.S. Department of Energy
Comprehensive resource for DOE's energy efficiency and renewable energy information.
Website: www.eren.doe.gov

Environmental Industries Association
4301 Connecticut Avenue, NW, Suite 300
Washington, DC 20008
Phone: (202) 244-4700 or (800) 424-2869
Fax: (202) 966-4818
Home Page: www.envasns.org
This association is an umbrella organization for the National Solid Waste Management Association and the Waste Equipment Management Association.

First Coast Food Runners - Jacksonville Area
Phone: 904/353-3663
Tim Davis, Manager

Florida Department of Environmental Protection (FDEP)
Waste Reduction Section
2600 Blairstone Road
Tallahassee, FL 32399-2400
Phone: (850) 488-0900 Fax: (850) 921-8061
Pollution Prevention Program contact: Julie Abcarian, Email: abcarian_j@dep.state.fl.us

Recycling Program contact: Peter Goren, Email: goren_p@dep.state.fl.us
Home Page: www.dep.state.fl.us/dwm

Florida Energy Extension Service (FEES)

University of Florida

P.O. Box 110940, Building 242, Gainesville, FL 32611-0940

Phone: (352) 392-1513; Fax: (352) 392-3196

World Wide Web: www.agen.ufl.edu/~fees/

The FEES provides energy users with conservation information and technical Assistance. It strives to assist consumers in making wise energy decisions. Its target audiences include those involved in: agriculture; homebuilders and owners; owners of hotels, motels, apartments, condominiums, and restaurants; and educators. Inquiries from the general public are welcome. FEES offers publications, videos, and other educational media to interested parties both inside and outside Florida.

Florida Energy Office

Department of Community Affairs

2555 Shumard Oak Boulevard, Tallahassee, FL 32399-2100

Phone: (850) 488-2475; Fax: (850) 488-7688

World Wide Web: www.dca.state.fl.us/ffcm

The Florida Energy Office provides free state-specific renewable energy and energy conservation information, including publications, to consumers.

Florida Hotel Motel Association (FH&MA)

PO Box 1529

Tallahassee, FL 32302-1529

Phone: (850) 224-2888; Fax (850) 222-1752

Florida Solar Energy Center

Attn: Public Information Office

1679 Clearlake Road, Cocoa, FL 32922

Phone: (407) 638-1000; Fax: (407) 638-1010; BBS: (407) 638-1456

Email: info@fsec.ucf.edu

World Wide Web: www.fsec.ucf.edu

The Florida Solar Energy Center (FSEC), a state-supported solar research facility, answers questions on solar and other forms of renewable energy. FSEC provides information on solar manufacturers and contractors and all state solar legislation. It also maintains solar equipment testing facilities. Free publications, including a quarterly newsletter, are available to the public.

Food Chain - Nation Food Rescue Network - Prepared Food Recovery Program

Phone: 800/845-3008

Contact: Jeff Whited, Manager

Glass Packaging Institute
1627 K Street, NW, Suite 800
Washington, DC 20006
Phone: (202) 887-4850; Fax: (202) 785-5377
Email: gpidc@erols.com
Home Page: www.gpi.org

Green Hotel Association
PO Box 420212, Houston, TX 77242-0212
Phone: (713) 789-8889; Fax (713) 789-9786
Home Page: greenhotels.com

International Hotels Environmental Initiative (IHEI)
Green Hotelier Quarterly Magazine
PO Box 324, Aylesbury, Buckingham HP193BR
Fax: +44 (0) 1296 392369

INFORM, Inc.
120 Wall Street, 16th Floor
New York, NY 10005-4001
Phone: (212) 361-2400; Fax: (212) 361-2412
Home Page: www.informinc.org

Institute for Local Self Reliance
2425 18th Street, NW
Washington, DC, 20009-2096
Phone: (202) 232-4108; (202) 332-0463
Email: ilsr@igc.org
Home Page: www.ilsr.org

Institute of Scrap Recycling Industries
1325 G Street, NW, Suite 1000
Washington, DC 20005-3104
Phone: (202) 737-1770; Fax: (202) 626-0900
Home Page: www.isri.org

Maryland Environmental Services (MES)
2011 Commerce Park Drive
Annapolis, MD 21401
Phone: (410) 974-7281; Fax: (410) 974-7267
Home Page: www.menv.com/content/recycling/links.htm
Resource for buy recycled and green purchasing information.

National Agricultural Library
Current Research Information System
U.S. Department of Agriculture

10301 Baltimore Avenue
Beltsville, MD 20705
Phone: (301) 504-6846; Fax: (301) 504-6272
Home Page: www.nal.usda.gov
Contact for information on composting.

National Recycling Coalition (NRC)
1727 King Street, Suite 105
Alexandria, VA 22314-2720
Phone: (703) 683-9025; Fax: (703) 683-9026
Home Page: www.nrc-recycle.org
The NRC sponsors an annual conference and exposition.

Public Technologies, Inc. (PTI)
Publications Center
P.O. Box 321
Annapolis Junction, MD 20701
Phone: (301) 490-2188 or (800) 784-8976
Fax: (301) 604-0158
Email: pubs@pti.org
Home Page: www.pti.nw.dc.us
PTI is the non-profit technology organization of the National League of Cities (NLC), the National Association of Counties (NACo), and the International City/County Management Association (ICMA).

Second Harvest Food Bank of Central Florida
2008 Brengle Avenue
Orlando, Florida 32808
Phone: 407/295-1066; Fax: 407/292-4758
Contact: Vicki Littell, Second Helpings Manager

Second Harvest Food Bank - Daytona Beach
Phone: 904/257-4499
Mary Lloyd, Manager
Solid Waste Association of North America (SWANA)
P.O. Box 7219
Silver Spring, MD 20907-7219
Phone: (301) 585-2898; Fax: (301) 589-7068
Email: technical@swana.org
Home Page: www.swana.org
Information available for professionals or members only.

Southeast Waste Exchange
UNCC Urban Institute
Charlotte, NC 28223

Phone: (704) 547-4289
Fax: (704) 547-3178

Southern Waste Information eXchange, Inc. (SWIX)
P.O. Box 960
Tallahassee, FL 32302
Toll Free: (800) 441-7949
Fax: (850) 386-4321
Email: swix@mailers.fsu.edu
Home Page: www.wasteexchange.org

Steel Can Recycling Institute
Contact: Suzette Miller
4400 Bayou Boulevard, Suite 16D, Pensacola, FL 32503
Phone: (850) 479-7208
US Composting Council
P.O. Box 407
Amherst, OH 44001-0407
Phone: (440) 989-2748; Fax: (440) 989-1553
Home Page: www.compostingcouncil.org

United States Conference of Mayors
1620 I Street, NW, Suite 400
Washington, DC 20006
Phone: (202) 293-7330; Fax: (202) 293-2352
Email: info@usmayors.org
Home Page: www.usmayors.org

United States Environmental Protection Agency
Information Resources Center, MC-3404
401 M Street, SW, Room M-2904
Washington, DC 20460
Phone: (202) 260-5922; Fax: (202) 260-6257
Email: library-hq@epamail.epa.gov
Home Page: www.epa.gov
Or:
The Environmental Recycling Hotline
Phone: (800) 253-2687
Home Page: www.1800cleanup.org

US EPA Region IV
Atlanta Federal Center
61 Forsythe Street SW
Atlanta, GA 30303-3140

Phone: (404) 532-8488
Fax: (404) 562-8439
Contact: Mark Davis
Email: davis.mark@epamail.epa.gov
Home Page: www.epa.gov/epaoswer/index.htm

Publications

Hotel/Motel Waste Reduction Publications

Amelia Island Plantation Resort – Green Team Fact Sheet

Prepared by the AIP Green Team. October 1997

Amelia Island Plantation

PO Box 3000, Amelia Island, FL32035-3000

Phone: (904) 277-5951; Fax: (904) 277-5994

Contact: Carol Morris or Larry Dingman

Overview of how Green Team was established, action plan for waste reduction, and annual results.

An Environmental Guide for Marriott International – Environmentally Conscious Hospitality Operations (ECHO). July 1998

Published by Marriott International, Inc.

For more information, contact: Argyle Claxton Read, Engineering Program Manager, Marriott Drive, Dept.#51-932.20, Washington, DC 20058

Phone: (301) 380-5700; Fax: (301) 380-6635; Email: argyle.read@marriott.com

Operational Manual which clearly communicates Marriott International's Environmental Policy, offers suggested environmental actions that properties can implement, and outlines ways to document and celebrate successes. Includes checklists.

Canadian Pacific Hotels & Resorts Green Partnership Guide

Prepared by Canadian Pacific Hotels & Resorts Environmental Affairs Department

Phone: (416) 367-7101

Guide that outlines the 12 steps used to create an environmentally friendly setting for guests, staff, and the future.

Commercial Waste Reduction Clearinghouse – Hotels/Motels

Prepared by the Oregon Department of Environmental Quality Solid Waste Program

Web Site: www.deq.state.or.us/wmc/ewrc.html

Summarized case studies of hotel/motel waste reduction projects.

Environment Take Center Stage at Some Properties

Hotel & Motel Magazine. October 1997.

Article discusses the benefits of hotel motel waste reduction programs.

Environmental Action Pack for Hotels

Published by the American Hotel & Motel Association (AH&MA), The International Hotel Association (IHA), the International Hotels Environment Initiative (IHEI), the United Nations Environment Program (UNEP), and the UNEP Industry and Environment (UNEP/IE). Copyright 1996.

American Hotel & Motel Association

1201 New York Avenue NW, Suite 600, Washington, DC 20005-3931

Phone: (202) 289-3100; Home Page: www.ahma.com

Guidebook for environmental efficiency in the lodging industry. Provides action plans and checklists for conservation of water and energy, waste reduction, environmentally friendly purchasing, and pollution prevention.

Half Moon Resort Waste Reduction Program Overview

Prepared by AH&MA OnLine; Website: www.ahma.com/main.htm

Summarizes award winning waste reduction programs at the Half Moon Beach Resort in Jamaica, the Green Hotelier award winner for 1999. Lists previous years award winners.

Half Moon Post Office/Rose Hall, St. James/Jamaica, W.I.

Phone: (876) 953-2211; Fax: (876-953-2731; Email: reservation@halfmoonclub.com

Hotel/Motel Waste Reduction Workbook

Published by the Florida Department of Environmental Protection. Fall 1998.

Phone: (850) 488-0900

Website: www.dep.state.fl.us/dwm.documents.htm

Workbook, which contains step by step instructions for implementing, documenting, marketing, and evaluating a hotel/motel waste reduction program. Includes worksheets and resource listing.

Less Garbage Overnight – A Waste Prevention Guide for the Lodging Industry

Prepared for INFORM by John P. Winter and Sharene L. Azimi.]1996

Inform, Inc., 120 Wall Street, New York, NY 10005-4001

Phone: (212) 361-2400; Fax: (212) 361-2412; Email: Inform@igc.apc.org

Guide which identifies strategies that can be implemented by hotels and motels to prevent waste generation, reduce the burden on the natural environment, and save money. This guide also describes innovative waste prevention efforts undertaken by more than 20 hotel operators throughout the United States and Canada, including many which resulted in cost savings.

Recycling Guidebook for the Hospitality & Restaurant Industry

Prepared by the Metropolitan Washington Council of Governments

Department of Environmental Programs, Publication #20702

777 North Capitol Street NE, Suite 300, Washington, DC 20002-4239

Phone: (202) 962-3256

Guidebook outlines the steps that restaurants and hotels can follow to implement waste reduction and recycling programs. Includes profiles of ten businesses in the Washington metropolitan area that have successfully established programs.

Recycling in Hotels and Motels – A Guide for Hotel and Motel Recycling Managers

Prepared by the University of Florida Energy Extension Office. December 1993.

To order, contact: Instructional Materials Service

PO Box 110540

Gainesville, FL 32611-0540

Phone: (352) 392-0502; Fax: (352) 392-9585

Guide derived from pilot project and years of experience gained from implementing programs and suggestions from hotel/motel engineers who have organized recycling and waste reduction programs.

Reduce, Reuse, and Recycle: A Step-by-Step Guide to Help Hotels and Motels Manage Waste

Prepared by Rhonda L. Sherman, Solid Waste Management Extension Specialist

North Carolina Cooperative Extension Service

North Carolina State University

Reducing Waste in Property Management

Prepared by the California Integrated Waste Management Board (CIWMB)

Publication #500-94-032. August 1994.

CIWMB, 8800 Cal Center Drive, MS-22, Sacramento, CA 95826

Phone: (916) 255-2448; Fax: (916) 255-2573; Website: www.ciwmb.gov

Information sheet which outlines waste prevention ideas for building maintenance, custodial, and landscaping operations.

Shaping Change and Changing Minds, Environmental Management for the Lodging Industry. Video, running time 29:24

Published by the American Hotel Motel Association (AH&MA)

Phone: (301) 705-7455 or call the fax-on-demand line at 1(800) 701-7725, item #200

Website: www.amha.com

Treasure Island Inn Does It Again! This time . . . It's the Environmental Quality Achievement Award

Published in the Florida Hotel & Motel Journal, March 1996.

Article which outlines hotels waste reduction efforts. Includes list of projects and budget information.

Turnberry Isle Resort & Club – A.R.T. “Active Recycling at Turnberry

Turnberry Isle Resort and Club

19999 W Country Club Drive, Aventura, FL 33180

Phone: (305) 932-6200; Fax: (305) 933-3811

Contact: Christopher Wilson
Waste Reduction Policy and Program Overview. April 2000.

Waste Reduction in Hotels and Motels – A Guide for Hotel and Motel Managers

Prepared by the Georgia Hospitality Environmental Partnership. March 1996
Georgia Hospitality Environmental Partnership
120 West Trinity Place, Room 308
Decatur, GA 30030
Phone: (404) 371-2405; Fax: (404) 371-2502
Guidebook on waste reduction and recycling in the lodging industry. Outlines step-by-step instructions for implementing programs. Includes section on eco-purchasing and worksheets.

Waste Reduction in Hotels and Motels

Prepared by the California Integrated Waste Management Board (CIWMB)
Publication #500-94-029. Revised June 1996.
CIWMB, 8800 Cal Center Drive, MS-22, Sacramento, CA 95826
Phone: (916) 255-2448; Fax: (916) 255-2573; Website: www.ciwmb.gov
Information sheet which outlines waste prevention ideas for hotels/motels.

Waste Reduction Ideas for Meetings and Conferences

Prepared by the California Integrated Waste Management Board (CIWMB)
Publication #500-94-033. August 1994.
CIWMB, 8800 Cal Center Drive, MS-22, Sacramento, CA 95826
Phone: (916) 255-2448; Fax: (916) 255-2573; Website: www.ciwmb.gov
Information sheet which outlines waste prevention ideas for meetings and convention facilities.

Watch Your Waste – A Waste Reduction Guide for San Diego Hotels

Prepared by the California Integrated Waste Management Board
CIWMB, 8800 Cal Center Drive, MS-22, Sacramento, CA 95826
Phone: (916) 255-2448; Fax: (916) 255-2573; Website: www.ciwmb.gov
Handbook with step by step approach to implementing and promoting a hotel/motel waste reduction program. Includes resource listing.

What Are “Green Hotels?”

Green Hotel Association
PO Box 420212, Houston, TX 77242-0212
Phone: (713) 789-8889; Fax (713) 789-9786
Home Page: greenhotels.com
Information sheet on membership and what it takes to become a “green” hotel.

General

Boosting Your Bottom Line

US EPA/Economics and Innovation (1801)

401 M Street SW, Washington, DC 20460

Phone: (202) 260-6135; Website: www.epa.gov/partners

EPA 100-R-00-001. January 2000

Booklet describing EPA's Partner's for the Environment Program. Discusses waste prevention savings.

Business Guide for Reducing Solid Waste

US EPA/Solid Waste and Emergency Response (5306)

401 M Street SW, Washington, DC 20460

Website: www.epa.gov

EPA/530-K-92-004. November 1993

Guide with step-by-step instructions designed to assist businesses, government, and other organizations establish waste reduction programs. Includes worksheets.

Creating A Paper Reduction Campaign

Prepared by the California Integrated Waste Management Board (CIWMB)

Publication #500-94-034. August 1994.

CIWMB, 8800 Cal Center Drive, MS-22, Sacramento, CA 95826

Phone: (916) 255-2448; Fax: (916) 255-2573; Website: www.ciwmb.gov

Information sheet that outlines the steps in implementing a paper reduction program in the workplace.

Don't Throw Your Profits Out with the Trash, 2nd Edition

Prepared by the California Integrated Waste Management Board (CIWMB)

Publication #441-95-022. April 1995.

CIWMB, 8800 Cal Center Drive, MS-22, Sacramento, CA 95826

Phone: (916) 255-2448; Fax: (916) 255-2573; Website: www.ciwmb.gov

Information sheet which brief case study summaries of commercial waste reduction programs.

Don't Throw Your Profits Out with the Trash, 3rd Edition

Prepared by the California Integrated Waste Management Board (CIWMB)

Publication #441-95-023. April 1995.

CIWMB, 8800 Cal Center Drive, MS-22, Sacramento, CA 95826

Phone: (916) 255-2448; Fax: (916) 255-2573; Website: www.ciwmb.gov

Information sheet which brief case study summaries of commercial waste reduction programs.

Don't Throw Your Profits Out with the Trash, 4th Edition

Prepared by the California Integrated Waste Management Board (CIWMB)

Publication #441-95-024. April 1995.

CIWMB, 8800 Cal Center Drive, MS-22, Sacramento, CA 95826

Phone: (916) 255-2448; Fax: (916) 255-2573; Website: www.ciwmb.gov

Information sheet which brief case study summaries of commercial waste reduction programs.

Encouraging Top Management to Support Waste Reduction Efforts

Prepared by the California Integrated Waste Management Board (CIWMB)

CIWMB, 8800 Cal Center Drive, MS-22, Sacramento, CA 95826

Phone: (916) 255-2448; Fax: (916) 255-2573; Website: www.ciwmb.gov

Information sheet which outlines ways to gain top management support for waste reduction ideas. Includes step by step instructions.

Introducing Industrial Solid Waste Reduction

University of Louisville, 420 Academic Building, Louisville, KY 40292

Phone: (502) 852-0965; fax: (502) 852-0964

Website: www.kppc.org

Sponsored by the Kentucky Pollution Prevention Center and U.S. EPA Region IV. Complete waste reduction manual on CD. Narrative walks through the reasons for practicing waste reduction, how to implement, includes worksheets for program documentation and evaluation. Lists of National, State, and Regional resources.

EnviroSense – Common Sense Solutions to Environmental Problems

Repository for pollution prevention, compliance assurance, enforcement information, and data bases.

Website: www.epa.gov/envirosense/

No Time to Waste – A Guide to Recycling 9 to 5

Prepared by the West Palm Beach Solid Waste Authority (SWA)

SWA/Office of Recycling

7501 North Jog Road, West Palm Beach, FL 33412

Phone: (352) 930-2727

Step-by-step guide for implementing business waste reduction, buy recycled, and recycling programs.

Orange County Business Guide to Recycling – “Recyclopedia”

Orange County Solid Waste

P.O. Box 720067, Orlando, FL 32872

Phone: (407) 836-6616; Fax: (407) 836-6658; Hotline: (407) 836-7001

Handbook describing mandatory commercial recycling ordinance and providing information on implementation. Includes educational materials, listing of collection services, and local recyclers.

Piecing Together Your Business’ Solid Waste Costs - Workshop Manual

Prepared by the Solid Waste Authority of Palm Beach County. 1992.

Manual presented to participants at business waste reduction workshops. Contains Recycled Products Guide, educational materials, and program information.

Reduce, Reuse, Recycle – It’s Good Business! A Guide for California Businesses

Prepared by the California Integrated Waste Management Board (CIWMB)

Publication #500-94-004. April 1994.

CIWMB, 8800 Cal Center Drive, MS-22, Sacramento, CA 95826

Phone: (916) 255-2448; Fax: (916) 255-2573; Website: www.ciwmb.gov

Guidebook for setting up, maintaining, and evaluating business waste reduction programs. Includes worksheets, prevention ideas, and weight/volume conversion tables.

Sample Waste Prevention Action Plan

Prepared by the California Integrated Waste Management Board (CIWMB)

Publication #441-97-025. June 1997.

CIWMB, 8800 Cal Center Drive, MS-22, Sacramento, CA 95826

Phone: (916) 255-2448; Fax: (916) 255-2573; Website: www.ciwmb.gov

Waste prevention program model.

Source Reduction Program Potential Manual: A Planning Packet

US EPA/Solid Waste and Emergency Response (5306W)

401 M Street SW, Washington, DC 20460

Website: www.epa.gov/osw

Packet - EPA530-E-97-001. November 1997

Manual - EPA530-R-97-002. September 1997

ReduceIt Software – EPA530- C-97002 (a,b,c)

This manual and software is designed to estimate the potential of source reduction programs.

Taking Care of Business – A Guide to Recycling in the Workplace

Prepared by the West Palm Beach Solid Waste Authority (SWA)

SWA/Office of Recycling

7501 North Jog Road, West Palm Beach, FL 33412

Phone: (352) 930-2727

Handbook and educational materials targeting recycling in the workplace.

Use Less Packaging and Reduce Waste

Prepared by the California Integrated Waste Management Board (CIWMB)

Publication #500-94-038. August 1994.

CIWMB, 8800 Cal Center Drive, MS-22, Sacramento, CA 95826

Phone: (916) 255-2448; Fax: (916) 255-2573; Website: www.ciwmb.gov

Information sheet which provides ideas for reducing packaging waste.

Waste Prevention Computer Tool Kit

League of Women Voters Education Fund/Publication Sales

1730 M Street NW, Washington, DC 20036-4505

Phone: (202) 429-1965; Fax: (202) 429-0854

Outlines the step-by-step process for implementing a waste prevention program in home, school, or business.

Waste Prevention Pays Off – Companies Cut Waste in the Workplace

US EPA/Solid Waste and Emergency Response (5306)
401 M Street SW, Washington, DC 20460

Website: www.epa.gov

EPA/530-K-92-005. November 1993.

Booklet that outlines the benefits of waste reduction and some of the ways waste can be prevented. Includes brief case studies.

Waste Reduction Ideas for Offices

Prepared by the California Integrated Waste Management Board (CIWMB)

Publication #500-94-028. August 1994.

CIWMB, 8800 Cal Center Drive, MS-22, Sacramento, CA 95826

Phone: (916) 255-2448; Fax: (916) 255-2573; Website: www.ciwmb.gov

Information sheet which outlines waste reduction ideas for offices.

Waste Reduction Opportunities in the Landscape Industry

Prepared by the California Integrated Waste Management Board (CIWMB)

Publication #500-94-043. August 1994.

CIWMB, 8800 Cal Center Drive, MS-22, Sacramento, CA 95826

Phone: (916) 255-2448; Fax: (916) 255-2573; Website: www.ciwmb.gov

Information sheet which provides ideas for reducing waste in Landscaping.

Waste WiSe – EPA’s Voluntary Program for Reducing Business Solid Waste

US EPA/Solid Waste and Emergency Response (5306)

401 M Street SW, Washington, DC 20460; Phone: (800) 372-9473

Website: www.epa.gov/wastewise

EPA530-F-93-018. October 1993

Program information for the EPA’s voluntary business waste reduction program.

Environmentally Preferable Purchasing

Buy Recycled Products!

Prepared by the California Integrated Waste Management Board (CIWMB)

Publication #500-94-031.

Fact sheet published by the California Integrated Waste Management Board. 1997.

CIWMB, 8800 Cal Center Drive, MS-22, Sacramento, CA 95826

Phone: (916) 255-2448; Fax: (916) 255-2573; Website: www.ciwmb.gov

Information sheet which outlines the importance in buying recycled products. Listing of product categories.

Buy Recycled Training Manual, 4th Edition

Prepared by the Northeast Maryland Waste Disposal Authority, 1995.

25 Charles Street S, Suite 2105, Baltimore, MD 21201

Phone: (410) 333-2730 Fax: (410) 333-2721

Guide to establishing a buy recycled program. Includes worksheets and recycled product information.

Buy Recycled . . . Buy Georgia Guide. 1996.

Prepared by Georgia Department of Community Affairs
60 Executive Park South NE, Atlanta, GA 30329-2231
(404) 679-3161; Fax: (404) 679-0595

Guidebook for establishing private and public sector environmentally friendly purchasing programs. Encourages buyers to purchase products from Georgia companies.

Earthwise Purchasing – Buy Recycled

Prepared by METRO, 600 NE Grand Avenue, Portland, OR 97232-2736
Phone: (503) 797-1700

General guide for business interested in green purchasing

ECO-PURCHASING in Hotels and Motels – A Guide for Hotel and Motel Purchasing Managers. 1993

Prepared by the University of Florida Energy Extension Office
Available at cost from: Instructional Materials Service

101 Rolf's Hall, Gainesville, FL 32611-0130

Phone: (352) 392-0502; Fax: (352) 392-9585

Guide designed to assist hotel managers initiate programs utilizing selective purchasing practices, and aggressive management to reduce waste, toxicity, and disposal costs.

Florida Directory of Recycled Product Vendors

Florida Recycling Business Assistance Center (RBAC). July 1998.
2600 Blair Stone Road, MS4570, Tallahassee, FL 32399-2400
Phone: (850) 488-0300; Fax: (850) 921-8061

Website: www.dep.state.fl.us/waste/programs/rbac

Prepared as a reference guide for individuals and groups seeking to find information about recycled content products available from Florida Vendors.

Housing: A Home for Recycled Materials. March 1994

Published by the U.S. Department of Agriculture Forest Service

Comprehensive brochure describing the progression of technology which will allow the use of recycled products in construction of new facilities and homes. For more information, contact:

Forest Products Laboratory
Erv Schaffer, Assistant Director
One Gifford Pinchot Drive
Madison, WI 53705
(608) 231-9200
(202) 205-1565

Forest Products and Harvesting Research
Howard Rosen
USDA Forest Service
14th & Independence, SW
Washington, DC 20090

The Model Green Building Projects

Fact sheet published by the California Integrated Waste Management Board. Publication #422-97-041. Revised December 1997.

For more information, contact: Joyce Mason in the Buy Recycled Section at CIWMB,
8800 Cal Center Drive, MS-22, Sacramento, CA 95826
Phone: (916) 255-2448; Fax: (916) 255-2573; Email: jmason@ciwmb.ca.gov

The Official Recycled Products Guide

American Recycling Market, Inc.

P.O. Box 577, Ogdensburg, NY 13669

Phone: (800) 267-0707; Home Page: www.recyclingdata.com

Annual Publication containing over 4000 product listings for more than 700 product classifications available nationwide.

Private Sector Pioneers – How Companies are Incorporating Environmentally Preferable Purchasing

U.S. EPA/Pollution Prevention and Toxics

Pollution Prevention Clearinghouse/ EPA 742-76-99-001, June 1999

Environmentally Preferable Purchasing Program

401 M Street SW (7409)

Washington, DC 20460

Phone: (202) 260-1023; Fax: (202) 260-0178

Home Page: www.epa.gov.opperspd/epp/

Provides an overview of the environmentally preferable purchasing program and recent private sector environmentally preferable purchasing initiatives.

Purchasing for Waste Reduction

Prepared by the California Integrated Waste Management Board (CIWMB)

Publication #500-94-030. August 1994.

CIWMB, 8800 Cal Center Drive, MS-22, Sacramento, CA 95826

Phone: (916) 255-2448; Fax: (916) 255-2573; Website: www.ciwmb.gov

Information sheet which discusses the importance of waste reduction and outlines ways to implement a program.

Recycled Content Products and Services Contract List. February 1988.

Prepared by Florida State Purchasing Bureau of Standards and Programs Management Materials Research Section, Department of Management Services.

Pollution Prevention

EPA Pollution Prevention Accomplishments: 1994

Incorporating Pollution Prevention into Business Decisions

U.S. EPA/Pollution Prevention and Toxics

Pollution Prevention Clearinghouse

401 M Street SW (7409)

Washington, DC 20460

Phone: (202) 260-1023; Fax: (202) 260-0178

Home Page: www.epa.gov.

Provides an overview of the EPA's pollution prevention policy and summarizes some successful initiatives.

Global P2 Information Network

National Pollution Prevention Roundtable – A Guide to the Most Comprehensive Pollution Prevention (P2) Clearinghouse Services Around the Globe.

Published by the National Pollution Prevention Roundtable

2000P Street NW, Suite 708, Washington, DC 20036

Phone: (202) 466-P2P2; Fax (202) 466-7964; Hotline (888) PIK-P2P2

Home Page: www.p2.org

This guide outlines the national clearinghouse services the National Pollution Prevention Roundtable provides to members.

Facility Pollution Prevention Guide. 1992. EPA/600/R-92/088

Published by the USEPA Office of Solid Waste, Washington, DC 20460 and the

Risk Reduction Engineering Laboratory, Office of Research and Development

USEPA, Cincinnati, OH 45268

Written for individuals responsible for implementing pollution prevention programs in their facilities. Includes sample and reproducible worksheets.

Florida's Handbook for Small Quantity Generators of Hazardous Waste. 1997

Prepared by the Hazardous Waste Management Section, Bureau of Solid and Hazardous Waste within the Florida Department of Environmental Protection, Tallahassee, FL

This handbook explains both federal regulations and Florida requirements. This easy to follow guide can be utilized in a workshop format or for on-the-job training.

Organics/Composting

Compost - New Applications for an Age-Old Technology

US EPA/Solid Waste and Emergency Response (5306W)

401 M Street SW, Washington, DC 20460

Website: www.epa.gov

EPA530-F-97-047. October 1997

Guidance on methods and uses of compost.

Don't Throw Away that Food – Strategies for Record-Setting Waste Reduction

USEPA Solid Waste and Emergency Response (5306W), EPA-530-F-98-023, Sept 1998.

401 M Street SW, Washington, DC 20460

Phone: (202) 260-1023; Fax: (202) 260-0178; Home Page: www.epa.gov.

Information guide which covers strategies for reducing food waste. Includes case studies.

Food for Thought – Restaurant Guide to Waste Reduction and Recycling

Published by the California Integrated Waste Management Board (CIWMB), publication #441-98-016. 1992. For more information, contact: CIWMB, 8800 Cal Center Drive,

MS12, Sacramento, CA 95826; Phone: (916) 255-2448; Fax: (916) 255-2573

Website: www.ciwmb.ca.gov

Guide offers suggestions that restaurants can use to reduce food waste.

Recycling Yard Trash: Best Management Practices Manual for Florida. May 1996.
Published by Florida Organic Recycling Association (FORA) in conjunction with the Florida Center for Solid and Hazardous Waste Management and the Florida Department of Environmental Protection (FDEP).

Construction, Renovation, Demolition and Wood Wastes

Construction Waste & Demolition Debris Recycling . . . a Primer

SWANA October 1993.

The Solid Waste Association of North America

P.O. Box 7219, Silver Spring, MD 20907

Phone: (301) 585-2898; Fax: (301) 589-7068

Home Page: www.swana.org

Educational report designed to provide guidance to private and public sector in planning and implementing opportunities associated with the recycling of construction waste and demolition debris (C&D waste). Funded in part by a grant from the USEPA.

Wood Waste – How to Keep Wood Waste Out of Landfills

Publication #500-94-014, October 1994.

California Integrated Waste Management Board (CIWMB)

8800 Cal Center Drive, Sacramento, CA 95826

Brochure discusses options for reducing wood waste and outlines benefits of reduction. Step by step instructions on setting up a wood waste program.

Water Conservation

Wastewiser

6666 West Quincy Avenue, Denver, CO 80235

(800) 559-9855 Website: www.waterwiser.org

Clearinghouse sponsored by the American Water Works Association and the U.S. Bureau of Reclamation, of current and comprehensive water efficiency information.

Water Efficiency Manual for Commercial, Industrial, and Institutional Facilities.

Prepared by the North Carolina Department of Environment and Natural Resources, the North Carolina Division of Pollution Prevention and Environmental Assistance, the North Carolina Division of Water Resources, and the Land of Sky Regional Council – WRATT Program. August 1998.

Manual outlines the need and benefits of water conservation, summarizing water efficiency measures including landscape design and water management options. Includes section on facility audits with worksheets.

U.S. EPA's Water Alliances of Voluntary Efficiency (WAVE) Program

USEPA, 401 M Street SW (4204), Washington, DC 20460

(800) 993-7288; Website: es.epa.gov/partners/wave/wave.html

A hotel/motel initiative, which encouraged facilities to reduce water consumption. The program is currently being expanded to include other business sectors.

WAVE-Saver: Water Management Software EPA-832-F-94-005, July 1994.

U.S. EPA/Office of Water (4204), 401 M Street SW, Washington, DC 20460

Phone: (202) 260-7288; Fax: (202) 260-1827

Website: es.epa.gov/partners/wave/wavesave.html

Software developed in conjunction with leading water-use experts, and sponsored by U.S. EPA and Metropolitan Water District of Southern California.

Energy Conservation

Driving Investment in Energy Efficiency, Energy Star[®] and Other Voluntary Programs

EPA 420-R-99-005. July 1999.

U.S. EPA / Air and Radiation (6202J), 401 M Street SW, Washington, DC 20460

(888) 782-7939; website: www.epa.gov/energystar

Annual report summarizing results from the partnership programs of the Climate Protection Division through the end of 1998. Partnership programs include: Energy Star BuildingsSM and Green Lights[®], Energy Star[®] – labeled products, Methane Partnerships, and Environmental Stewardship Programs.

Energy Efficient – Tips to Save

Prepared by the Florida Energy Extension Service (FEES), University of Florida.

Brochure includes streamlined checklist for reducing energy consumption.

Internet Resources – Web Sites and Email Addresses

America Recycles Day

www.americarecyclesday.org

American Plastics Council

sourcebook.plasticsresource.com

Buy Recycled Business Alliance

brba.nrc-recycle.org

Buy Recycled Training Institute
www.usmayors.org/USCM/uscm_projects_services/buy_recycled/contents.htm

California Recycled-Content Product Database
www.ciwmb.ca.gov/RCP/

Conservatree
www.conservatree.com

Defense Logistics Agency
www.dscr.dla.mil/products/epa/eppcat.htm

Ecological Certified Products and Services (Canada)
www.environmentalchoice.com
EPA Comprehensive Procurement Guidelines
www.epa.gov/cpg

General Services Administration/Federal Supply Service
www.pub.fss.gsa.gov/environ

Green Seal
www.greenseal.org

Harris Directory
www.harrisdirectory.com

King County, Washington
www.metrokc.gov/procure/green

Massachusetts - Environmentally Preferable Product Procurement
Program includes product guide, state contracts and green building
information.

www.magnet.state.ma.us/osd/enviro/enviro

Materials Exchange
www.wastebid.com
www.recycle.net

NAPCOR National Assoc. for PET Container Resources
www.napcor.com/process/products.html

NASPO National Assoc. of State Purchasing Officials
www.fcn.state.fl.us/bpsr/drc_notice.html

Office of the Federal Environmental Executive
www.ofee.gov

Recycled Products
www.amazingrecycled.com

Remanufacturing Industries Council International
www.rici.org

Reuse Development Organization
www.redo.org

Scientific Certification Systems
www.scs1.com

Scrap Tire Management Council of the Rubber Manufacturers Association.
www.rma.org

Steel Recycling Institute
www.recycle-steel.org

Tire Retread Information Bureau
www.retread.org

Appendix 6.2 - Survey Instrument

We need your help! During the next few months, the Southern Waste Information Exchange, Inc. (SWIX) in cooperation with the Florida Hotel Motel Association and the Florida Department of Environmental Protection will be surveying the hospitality industry. The purpose of this study is to gather and analyze information to determine the current state and future potential for waste reduction and pollution prevention in Florida's hotels and motels.

Currently the extent of solid waste generation, recycling and other waste reduction efforts within Florida's Hospitality Industry is largely unknown. The potential for reducing waste and the economics of such programs could be considerable. Most efforts to date have concentrated on getting recycling and waste reduction programs implemented at a few specific hotel properties. In addition, there is only minimal documentation on the status, extent, cost effectiveness, or diversion success of these projects. The objective of this project is to develop sound information on which to base projections for waste generation, waste reduction, and pollution prevention potential in Florida's lodging industry and to provide baseline data for future waste reduction and pollution prevention programs.

We would appreciate your help in checking to ensure the contact information and telephone numbers listed are correct for your hotel property and note changes directly on the survey form. Please note that any information that you provide will be confidential as it concerns your specific hotel property – unless you check the appropriate box provided on the survey.

Please complete the survey questions and return by fax to 941/420-8050 by October 15, 1999. If you have questions, please contact Matina Wagner at 941/424-5646 or Ray Moreau at the SWIX hotline, 800/441-7949. A summary report will be mailed to all properties, which participate in the survey process.

Hotel Name: _____

Contact Person: _____ Title: _____

Location Address _____

City Zip: _____ State _____

County: _____ Zip _____

Mailing Address _____

City _____ State _____

Telephone Number: _____ Zip _____

Fax: _____ Email _____

Number of Rooms: _____ Number of employees: _____ Age of Property: _____

Confidentiality Release

check box indicates permission to release information on hotels program)

1. Does the hotel/motel practice waste reduction?

NO **please proceed to question #3**

YES please indicate which type of programs are currently active:

Water Conservation

Energy Conservation

Recycling

Buy Recycled Products

Pollution Prevention Other: _____

2. Check all materials listed that are currently recycled at Hotel:

- | | | | |
|--|--|--|---|
| <input type="checkbox"/> Cardboard | <input type="checkbox"/> Office Paper | <input type="checkbox"/> Aluminum Cans | <input type="checkbox"/> Newspapers |
| <input type="checkbox"/> Scrap Metal | <input type="checkbox"/> Plastic Bottles | <input type="checkbox"/> Steel Cans | <input type="checkbox"/> Computers/Accessories |
| <input type="checkbox"/> Yard Waste | <input type="checkbox"/> Linens/Towels | <input type="checkbox"/> Wood | <input type="checkbox"/> Telephones & Peripherals |
| <input type="checkbox"/> Room Keys | <input type="checkbox"/> Food Waste | <input type="checkbox"/> Furniture | <input type="checkbox"/> Televisions |
| <input type="checkbox"/> Magazines | <input type="checkbox"/> Plastic Buckets | <input type="checkbox"/> Telephone Books | <input type="checkbox"/> Printer Cartridges |
| <input type="checkbox"/> Other, please name: _____ | | | |

3. Has the hotel ever had a waste reduction/conservation program?

NO

YES Why did you stop?

4. Are there plans to implement a waste reduction/conservation program?

NO why not?

YES When? _____ (estimate, if implementation date not known)

Which of the following would be the most useful to the hotel, in implementing such programs?

Please indicate priority of each option using a scale of 1 (highest priority) – 5 (lowest priority).

1 2 3 4 5 - Training Programs/Workshops

1 2 3 4 5 - Newsletter

1 2 3 4 5 - Buy Recycled Product Information

1 2 3 4 5 - Peer Match Program

1 2 3 4 5 - Resource Information on Conservation

1 2 3 4 5 - Mentoring/Consulting Services

Issues

5. If your hotel practices waste reduction, please rate the following benefits of waste reduction programs in your hotel by indicating the priority of each option using a scale of 1 – 5 (with 1 representing the highest benefit and 5 the lowest).

- | | |
|--|------------------------------------|
| 1 2 3 4 5 - Conservation of natural resource | 1 2 3 4 5 - Savings/Cost Avoidance |
| 1 2 3 4 5 - Guest Satisfaction | 1 2 3 4 5 - Efficiency |
| 1 2 3 4 5 - Employee Morale | 1 2 3 4 5 - Other: _____ |

6. Who is your Waste Hauler? _____ Service Provided: _____

 Estimated Waste Generation: _____ # of Dumpster(s) _____
 Total Cost Per Year: \$ _____ Size of Dumpster(s) _____
 (Not including any recycling services) _____ Frequency of pick-ups _____

If your hotel practices waste reduction, please fill out questions 7 - 14:

7. Recycling Company: _____

Service(s): _____

<input type="checkbox"/> Baler	<input type="checkbox"/> Dumpster(s)
# of bins _____	# of bins _____
size of bins _____	size of bins _____
frequency _____	Frequency _____
Total Cost per year for Recycling Services only: \$ _____	_____

8. Does the hotel/motel have a written waste reduction policy?
 NO
 YES

9. How are conservation efforts managed:
 Individual areas manage own programs
 Central coordinator/program manager
 Employee group (e.g. Green Team)

10. How is program promoted? (check all that apply)

- | | | |
|---|---|---------------------------------------|
| <input type="checkbox"/> Employee Newsletter | <input type="checkbox"/> Stickers | <input type="checkbox"/> Posters |
| <input type="checkbox"/> Employee Orientation | <input type="checkbox"/> Handouts | |
| <input type="checkbox"/> Bulletin Board | <input type="checkbox"/> Special Activities | <input type="checkbox"/> Other: _____ |

11. A) How much material is diverted: _____ pounds/year

12. B) How is diversion calculated or estimated? Estimated Weighed by whom?

13. _____ How is the quantity of material tracked/quantified:

14. What recycled products have been purchased? Please check all that apply:

- Tissue/Toweling
- Copy/Computer paper
- Plastic Lumber/Benches
- Shower/Restroom Dividers
- Re-refined Oil
- Printer Cartridges
- Carpet/Floor Tiles
- Landscaping Products
- Parking Stops
- Retread Tires
- Other: _____

15 _____ Quantity:

A) How many televisions are owned by this hotel? _____
How many computers? _____

B) How often does the hotel purchase televisions? _____
How often does the hotel purchase computers? _____

C) How often does the hotel discard televisions? _____
How often does the hotel discard computers? _____

16. What does the hotel do with broken or obsolete televisions/computers?

(check all that apply)

- Throw away in garbage
- Send to a repair center
- Other, please specify: _____
- Donate to charity
- Sell to another party
- Send to a recycling company
- Reuse at another hotel facility

17. How long does the hotel typically keep televisions at each facility before they are upgraded or discarded?

- 1 - 5 years
- 5 – 10 years
- 15 years
- Other, please specify: _____

18. Why does the hotel change out televisions? (check all that apply)

- Technologically Obsolete
- Broken/Damaged
- Remodeling
- Other, please specify: _____

19. Are there any plans to add any of the following electronic equipment into rooms in the future?

(check all that apply)

- Computers
- Printer
- Fax Machine
- Other, please specify: _____

%

- A. Please indicate what percent of rooms have one television, if any? _____
- B. Please indicate what percent of rooms have two or more televisions, if any? _____
- C. Please indicate what percent of rooms have one computer, if any? _____
- D. Please indicate what percent of rooms have two or more computers, if any? _____

**6.4 Appendix:
Hotels/Motels**

Listing of Participating

Appendix E

Survey Instrument

We need your help! During the next few months, the Southern Waste Information Exchange, Inc. (SWIX) in cooperation with the Florida Hotel Motel Association and the Florida Department of Environmental Protection will be surveying the hospitality industry. The purpose of this study is to gather and analyze information to determine the current state and future potential for waste reduction and pollution prevention in Florida's hotels and motels.

Currently the extent of solid waste generation, recycling and other waste reduction efforts within Florida's Hospitality Industry is largely unknown. The potential for reducing waste and the economics of such programs could be considerable. Most efforts to date have concentrated on getting recycling and waste reduction programs implemented at a few specific hotel properties. In addition, there is only minimal documentation on the status, extent, cost effectiveness, or diversion success of these projects. The objective of this project is to develop sound information on which to base projections for waste generation, waste reduction, and pollution prevention potential in Florida's lodging industry and to provide baseline data for future waste reduction and pollution prevention programs.

We would appreciate your help in checking to ensure the contact information and telephone numbers listed are correct for your hotel property and note changes directly on the survey form. Please note that any information that you provide will be confidential as it concerns your specific hotel property – unless you check the appropriate box provided on the survey.

Please complete the survey questions and return by fax to 941/420-8050 by October 15, 1999. If you have questions, please contact Matina Wagner at 941/424-5646 or Ray Moreau at the SWIX hotline, 800/441-7949. A summary report will be mailed to all properties, which participate in the survey process.

Hotel Name: _____

Contact Person: _____ Title: _____

Location Address _____

City Zip: _____ State _____

County: _____ Zip _____

Mailing Address _____

City _____ State _____

Telephone Number: _____ Zip _____

Fax: _____ Email _____

Number of Rooms: _____ Number of employees: _____ Age of Property: _____

Confidentiality Release

check box indicates permission to release information on hotels program)

1. Does the hotel/motel practice waste reduction?

NO **please proceed to question #3**

YES please indicate which type of programs are currently active:

Water Conservation

Energy Conservation

Recycling

Buy Recycled Products

Pollution Prevention Other: _____

2. Check all materials listed that are currently recycled at Hotel:

- | | | | |
|--|--|--|---|
| <input type="checkbox"/> Cardboard | <input type="checkbox"/> Office Paper | <input type="checkbox"/> Aluminum Cans | <input type="checkbox"/> Newspapers |
| <input type="checkbox"/> Scrap Metal | <input type="checkbox"/> Plastic Bottles | <input type="checkbox"/> Steel Cans | <input type="checkbox"/> Computers/Accessories |
| <input type="checkbox"/> Yard Waste | <input type="checkbox"/> Linens/Towels | <input type="checkbox"/> Wood | <input type="checkbox"/> Telephones & Peripherals |
| <input type="checkbox"/> Room Keys | <input type="checkbox"/> Food Waste | <input type="checkbox"/> Furniture | <input type="checkbox"/> Televisions |
| <input type="checkbox"/> Magazines | <input type="checkbox"/> Plastic Buckets | <input type="checkbox"/> Telephone Books | <input type="checkbox"/> Printer Cartridges |
| <input type="checkbox"/> Other, please name: _____ | | | |

3. Has the hotel ever had a waste reduction/conservation program?

NO

YES Why did you stop?

4. Are there plans to implement a waste reduction/conservation program?

NO why not?

YES When? _____ (estimate, if implementation date not known)

Which of the following would be the most useful to the hotel, in implementing such programs?

Please indicate priority of each option using a scale of 1 (highest priority) – 5 (lowest priority).

1 2 3 4 5 - Training Programs/Workshops

1 2 3 4 5 - Newsletter

1 2 3 4 5 - Buy Recycled Product Information

1 2 3 4 5 - Peer Match Program

1 2 3 4 5 - Resource Information on Conservation

1 2 3 4 5 - Mentoring/Consulting Services

Issues

5. If your hotel practices waste reduction, please rate the following benefits of waste reduction programs in your hotel by indicating the priority of each option using a scale of 1 – 5 (with 1 representing the highest benefit and 5 the lowest).

- | | |
|--|------------------------------------|
| 1 2 3 4 5 - Conservation of natural resource | 1 2 3 4 5 - Savings/Cost Avoidance |
| 1 2 3 4 5 - Guest Satisfaction | 1 2 3 4 5 - Efficiency |
| 1 2 3 4 5 - Employee Morale | 1 2 3 4 5 - Other: _____ |

6. Who is your Waste Hauler? _____ Service Provided: _____

 Estimated Waste Generation: _____ # of Dumpster(s) _____
 Total Cost Per Year: \$ _____ Size of Dumpster(s) _____
 (Not including any recycling services) _____ Frequency of pick-ups _____

If your hotel practices waste reduction, please fill out questions 7 - 14:

7. Recycling Company: _____
 Service(s): _____
 Baler Dumpster(s)
 # of bins _____ # of bins _____
 size of bins _____ size of bins _____
 frequency _____ Frequency _____
 Total Cost per year for Recycling Services only: \$ _____

8. Does the hotel/motel have a written waste reduction policy?
 NO
 YES

9. How are conservation efforts managed:
 Individual areas manage own programs
 Central coordinator/program manager
 Employee group (e.g. Green Team)

10. How is program promoted? (check all that apply)

- Employee Newsletter Stickers Posters
- Employee Orientation Handouts
- Bulletin Board Special Activities Other: _____

11. A) How much material is diverted: _____ pounds/year

12. B) How is diversion calculated or estimated? Estimated Weighed by whom?

13. How is the quantity of material tracked/quantified:

14. What recycled products have been purchased? Please check all that apply:

- Tissue/Toweling Re-refined Oil Parking Stops
- Copy/Computer paper Printer Cartridges Retread Tires
- Plastic Lumber/Benches Carpet/Floor Tiles Other: _____
- Shower/Restroom Dividers Landscaping Products _____

15

Quantity:

A) How many televisions are owned by this hotel?

How many computers?

Frequency

Quantity:

B) How often does the hotel purchase televisions?

How often does the hotel purchase computers?

Frequency

Quantity:

C) How often does the hotel discard televisions?

How often does the hotel discard computers?

16. What does the hotel do with broken or obsolete televisions/computers?

(check all that apply)

- Throw away in garbage Donate to charity Send to a recycling company
- Send to a repair center Sell to another party Reuse at another hotel facility
- Other, please specify: _____

17. How long does the hotel typically keep televisions at each facility before they are upgraded or discarded?

1 - 5 years 5 – 10 years 15 years Other, please specify: _____

18. Why does the hotel change out televisions? (check all that apply)

- Technologically Obsolete
- Broken/Damaged
- Remodeling Other, please specify: _____

19. Are there any plans to add any of the following electronic equipment into rooms in the future?

