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Charlie Crist
Governor

Jeff Kottkamp
Lt. Governor

Michael W. Sole
Secretary

January 4, 2010

The Honorable Charlie Crist
Governor of Florida
Plaza Level 05, The Capitol
400 South Monroe Street
Tallahassee, Florida 32399-0001

The Honorable Jeff Atwater
President , The Florida Senate
Room 312, Senate Office Building
404 South Monroe Street
Tallahassee, Florida 32399-1100

The Honorable Larry Cretul
Speaker, The Florida House of Representatives
420 The Capitol
402 South Monroe Street
Tallahassee, Florida 32399-1300

Dear Governor Crist, President Atwater and Speaker Cretul:

I am pleased to submit the *75% Recycling Goal Report to the Legislature* as required in section 403.7032, Florida Statutes. The Energy, Climate Change and Economic Security Act of 2008 established a new statewide recycling goal of 75% by 2020. The Act directs the Florida Department of Environmental Protection (DEP) to submit to the Florida Legislature a comprehensive program to achieve this goal.

The information and recommendations in the enclosed report were developed based on extensive research and the invaluable contributions of stakeholders who participated in four public workshops. An even wider range of ideas were submitted through DEP's Web forum and e-mails.

Florida generates more than 32 million tons of municipal solid waste annually, almost two tons per resident per year. Today, more than two decades after the Legislature passed Florida's first 30% recycling goal, Floridians collectively recycle only 28% of

their solid waste. This report explores ways to change that troublesome fact in an economically responsible way through heightened public awareness, state leadership, development and expansion of recycling markets, and more investments throughout the local government and commercial sectors.

Today's economic climate presents a challenge. Hence, the report outlines initial steps low in financial impact but high in recycling value. The recycling goal can be achieved. It will require partnerships among state government, local governments, trade organizations, schools, businesses and industries, and all Floridians. This report outlines opportunities and actions available to achieve the goal, and I look forward to working with you as you consider them.

If you have questions regarding this report, please contact Mary Jean Yon, Director of DEP's Division of Waste Management, at (850) 245-8693 or Mary.Jean.Yon@dep.state.fl.us.

Sincerely,

Michael W. Sole
Secretary

Enclosure

cc: The Honorable Lee Constantine, Chair, Senate Environmental Preservation Committee
The Honorable Trudi Williams, Chair, House Agriculture and Natural Resources Committee
Mimi Drew, Deputy Secretary, Regulatory Programs, DEP
Cameron Cooper, Director, Office of Legislative Affairs, DEP
Mary Jean Yon, Director, Division of Waste Management, DEP

75% Recycling Goal
Report to the Legislature

Florida Department of Environmental Protection
January 4, 2010

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Executive Summary

The municipal solid waste generated by 18 million Floridians and 80 million visitors every year—more than 32 million tons—is simply not environmentally sustainable. Floridians cannot continue to discard valuable commodities when there are higher and better uses for those items. The Florida Legislature recognized that fact and, through the Energy, Climate Change and Economic Security Act of 2008 established a new statewide recycling goal—reduce the disposal of recyclables 75% by 2020. The law directs the Florida Department of Environmental Protection (DEP) to submit to the Legislature a comprehensive program to achieve 75% recycling by 2020.

Today, more than two decades after the Legislature passed Florida's first recycling goal—30%—Floridians collectively recycle only 28% of their solid waste.

Accomplishing the goal will require commitment, common sense and ingenuity. This report lays out the facts and outlines recommendations and options that would make 75% by 2020 possible. Implementing the recommendations and the other creative approaches they inevitably will stimulate requires action by DEP and other state agencies; Florida's businesses and industries, large and small; local governments; and residents—everyone. It will also demand market solutions, smart economic choices and sensible regulations.

The information and recommendations in this report were developed based on extensive research and the invaluable contributions of stakeholders who participated in four public workshops. An even wider range of ideas informed the discussion through DEP's Web forum, which received nearly 12,000 visits and provided a healthy dose of perspective.

As noted, Florida generates more than 32 million tons of municipal solid waste annually, closing in on two tons per resident per year. More than two decades after the Legislature passed Florida's first recycling goal—30%—today Floridians collectively recycle only 28% of their solid waste. This report explores ways to enhance recycling in an economically responsible way through heightened public awareness, state leadership, development and expansion of recycling markets, and more bang-for-the-buck investments throughout the local government and commercial sectors.

Today's economic climate presents a challenge. Hence, this report includes cost information where possible to assist the reader and outlines initial steps low in financial impact but high in recycling value. That said, some actions are essential to achieving 75% recycling in all places at all times. For example, more recycling of construction and demolition (C&D) debris, which constitute 25% of all municipal solid waste, must occur. As much as 12% of the 2020 recycling goal could be met by processing C&D

debris at a 75% rate through materials recovery facilities, all at relatively low cost and with an income source in recovered materials. Organics (food waste, yard trash and paper) represent 40% of municipal solid waste and also must be recycled at dramatically higher rates to meet the 2020 goal. Although this will be challenging, some large retailers like Publix Super Markets are already recycling food waste. Recycling these materials yields quality paper to write on and products to improve soil conditions, control erosion and produce fuel while reducing energy and keeping harmful pathogens and nutrients out of the environment.

The markets for goods made with recycled content must expand. As with all markets, some nurturing is essential, through public education, advertising, financial incentives and disincentives, and carefully targeted regulation. Providing expert assistance to recycling start-ups and ongoing businesses, including helping develop networks with local governments and commercial operations, is also vital to comprehensive recycling. New revenue sources, such as tipping fees, must be considered. Ideas explored in more detail in this report include Pay-As-You-Throw, RecycleBank, Zero Waste Zones, and Single Stream Recycling.

State government should lead by example, investing more in recycling at every state office and university. While the net impact on overall recycling is small, the message would be clear—recycling is possible, practical and a priority. No one should be able to point out a state agency as justification for not recycling. At the same time, local governments must step up. The largest among them, especially, should each accept the 75% goal. Right now, Sarasota County's recycling program enforces commercial recycling and requires Pay-As-You-Throw, giving it both the highest commercial (53%) and overall (41%) recycling rates in Florida, a healthy start on 75% by 2020.

The recycling goal can be achieved. It will require partnerships among state government, local governments, trade organizations, schools, businesses and industries, and all bright, committed people with innovative ideas and practical solutions. Certainly, reducing waste is first and foremost—using fewer products with fewer waste materials, fewer virgin materials, lower-impact materials, and more recycled products. But recycling goes hand in hand with waste reduction, reclaiming valuable materials for productive uses, opening new markets and economic opportunities, freeing up landfill space for truly unrecoverable wastes and reducing the need for more (highly unpopular) landfills. Additionally, recycling provides potential sources of energy, conserves natural resources, and often requires less energy than the production of virgin materials. These are the potential benefits of 75% by 2020 and this report outlines opportunities and actions available to achieve them.

Acknowledgments

The Florida Department of Environmental Protection (DEP) extends its gratitude to the many stakeholders from the public and private sectors that invested their time and contributed their insights to the development of this report through public meetings, written comments and electronic submissions.

Four public meetings were held to exchange information and solicit input on achieving the 75% recycling goal by 2020. These meetings generated lively discussion and valuable information that helped produce this report.

- September 22, 2008 in Orlando - 129 attendees
- December 2, 2008 in Tallahassee - 88 attendees
- August 4, 2009 in Orlando – 225 attendees
- November 5, 2009 in Tallahassee – 68 attendees

DEP also established a web-based forum for ongoing public comments and regular stakeholder updates. Meeting summaries, draft notes and other details, as well as access to the web-based forum, can be found at www.dep.state.fl.us/waste/recyclinggoal75/default.htm. This site has been visited nearly 12,000 times.

DEP also appreciates the professional associations and trade organizations that effectively represented their members' interests and were critical in identifying recycling options and recommendations:

- Associated Industries of Florida
- Florida Association of Counties
- Florida Beverage Association
- Florida Chapter of the National Solid Wastes Management Association
- Florida League of Cities
- Florida Recycling Partnership
- Florida Retail Federation
- Florida Sunshine Chapter of the Solid Waste Association of North America
- Heart of Florida Working Group
- Recycle Florida Today
- Small County Coalition

Introduction

The modern era of recycling in Florida began with the Florida Legislature's passage of the Solid Waste Management Act (SWMA) of 1988, including a 30% recycling goal. Twenty years later, with a statewide recycling rate of only 28%, the Legislature reasserted the importance of recycling and established a new goal: 75% to be achieved by 2020. The Legislature directed the Florida Department of Environmental Protection (DEP) to submit this report, including recommendations, for consideration by January 1, 2010 (see *Appendix A*).

In 2007, more than 32 million tons of municipal solid waste was generated in Florida. To visualize this amount, imagine a four-lane highway of solid waste three feet deep extending from Tallahassee to Seattle, Washington—and back.

In 2007, Floridians and their visitors generated more than 32 million tons of municipal solid waste *(Figure 1* pictured in *Appendices and Figures)*. Imagine a four-lane highway of solid waste three feet deep extending from Tallahassee to Seattle, Washington—and back. Over the past 15 years, Florida's waste disposal into landfills has doubled: more than 19 million tons buried in 2007. During this same period, recycling in Florida has hovered at 28%. Municipal solid waste contains a goldmine of materials that can be recycled, but Florida must change its behaviors and practices to achieve the 75% recycling goal by 2020.

Florida's Recycling History

In 1988, the SWMA directed counties with populations greater than 50,000 (later increased to 100,000) to achieve 30% recycling for municipal solid waste (MSW). Smaller counties were exempt from the goal as long as they provided their residents with an "opportunity to recycle." The SWMA has set and revised goals since that time for specific materials groups, including aluminum cans, steel cans, newspaper, plastic bottles, cardboard, office paper and yard trash.

The first ten years saw rapid growth in the state's recycling rate, going from an estimated 4% to 28%. Florida's progress roughly mirrored most other states that were also establishing recycling goals during that period. Since 1998, the state's recycling rate has stagnated—again, mirroring the trends in most other states. The 28% recycling rate in 2007 is based on the most recent available data and has almost certainly remained stable since then. This translates to about nine million tons of MSW recycled each year. Only 18 counties, or about half of the counties with a population greater than 100,000, exceed the 1988 county recycling goal of 30%.

Recycling is now considered, in most communities, another utility service provided to residents by local government, far different from 20 years ago. Currently 287 of Florida's 414 cities and 29 of the 67 counties provide curbside collection service. Thus, some 15 million of the state's 18 million residents have the opportunity to recycle. Yet the recycling dynamic has to be changed to move from the 28% plateau and accomplish 75% recycling statewide.

Where Do We Start?

The first step is for state government to lead by example. With approximately 170,000 employees, state government can have both a symbolic and a substantive impact on recycling directly and, more significantly, on the development of markets for goods made with recycled content.

State law enacted in 1988 encouraged state agencies to give preference to purchases that include recycled content. The law also directed state agencies to report those purchases annually to the Florida Department of Management Services (DMS) and DMS, in turn, to report to the Governor and Legislature. DMS suspended such reporting after 1999 but is now working cooperatively with DEP to review the most cost-effective way to collect and report this information once again.

For the State of Florida to achieve the 75% recycling goal, it must have the capability to manage and measure its progress. This annual report will be an important tool to measure the progress state agencies are making toward increasing their recycling rates and helping to support recycling markets. Given Florida's technological advances in procurement programs such as My Florida Market Place (MFMP) and the Florida Accounting Information Resource (FLAIR), the infrastructure is in place and only needs to be modified to report the required information. DMS has advised that MFMP and FLAIR could be modified at an estimated cost of $50,000 - $75,000 to capture over 16,000 recycled content or green products.

To record the government purchasing of materials with recycled content, DEP recommends:

- Modify the purchasing infrastructure to report information needed to meet the statutory requirement, including documenting the purchase of products from virgin materials, recycled content, and any increases in the number of "green" purchases by state agencies.
- Upgrade existing systems to capture the information in a meaningful report format to improve accountability.

Equally important, state employees should be able to recycle in all state office buildings. Existing law already requires state agencies to implement recycling programs. Unfortunately, with the exception of some state office buildings in Tallahassee, there is minimal data on how much recycling is happening, especially in the rest of the state where most state office buildings are located.

The Office of Program Policy Analysis and Government Accountability (OPPAGA) issued a report to the Legislature in March 2002 stating that state government does a poor job recycling. However, state government has a higher potential for recycling because agencies, universities and prisons use large quantities of paper and other recyclable products. Accordingly, the OPPAGA report indicates that state government recycling has the potential to impact Florida's recycling rate. Despite the need to improve substantially, there are recycling success stories in state government.

SUCCESS SPOTLIGHT

In March 2008, DEP, the Agency for Persons with Disabilities (APD) and DMS entered into a partnership to enhance recycling opportunities in state office buildings while providing employment opportunities for APD residents of Sunland in Marianna. The project, initiated at DEP's Bob Martinez Center in Tallahassee, focused on items not currently being recycled under existing contracts. APD provided DEP with receptacles to collect plastic bottles and aluminum and tin cans on each floor, and a mobile compartmentalized container outside the building at a cost of about $5,000 to $8,000. DMS staff collects the recyclables and APD then transports them to the Marianna facility about four times per year to get them market-ready by sorting, shredding and bailing. DEP's Division of Waste Management has further expanded recycling by using the Sunland facility to shred and recycle all documents scanned into DEP's electronic document management system at no cost.

Since the inception of this partnership, the Bob Martinez Center staff has recycled approximately two tons of plastic bottles and aluminum and tin cans, saving an estimated ten cubic yards of landfill space, or $430 in cost avoidance. Although it has been successful at the Bob Martinez Center, funding limitations preclude expanding the partnership to other state office buildings in the Tallahassee area at this time.

If all the approximately 19,000 state-owned office buildings and university buildings adopted a "one ton a year" goal, state government would not only lead by example but would provide about 1.5% toward the statewide 75% recycling goal.

The 75% recycling goal is a general statewide goal that currently places no direct responsibility on any particular level of government or any other entity. Because recycling programs are implemented at the local level, local government plays an even more important role than state government in reaching 75% recycling.

The SWMA assigned waste management responsibilities to the counties in 1988. Since then, the counties, as well as many cities, have been active in recycling but confront many challenges, evidenced by the fact that the state recycling rate has fluctuated between 24% and 28% since 1998.

It is much more difficult to achieve high recycling rates in small counties than in large ones. In most instances, the small population density precludes cost effective use of curbside collection programs, leaving those counties to rely on citizens willing to drive, often several miles, to drop off their recyclables. Thus, the Legislature exempted small counties from having to reach the original 30% recycling goal.

Regardless of size, recycling programs in Florida's counties have struggled in the past for a number of reasons, including:

- Lack of public education and training for recycling;
- Little emphasis on organics (food, paper, yard trash) recycling and construction & demolition (C&D) recycling;
- Little emphasis on the broad commercial sector and multi-family units; and
- Underutilization of incentive programs for the residential sector, such as Pay-As-You-Throw (PAYT) and RecycleBank.

Local governments have been helpful and informative stakeholders throughout the development of this report and they are crucial to success. Both the Florida Association of Counties and the Florida League of Cities, along with several individual local governments, have expressed their willingness to invest in the costs of reaching the new goal. However, they have advised that they cannot carry the entire cost and will need financial assistance for both capital and non-capital expenses. Currently there are two limited grant programs for local government recycling programs, and one of them is strictly for counties with a population under 100,000, which have relatively little impact on state recycling rates. To achieve 75% recycling by 2020, consideration will have to be given to revamping and expanding financial assistance programs and finding other ways to inject capital into the system.

Ideas for generating revenues are detailed in *Appendix B*.

The Role of Education

Reaching 75% recycling will also require increased education in Florida's K-12 public schools for the estimated 3.3 million students (2008). The Florida Department of Education (DOE) is required to educate K-12 students in recycling by developing curriculum materials and resource guides for recycling awareness programs. Over the years, curriculum such as the "4Rs" (Reduce, Reuse, Recycle and Recover) and its

replacement "Solid Choices" have been developed but were not used by all school districts, sometimes for lack of money. Curriculum is important but the best recycling lesson involves students recycling at school, a message they will carry home.

If Florida K-12 schools achieved a recycling rate of 75%, approximately 6% of Florida's statewide goal could be achieved.

Twenty-five counties responded to a survey conducted by DEP in November 2009 on recycling practices in public schools. The survey found that 1,376 (or about 88%) of the 1,569 schools have some form of recycling program in place. The cost for implementing a recycling program within each school will be dependent on the size of the school, its location, and the extent of recycling infrastructure available in the area. These programs increase recycling and, more significantly, help promote a culture of recycling and environmental stewardship in the students and their families.

SUCCESS SPOTLIGHT

The following highlights three school districts and the recycling success they have had. They are models for the kinds of actions that other school districts can take.

- The District School Board of Pasco County has one of the longest running and most successful recycling programs in Florida, recognized by a host of awards. Typical of well run recycling programs, Pasco County's program saves money. For fiscal year 2008, the county earned $69,000 from the sale of recyclable materials with a landfill cost avoidance of $145,000.
- The Palm Beach County School District has a recycling program in the District's Environmental Control Office with a full time staff person that has facilitated recycling in more than 30 local schools. The District also has an Environmental Preferable Procurement Policy, Energy and Resource Conservation Policy and an Indoor Air Quality Policy. In addition, Palm Beach County developed a Green School Recognition Program for public and private schools that encourage a culture of sustainability.
- The Broward County School District also has a strong recycling program by partnering with the School Board, County Commissioners and the County Recycling and Contracts Administration Division. The program encompasses three major elements: collection, education and tracking. Since its inception in 1992, the recycling program has been recognized nationally as an innovative example of excellence.

Existing school recycling programs generally address paper, aluminum cans and sometimes plastic bottles. Another area that has the potential to increase overall school recycling involves food wastes and composting.

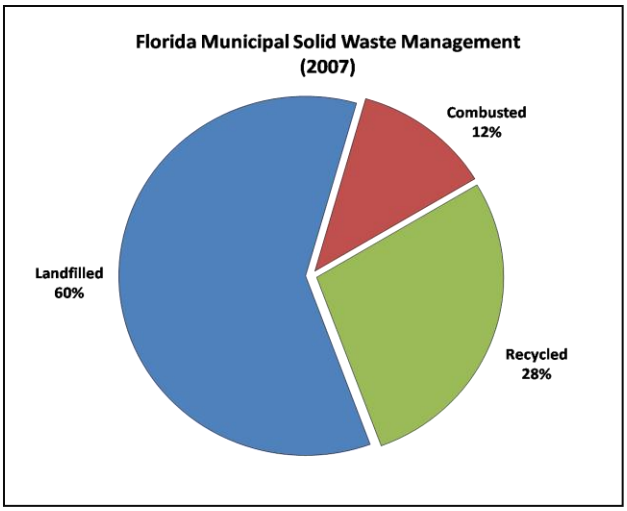
Each student produces about 0.5 pounds of total waste per school day. Studies demonstrate that approximately 32% of this school waste stream is organic waste. Therefore a school of 1,000 students generates around 500 pounds of waste per day, of which 160 pounds is organic waste. Assuming a statewide average of 200 school days per year, about 32,000 lbs (16 tons) of organic waste is generated each year. Data from the Florida Department of Education shows that there are about 3.3 million students in over 3700 K-12 public schools in the state—1,926 elementary, 594 middle, 870 high, and 341 combination schools. Those 3.3 million students generate almost 53,000 tons of organic waste every year.

Although not in widespread use, establishing composting units at these schools would provide many benefits in addition to increasing the recycling rate. Assuming a $44/ton average tip fee, a school with 1,000 students would save approximately $704 per year in tipping fees avoided. Additionally a school of 1,000 students would produce the equivalent of 1,280 (25-lb) bags of organic material or compost. This could be used to offset the cost of grounds maintenance at the school or other county properties, as it would provide a high quality soil amendment. It could also offset the cost for operation of a school greenhouse.

The start-up costs are relatively minimal. There are several commercial duty compost units available on the market. On the average, a unit capable of handling waste for a school of 1,000 students would cost between $6,000 and $10,000. However compost units can be built fairly inexpensively by some school shop staff. But the real value is in education. Composting on the school site provides an opportunity to teach the students about the biological aspects of composting and the economic benefits of garbage being put to use to save the school money.

Ways to Better Handle Waste

As previously noted, 60% of Florida's MSW is disposed of in landfills while only 28% is recycled. Increasing Florida's recycling rate means this dynamic must shift.



There are a variety of better ways to manage different waste streams outlined below, along with ideas for encouraging more recycling and waste reduction. These are the areas where Florida can get the biggest return on its recycling investment—

progress here, sooner rather than later, is essential to reaching 75% recycling by 2020.

Construction and Demolition (C&D) Debris: Construction and demolition debris (C&D) consists of materials that are generated from residential and commercial building, renovations and various types of demolition. C&D materials include wood, steel, glass, brick, concrete, asphalt, wallboard, rocks, soils, tree remains, trees and other vegetative matter. Only non-water soluble and non-hazardous materials are considered C&D.

Currently, Florida has 83 landfills and 75 C&D disposal sites where C&D can be disposed. Most C&D disposal sites are unlined and are not required to have daily cover like permitted landfills. Therefore, disposal at these facilities is cheaper but more environmentally problematic. Costs increase in South Florida, where there are large permitted C&D recycling operations.

A large portion of C&D debris is recyclable--approximately 5% is metal, 9% is asphalt, brick or concrete and 30% is wood. The cost associated with requiring each of these facilities to screen and process recyclables prior to disposal is dependent on the facility's size, location, and the sophistication of the material recovery operation. Small operations (50-250 tons per day) could meet minimal requirements by utilizing roll-off containers to segregate and divert recyclables. Roll-off containers can be purchased for $1,500 per container. Manpower, operational plans and equipment needed to segregate recyclables could be modified to run this type of material recovery without high capital outlay. Operational costs could be offset by the value of recyclables. Recycling asphalt, brick and concrete would be extremely useful in aggregate-poor areas of the southern United States, such as Florida.

Cost estimates for a larger, free standing Materials Recovery Facility vary according to geographic location. A North Florida facility processing 500 tons per day of construction and demolition debris reports an estimated capital cost of $7.5 million to become operational, while a South Florida facility that processes 2,500 tons per day or more reports an estimated capital cost of $13.6 million.

According to the county recycling reports submitted to the DEP for 2007:

- 6.1 million tons of C&D was disposed in Florida's 75 C&D disposal sites.
- C&D constitutes 25% of Florida's MSW waste stream or 8.2 million tons *(Figure 2* in *Appendices and Figures)*.
- Currently only 27% or 2.1 million tons of Florida's C&D is recycled.

At least 12% of the 75% goal can be achieved by recycling C&D debris currently being disposed.

Because of the major impact this sector has on the overall state recycling rate, DEP recommends:

- Require all mixed loads of C&D to be processed at a materials recovery facility prior to disposal.
- Add sorting operations at the front end of existing C&D disposal facilities. Sorting C&D should make it more cost-effective to recycle materials than dispose of them.

Implementing these practices would involve little or no increase in costs to the generators of C&D, even in central and north Florida where disposal rates are cheapest. There may even be savings in areas where there are more materials recovery facilities because of increased competition. If C&D achieved a 75% recycling rate, it alone would increase the current statewide MSW recycling rate to more than 40%.

Organic Waste: Of the 32.3 million tons of MSW generated in Florida, approximately 40% is organic materials such as food waste, yard trash and paper. The recycling rate for food waste is 1.4%, 37% for yard trash, and 27% for paper.

By encouraging the flow of these materials to organics recycling centers, a number of environmental benefits could be realized including: diversion of organic waste from incineration and landfill, treatment of pathogenic organisms, stabilization of nutrients and other organic compounds, and phosphorus recycling. Recycled organics have many benefits, including erosion control, moisture retention, improved soil texture, improved soil ecology, increased soil organic matter content, and production of alternate fuels.

Florida's counties play a crucial role in organics recycling because they handle large amounts of organic wastes from all sources. State regulations, market conditions and other economic circumstances all affect the potential success of organics recycling in

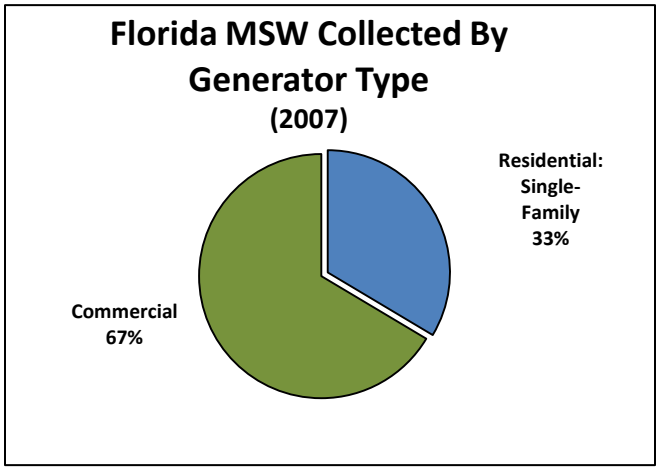
Florida. State programs can stimulate technological advances and new uses through market development and procurement policies.

Detailed recommendations for helping to create an environment that supports a healthy and growing organics recycling industry can be found in *Appendix C*. Consideration of those recommendations is important but so is simply encouraging and creating opportunities for backyard composting and grass clipping management among homeowners – two of the best methods for managing residential organic wastes.

Waste-to-Energy (WTE): Waste-to-Energy (WTE) is the process of creating energy in the form of electricity from the incineration of waste. Recycling operations at Florida's 12 WTE facilities could account for roughly 12% of the 75% goal. Through the mass combustion of MSW and refuse-derived fuel, Florida's WTE facilities generate 3.25 million megawatts of energy per year, which is enough electricity to fuel the 300,000 households in Duval County for one year. There are ten Florida counties where WTE facilities are located *(Figure 3* pictured in *Appendices and Figures)*.

The law allows renewable energy from solid waste to count towards the 75% goal. However, measuring that contribution presents a challenge. Consequently, DEP intends to appoint an ad hoc Technical Advisory Group to help develop a methodology for calculating and crediting WTE production.

Commercial Recycling: For Florida, a few key statistics suggest a general strategy for achieving the 75% recycling goal. For example, the commercial sector generates 67% of MSW, twice the amount generated by the single-family residential sector. The commercial sector has a current recycling rate of 30%. Even if the residential sector were to recycle everything, every day, the new recycling goal could not be achieved without substantially increasing recycling from the commercial sector.



Of the 414 city and 67 county governments in the state, 61 cities and eight counties have some form of mandatory commercial recycling affecting about 5.2 million people, mostly in Miami-Dade and Volusia counties. Enforcement and technical assistance vary greatly among those jurisdictions, from none to very active, which is reflected in their commercial

sector recycling rates. Sarasota County and Lee County have active programs to assist with compliance of their mandatory commercial recycling requirements.

Sarasota County began requiring commercial recycling in 1991 as the result of a referendum vote by the citizens. Since the program is almost twenty years old, no information on start-up costs is readily available.

SUCCESS SPOTLIGHT

Commercial customers pay the collection costs but the majority save money due to reduced waste collection costs for their remaining waste stream. This is where the main economic benefit of the county's commercial recycling program occurs, but the amount varies greatly depending on the amount of recyclable materials generated. For instance, a major swimming pool and deck renovating business was able to save $2,300 in one year by increasing the amount of recyclable materials it diverted from its waste dumpster. A major restaurant in Sarasota County saved $1,125 in one year by recycling more.

The county receives no revenue from commercial sector recycling. The collectors of the recyclables can keep whatever revenues they generate from sales of the recyclables. The only cost to the county is two full-time staff that provides education and training to the commercial sector. The initial recycling rate of a business increases after training to as much as 90%. This education process, coupled with the mandatory recycling ordinance, has resulted in a commercial recycling rate of 53% for the county. Sarasota County has the highest overall recycling rate (41%) in the state.

Lee County's mandatory commercial recycling program began in January 2008. There were no startup costs to the county except for one full-time staff that provides education and training to the commercial sector. As with Sarasota County, the commercial customers pay the collection costs, most businesses save money due to reduced disposal costs, and the vendors who collect the recyclables keep the generated revenue. All businesses participate and it only took 1.5 years of education and training for businesses to comply—no enforcement action was needed.

SUCCESS SPOTLIGHT

While mandatory commercial recycling in Florida is limited, there are retail establishments already taking steps to institute "green" practices in their operations, such as Target, Walmart and Publix. These companies demonstrate that voluntary initiatives can jump-start environmental stewardship and serve as models for others to increase the commercial recycling of plastic and cardboard and, in some cases, food waste. Examples include selling or giving away millions of reusable bags, using bags made with recycled content, and using stronger bags that can hold more weight so fewer bags are needed. These voluntary initiatives can be recognized, nurtured and integrated into more comprehensive, binding recycling strategies.

Because of the huge impact the commercial sector has on the overall state recycling rate, DEP recommends:

- Require commercial recycling in counties with a population greater than 100,000 and cities with a population greater than 50,000.

This approach would cover approximately 95% of Florida's population and about the same percentage of MSW generated, yielding the biggest recycling bang for the buck and leaving smaller local governments to develop programs tailored to their lower population densities and limited resources. Recycling at a 75% rate in the commercial sector would by itself boost the statewide MSW recycling rate from 28% to 59%.

States that have implemented mandatory commercial recycling include Pennsylvania, Rhode Island, New Jersey, Wisconsin, and, to a lesser degree, North Carolina. Each state measures recycling differently, which makes meaningful comparisons difficult. For instance, the State of New Jersey counts its automobile recycling industry, which elevates its recycling rate to 57%.

If Florida required its 269 Recovered Materials Dealers and auto shredding industry to capture and report tonnage of automobiles currently being recycled or shredded for scrap iron, perhaps 3% of the 75% goal could be realized.

Because of the way MSW is collected, the traditional definition of a commercial account includes not only retail establishments and business offices, but also multi-family residential units (apartments, condominiums, etc.) and institutional accounts, such as colleges, schools and hospitals. Federal, state and local government offices also are included. One way to account for this broad spectrum in increasing Florida's recycling rate would be a phased approach, requiring commercial recycling first, whether all at once or in some staggered fashion, from all components except multi-family residential units, which could be included later.

Fortunately most commercial establishments should end up saving money by recycling, with the possible exception of the smallest such establishments. Savings would vary across the state because commercial waste disposal costs vary from community to community. Increasing the recycling rate for this sector would be expedited if local governments are able to network with and provide education and technical assistance to commercial customers.

Innovative Recycling Programs

There are innovative approaches available to help increase recycling rates, some of which are already in effect in Florida. Some of these approaches are discussed below. Public education and training about recycling are essential companions to every option.

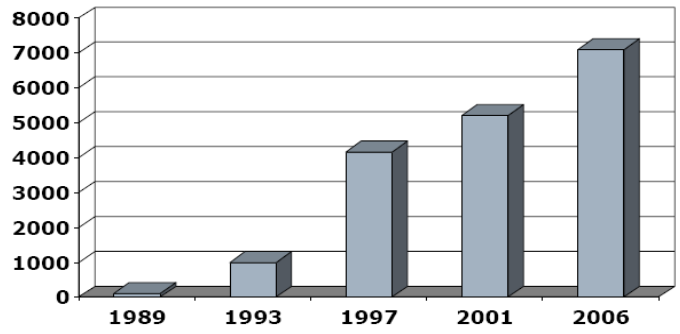
Pay-As-You-Throw (PAYT): Pay-As-You-Throw (PAYT) is an incentive system that puts trash on the same "utility" basis as electricity, water and other services—the more you use, the more you pay. In a PAYT program, customers pay less for collection and disposal of MSW if they generate less, an incentive to fill up the recycling container rather than the trash can.

While there are about 7,000 PAYT programs nationwide, there are only a handful of communities in Florida that have implemented this program, such as Gainesville and Plantation. In Gainesville, the program netted an 18% decrease in the amount of waste collected and a 25% increase in recyclables recovered during its first year alone. Even more, it resulted in a savings of $186,200 to customers.

Implementing PAYT in Florida offers promise. Cities across the United States, including Dover, New Hampshire; Falmouth, Maine; Ft. Collins, Colorado; San Jose, California; South Kingstown, Rhode Island; Vancouver Washington; and Poquoson, Virginia report increased recycling ranging from 25% to 69% in the first year, decreased waste disposal and avoided disposal fees.

During 2006, Skumatz Economic Research Associates, under contract to the U.S. Environmental Protection Agency (EPA), conducted a study of 1,300 communities across the country with PAYT programs. The report concludes, "PAYT is the most effective single action that can increase recycling and diversion" in the residential sector.

Number of Communities with PAYT Available



(Source: Skumatz Economic Research Associates surveys)

The study further shows that implementing PAYT had a larger impact on recycling than did adding additional materials, changing frequency of collection, or other changes and modifications to programs. Data collected from more than 1,000 communities using PAYT revealed the following:

- Waste disposal decreases by 16%-17%, which also saves money by avoiding disposal fees;
- Communities with populations greater than 100,000 would see a reduction in disposal of about 84,000 tons and an increase in recycling tonnage by about 5,500 tons;
- Recycling increases approximately 50%;
- Material diverted from disposal for recycling was 11% of the MSW in non-PAYT communities versus 14% in PAYT communities;
- Yard waste diverted from disposal for recycling was 13% versus 17%;
- Overall diversion from disposal was 26% versus 32%; and
- PAYT has not increased costs for 66% of the communities implementing it.

EPA has developed the Saving Money and Reducing Trash Benefit Evaluation Tool (SMART BET), designed to help community waste managers decide whether PAYT is the right model for them. This tool is available online at www.epa.gov/payt.

RecycleBank: RecycleBank, another program for the residential sector, is similar to PAYT except it rewards customers for increased recycling with discount coupons supplied by local vendors of goods and services. The more items a customer places in the recycling container, the more discount coupons the customer is awarded for use in local retail establishments.

RecycleBank is a private organization that works with interested communities to set up its system. In March 2009, it launched its first program in Florida with the city of North Miami. Early indications show recycling has substantially increased in areas where previously there was little. To date, RecycleBank and traditional PAYT programs have been implemented separately. However, another option is to implement the two programs concurrently in the same area, which should result in more waste reduction and recycling than either program by itself.

Zero Waste Zones: The concept of Zero Waste Zones is relatively new with very few areas designated. However, it has the potential to change the way waste is managed and reduced. A Zero Waste Zone is as it says—what is produced is consumed or recycled, not thrown away. Waste is no longer "trash" but future goods and potential income. In the southeastern United States, downtown Atlanta is the only area that has committed (in 2009) to becoming a Zero Waste Zone, with a goal of diverting the maximum amount of recyclable items and organic matter from landfills back into the production cycle. Interest in the concept seems to be increasing but there is not enough data to determine if a significant number of localities will implement it.

Single Stream Recycling (SSR): Single Stream Recycling (SSR) appears to have greatly increased recycling rates in jurisdictions where it has been implemented. With SSR, all recyclable material is placed in a large, wheeled recycling cart. Recyclable material does not need to be separated by the resident—unfortunately, a major deterrent to recycling—but is commingled in the large recycling cart. Curbside collection occurs, and the recyclable material, cardboard, glass, paper, aluminum and metal, is later segregated at a processing facility.

In 2005, Waste Management, Inc. (WM) piloted the first Single Stream Recycling System (SSR) in Florida at the Recyclable Materials Processing Facility (RMPF) for Orange County and launched a second project at its Pembroke Pines facility in 2007. Single stream recycling promises increased landfill diversion, energy savings and conservation, and resource utilization compared to other recycling methods. WM reports that by operating SSR collection systems for Florida residents, a much higher efficiency per unit collected is experienced. Specifically, after a full year of SSR operation at its Pembroke Pines facility and its Orange County RMPF, the growth in recyclables diverted from landfills through WM facilities was 68,688 tons or an average increase of 29%.

Collier County started single stream recycling in 2005 and the volume of recyclables collected increased by 55%. The purchase of new single stream recycling carts was amortized on the solid waste management charge to customers. The county views the main benefit of single stream recycling as the extension of landfill life caused by more materials being recycled rather than disposed. However, there were no numbers readily available as to how much landfill life extension could be attributed to single stream recycling. The county receives no revenue from recyclables collected through single stream recycling. The vendors who collect recyclables can keep whatever revenues they generate from sales of recyclables.

SUCCESS SPOTLIGHT

Some concerns have been raised by end user markets, such as the recycled paper industry, about increased contamination of recyclable materials collected using SSR. They contend that, while more recyclables are collected curbside, more recyclables end up in the landfill due to contamination resulting from commingled collection and processing with other recyclable materials. SSR proponents assert that technology is improving to minimize the problem.

Recycling Markets: Recycled products need markets, and markets need both incentives to expand and streams of products to move. Market development should focus on finding and promoting good markets for recyclables wherever they exist. From an economic development perspective, of course, creating and building markets in Florida is the ideal.

There are two basic sectors of recyclable materials and they require two different approaches to market development:

- Out-of-state markets exist for traditional residential and business recyclables, including bottles, aluminum and steel cans, paper, plastic and glass. These commodities travel well, so the challenge is to improve markets within the state.
- Markets are not well developed for organics, including yard trash, compost, mulch, and food waste**.** Because of the nature of organics, markets need to be developed much closer to the source of the recyclables. Out-of-state markets do not exist and are not feasible.

Because of the importance of market development for improving the cost-effectiveness of recycling, DEP recommends:

- The creation of a recycling business assistance center similar to what was proposed in Senate Bill 1462 during the 2009 Legislative Session.
- The center should focus on promoting markets for the entire spectrum of recyclable MSW materials, organic and inorganic.
- Enterprise Florida offers a practical location for such a center and should work in partnership with DEP to identify and develop recycling markets.

How Do We Get There?

State government leadership is only one avenue to 75% recycling by 2020. Florida is fortunate to have groups such as Recycle Florida Today, the Florida Sunshine Chapter of the Solid Waste Association of North America, the Florida Chapter of the National Solid Wastes Management Association and the Southern Waste Information Exchange (SWIX), all of which are active in recycling. These trade organizations have long running, widely recognized and well-respected recognition programs for recycling in both the public and private sector. By continuing to work with these groups, the state can honor the successful recycling efforts of schools, businesses, public groups and private citizens.

Recommendations

The recommendations that follow—many of which were identified earlier in the report—focus largely on actions that promise the most environmental gain with the least economic impact to Florida's private and commercial sectors. Not all of the recommendations can or should be implemented immediately, but all are critical to

meeting the recycling goal. DEP is working on several of these recommendations now to enhance the recycling program using existing resources. *Appendix C* includes a list of supplementary recommendations that also warrant consideration.

The recommendations are generally listed beginning with the easiest and least costly recommendations.

State Government:

- Require each state agency to meet the 75% goal.
- Require each state agency to designate a single point of contact to coordinate with DMS regarding environmentally preferable purchasing issues and annually report to DMS its total expenditure on and use of products with recycled content and comparing that to the purchase of similar products made from virgin materials.
- Develop a Web site that includes electronic brochures, newsletters, etc., for DMS to use for recycling education and getting recycling started in state office buildings. DEP should develop the Web site and help educate state office building managers in this initiative.
- Modify the MFMP procurement system and FLAIR procurement for P-Card purchases to capture and report specific commodity purchases for green products, recycled materials and virgin materials.

Local Government:

- Apply the new recycling goal to counties with a population greater than 100,000 and cities with a population greater than 50,000, capturing approximately 95% of the state's population and MSW generated.
- Specify that local governments under the population thresholds do not have to meet the goal but must provide recycling opportunities to their residents.
- Require commercial recycling in counties with a population greater than 100,000 and cities with a population greater than 50,000. "Commercial" in this context includes multi-family residential units (apartments, condominiums, etc.) as well as institutional accounts (such as schools and hospitals).
    - Consider a phased approach to requiring commercial recycling, focusing first on office buildings, retail establishments and institutions; and second on multi-family residential units.

Public Schools:

- Direct all local school districts to implement recycling programs. A local school district could be exempt if:
    - There is no recycling facility within the county or within a reasonable distance in an adjoining geographic area; or
    - The district cannot locate a recycling vendor to service the school district without incurring a negative fiscal impact.
- Develop a Web page for K-12 school recycling educational materials.

Funding:

- Create a Recycling Grants or Revolving Loan program for local governments to aid in reaching a 75% recycling goal for their jurisdictions.
    - Structure financial assistance to address both operational and infrastructure costs.
    - Reserve a minimum percentage of these funds for public education and training.
    - Consider limiting the duration of grants program.
    - Require local program commitment to the recycling goal through matching grant funds or loan repayment agreements

Waste Management:

- Phase in the requirement that all existing unlined C&D disposal facilities be modified to incorporate a Materials Recovery Facility at the front end of their process or utilize other existing materials recovery facilities so that recyclable materials such as wood waste, asphalt, concrete, etc., do not become part of the disposal waste stream. All new C&D disposal facilities would be subject to the requirement before operating.
- Create a recycling business assistance center similar to what was proposed in Senate Bill 1462 during the 2009 Legislative Session.
    - The center's focus should be on promoting markets for the entire spectrum of recyclable MSW materials, organic and inorganic.
    - In addition, Enterprise Florida is an ideal lead agency working in partnership with DEP in implementing the center's efforts. The Solid Waste Management Trust Fund would make a logical funding source if new revenue sources are adopted.

The Long and Short of the 75% Recycling Goal

The programs, initiatives and options discussed in this report all offer potential to increase Florida's recycling rate. However, not all actions are equal—and 75% by 2020 is an ambitious goal and a challenging opportunity. The chart below estimates the incremental gain each option would provide toward meeting the global 75% recycling goal.

Clearly, the benefit of each option is dependent on how quickly and extensively it is implemented, how vigorously it is enforced, how much funding is made available and other variables. Certainly, moving from 28% recycling to 75% recycling over the next decade will require taking aggressive actions sooner rather than later and recognizing that reducing waste in the first place and recycling the rest of it are investments in Florida's inseparable economic and environmental futures.

Recycling Activity	Percent Gain Toward the 75% Goal
Increase the recycling rate in the commercial sector in the state's high-population counties and cities to 75%	31%
Include the amount of waste currently combusted in WTE facilities in the overall 75% goal (as legislatively directed)	12%
Recycle material from the 6.1 million tons of C&D debris currently disposed in C&D disposal sites	12%
Institute Zero Waste Zones and Single Stream Recycling in various markets around the state	10%
Institute a combination "Pay-As-You-Throw" and RecycleBank incentive program in the state's high-population counties and cities	10%
Increase each K-12 school recycling rate to 75%	6%
Allow Recovered Materials Dealers to get credit for recycled materials from automobile shredding	3%
Require state offices and university buildings to adopt a "one ton a year" goal	1.5%

APPENDICES & FIGURES

Appendix A - Energy, Climate Change and Economic Security Act of 2008

403.7032 Recycling.—
(1) The Legislature finds that the failure or inability to economically recover material and energy resources from solid waste results in the unnecessary waste and depletion of our natural resources. As the state continues to grow, so will the potential amount of discarded material that must be treated and disposed of, necessitating the improvement of solid waste collection and disposal. Therefore, the maximum recycling and reuse of such resources are considered high-priority goals of the state.
(2) By the year 2020, the long-term goal for the recycling efforts of state and local governmental entities, private companies and organizations, and the general public is to reduce the amount of recyclable solid waste disposed of in waste management facilities, landfills, or incineration facilities by a statewide average of at least 75 percent. However, any solid waste used for the production of renewable energy shall count toward the long-term recycling goal as set forth in this section.
(3) The Department of Environmental Protection shall develop a comprehensive recycling program that is designed to achieve the percentage under subsection (2) and submit the program to the President of the Senate and the Speaker of the House of Representatives by January 1, 2010. The program may not be implemented until approved by the Legislature. The program must be developed in coordination with input from state and local entities, private businesses, and the public. Under the program, recyclable materials shall include, but are not limited to, metals, paper, glass, plastic, textile, rubber materials, and mulch. Components of the program shall include, but are not limited to:
(a) Programs to identify environmentally preferable purchasing practices to encourage the purchase of recycled, durable, and less toxic goods.
(b) Programs to educate students in grades K-12 in the benefits of, and proper techniques for, recycling.
(c) Programs for statewide recognition of successful recycling efforts by schools, businesses, public groups, and private citizens.
(d) Programs for municipalities and counties to develop and implement efficient recycling efforts to return valuable materials to productive use, conserve energy, and protect natural resources.
(e) Programs by which the department can provide technical assistance to municipalities and counties in support of their recycling efforts.
(f) Programs to educate and train the public in proper recycling efforts.
(g) Evaluation of how financial assistance can best be provided to municipalities and counties in support of their recycling efforts.
(h) Evaluation of why existing waste management and recycling programs in the state have not been better used.

Appendix B - Revenue Sources

Throughout this report, options have been identified that can contribute to achieving the 75% goal with little or no additional funding, while others will require some sort of financial assistance. Given that fact, several potential revenue generating options have been identified for consideration.

Waste Tire Fee Option: Beginning in 1989, a 50 cent per tire fee was placed on each new motor vehicle tire sold at retail. The fee was increased to $1.00 per tire in January 1990. During 1990, the consumer price index (CPI) was 130; today the CPI has increased to 215 or more than 60%. Estimates based on a five-year average of revenue from the Waste Tire Fee show that by increasing the fee to match today's CPI, an additional revenue of about $12.1 million could be generated annually. The current retail tire fee, less administration fees not to exceed 3%, is directed to the Solid Waste Management Trust Fund.

- Pros:
  - May be easier to increase an existing fee than create a new one to raise revenue.
  - Adjusting to the current CPI is reasonable and based on sound economics.
  - Generates approximately $12 million in revenue every year.
- Cons:
  - Waste tires make up only 1% of the waste stream and would be subsidizing other waste sources with greater impact.

Landfill Disposal Surcharge Fee Option: Approximately 35 of the 50 states have enacted landfill disposal surcharges. Based on 2007 data from Florida counties, a surcharge of $1 per ton on waste disposed at landfills would result in approximately $23 million in revenues annually. If the surcharge were also applied to WTE plants, an additional $4 million in annual revenue would be realized.

- Pros:
  - Generates $23 - $27 million in revenue annually.
  - The average impact works out to slightly more than $1 annually per person.
  - Equitable because it covers all MSW disposed, not just certain sectors.
- Cons:
  - Some counties or private landfills are concerned that the fee would result in less MSW disposed in their landfills and thus less revenue to the county.
  - Self-limiting since more recycling will result in less landfill disposal and less revenue—but recycling is, of course, the objective.

Bottle Bill Option: Eleven states have beverage container deposits, also known as bottle bills. A bottle bill can be designed to increase recycling and use unredeemed deposits to help fund various recycling programs at the state and local level. There will be unredeemed deposits with a bottle bill because not everyone will return their bottles

to claim the refund. Michigan has the highest state bottle deposit of 10 cents and a 97.3% redemption rate, but 2.7% of the bottles are not returned for refunds. If Florida had a bottle bill with a 10 cent deposit, unredeemed deposits could amount to approximately $35 million per year.

There has been some concern that a bottle bill would result in local recycling programs losing bottles they would otherwise normally collect resulting in lost revenue. However, studies have shown that bottle bill states actually have higher curbside recycling rates overall because it increases recycling awareness for other recyclable items.

There has also been some concern that fraud would be a major problem from sources both in state and out of state. However, there are legal and operational methods to minimize fraud, which in any event has not been significant enough for other states to eliminate their bottle deposit programs. Several bottle bill states have expanded or are considering expanding the scope of their programs to cover additional containers that were not common when their legislation was first passed 20 or 30 years ago.

One option, in recognition of the diverse views concerning bottle bills and to overcome the concerns, would be a pilot program in select communities around the state.

- Pros:
  - Substantially increases bottle recycling.
  - Reduces roadside litter.
  - States with bottle bills in general have higher recycling rates.
  - Could produce $35 million in revenue to the state for unredeemed bottle deposits.
  - A percentage of the unredeemed deposits could go to retailers to offset costs.
  - Reduces greenhouse gas emissions resulting from manufacturing new bottles and other products from virgin materials rather than recycled materials.
  - Places more responsibility on producers and consumers rather than taxpayers for the cost of solid waste management.
- Cons:
  - Bottles are only 5% of MSW and would be subsidizing other sectors that are a larger part of the problem.
  - Retail sector concerned that it may be expensive or difficult to implement, including space considerations.
  - Retailers concerned about possibility of public health issues from returned un-cleaned bottles if they do not have space for a separate redemption area.

Construction and Demolition Debris Refundable Deposit Option: Some communities have incorporated a C&D disposal deposit into their permit process. San Jose, California has developed a complementary program to facilitate the pre-processing element for MRFs at C&D facilities. This program requires builders and demolition

staff to leave a refundable "deposit" when they come in for a permit to build or demolish. The deposit is refunded if they show weight slips (from certified MRFs/C&D facilities or show reuse or recycling in another way) that demonstrate they recycled 50% of the material. Deposit formulas generally range from 10-20 cents per square foot for non-residential and residential building or demolition. Accordingly, construction of a 2,000 square foot home would require a deposit of $400. This fee is part of the normal building permitting process so it did not require new administrative start-up costs. Unclaimed deposits are retained by the local government for recycling efforts. San Jose program managers advised that the city has generated about $800,000 for each of the last two fiscal years from unclaimed deposits.

Such an approach in Florida could complement the earlier recommendation to require materials recycling facilities on the front end of construction and demolition disposal sites. Local governments could require a deposit with the permit to build or demolish structures, based on the square footage of the structure. The deposit would be refunded when the permittee presents weight slips from a permitted materials recycling facility or otherwise demonstrates that at least 75% of the material was recycled. Typical deposits could be 20 cents per square foot for residential construction and 10 cents per square foot for non-residential construction. Unclaimed deposits could go to the city or county to fund infrastructure or commercial recycling efforts, or to the state to assist with recycling grants.

- Pros:
  - Substantially more C&D would be recycled.
  - Un-refunded deposits could be a source of revenue for local or state government for use in grants, recycling education or commercial recycling.
- Cons:
  - Additional costs up front for building construction, deconstruction, or renovation permits.
  - Additional record keeping for permittees in order to get deposit refunded.

Incandescent Bulb and High Mercury Fluorescent Bulb Fee Option: The incandescent light bulb will be phased out of the market in the United States beginning in 2012 as required by the federal Clean Energy Act of 2007 (HR6). Ninety percent of the energy that an incandescent light bulb burns is wasted as heat. Still, sales of the most common high-efficiency bulb available, the compact fluorescent light bulb (CFL), amount to only 5% of the light bulb market. The changeover will be gradual with a phase out period of 2012 through 2014. To assist with the phase out in Florida and generate revenue, a fee of 25 cents per bulb could be charged until the phase out is complete in 2014. This fee could generate approximately $15.8 million dollars of revenue through the phase out period.

- Pros:
  - Reduced energy consumption means lower lighting cost for the household and fewer fossil fuels burned, which helps to reduce greenhouse gases.

- Cons:
  - Higher initial cost for CFL bulbs over incandescent; however the 25 cent fee per bulb on incandescent would make the costs more comparable.
  - Potential increased exposure to mercury from breakage or improper disposal of CFLs over incandescent bulbs.
  - Infrastructure needed may take more time to put into effect than the phase out period.

Appendix C - Supplemental Recommendations

These recommendations are generally more modest than those in the main body of this report but would nonetheless contribute to meeting 75% by 2020. Many can be implemented with nothing more than initiative and some cooperation. Others would require legislative action that merits consideration.

State Government

- In cooperation with DEP, DMS should develop and provide links to sample policies for local governments and organizations considering the adoption of environmentally preferable purchasing practices.
- DMS, in conjunction with DEP, should develop an on-line training course and certificates designed for staff that initiate and track MFMP and FLAIR contracts and procurement. The training course should be geared to the 75% recycling goal and environmentally preferable purchasing, specifically purchasing products made from recycled rather than virgin materials. Training should also ensure that staff understands life cycle costing and the 10% and 15% price preference available to responsible state venders or others using recycled content identified in Section 287.045, Florida Statutes (F.S.).
- Amend Section 403.714, F.S., to require state agencies of the executive, legislative, and judicial branches of state government and all state-supported institutions of higher education to report to DMS the estimated materials recycled during the prior fiscal year, starting with data collected during the 2010-2011 fiscal year. The materials should include, at a minimum, office paper, corrugated cardboard, plastic bottles, and aluminum cans. DMS should then report that data to the Governor, the Legislature and DEP.
- DEP should help DMS develop and maintain statewide procurement contracts for all recyclable materials identified in Section 403.714, F.S., and all recyclable hazardous materials such as batteries, fluorescent lighting, used waste oil, aerosols, etc.
- DEP should develop a Web site, electronic brochures or newsletters for DMS to use for recycling education and assist DMS to increase recycling in state office buildings.
- Clarify, in Section 403.714(3), F.S., that product procurement language applies to state and local agency contractors as well as the agencies themselves.
- DEP should examine the possibility of partnering with other organizations such as Recycle Florida Today, the Florida Sunshine Chapter of the Solid Waste Management Association of North America, the Southern Waste Information Exchange (SWIX) and the University of Florida's Center for Training, Research, and Education for Environmental Occupations to develop extensive and detailed technical training for local government recycling coordinators and solid waste staff.

- DEP should partner with the existing awards programs of Recycle Florida Today and the Florida Sunshine Chapter of the Solid Waste Management Association of North America.
- Direct the Florida Department of Agriculture and Consumer Services (DACS) to investigate the potential markets for recycled organic materials and submit its findings biennially to DEP. The report should also be sent to the Governor's Office of Tourism, Trade, and Economic Development (OTTED).

Funding

- Increase the state contribution to the Florida Recycling Loan Program in an amount sufficient to increase the maximum loan amount from $200,000 to $500,000.
- Allocate funds for updating the WasteCalc (or similar) waste composition model that will provide counties with critical data they need to calculate recycling rates at a much lower cost than individual counties conducting their own waste composition studies.
- Fund development and implementation of outreach, education, promotion, demonstration, and market development efforts targeted at increasing recovery and beneficial use of organic materials statewide.

Waste Management

- Change the authority in Section 403.7043, F.S., for developing rules on compost, composting and compost product parameters to developing rules on organics, organics processing, recycled organic product parameters and product use as they affect the environment. This would allow DEP to develop rules and criteria for other organic waste processing technologies, other than solely composting, and the resulting organic materials.
- Allow DEP to count other organic recycling technologies towards the compost goal in Section 403.706(2)(d), F.S. This would acknowledge that there are other technologies, such as anaerobic digestion, that can be used to recycle organic waste and should be considered as acceptable alternatives to composting.
- Replace the term "compost" or "composted" with "recycled organic(s)" in Section 403.714(2), (3) and (4), F.S. This broadens the scope of these requirements to recycled organic materials, other than solely compost, and will assist in market development. Composting is the *aerobic* decomposition of organic and biodegradable matter to make compost. However, there are other ways to decompose and recycle organic matter, such as via *anaerobic* digestion (which can also produce usable gases) or processing yard trash into a material that can be used as mulch or fuel.
- Retain the ban on yard trash going to lined landfills found in Section 403.708(12)(c), F.S., unless a case can be made that energy is created by using yard trash as part of a methane gas collection system at a specified landfill. According to county reports, the landfill ban diverted about 3.6 million tons of yard trash or about 11% of the municipal solid waste stream during calendar year 2007. Retaining a ban

encourages yard trash to be available for organic recycling and may also assist counties in achieving the compost goal in Section 403.706(2)(d), F.S.

- The 2000 Florida Recycling Economic Information Study, prepared by solid waste consultant R. W. Beck, should be updated to determine the current impact of the recycling industry on Florida's economy.
- Enact product stewardship framework legislation with electronics, carpet, fluorescent lamps and paint designated as the initial products covered by the legislation. To ensure consistency and that priority products are addressed, the framework should articulate a transparent, inclusive, and objective process for designating products. It should include public availability of product evaluation information, input from affected stakeholders, specific decision points and timelines, an opportunity to appeal recommendations and a designated decision-making body.
- Florida should enact a requirement that, by 2020, all active landfills capture and use or flare landfill gas unless the applicant demonstrates to DEP that it is not practicable or economical. This requirement would promote the use of flaring and minimize venting methane directly to the atmosphere. Flaring would convert all or most of the methane to carbon dioxide ($CO_{2,}$) a much less potent greenhouse gas than methane. It should be noted that Title V of the federal Clean Air Act requires that when a landfill reaches a certain size, then landfill gas must be captured.

Figure 1 – Tons of Municipal Solid Waste Collected in Florida Counties in 2007

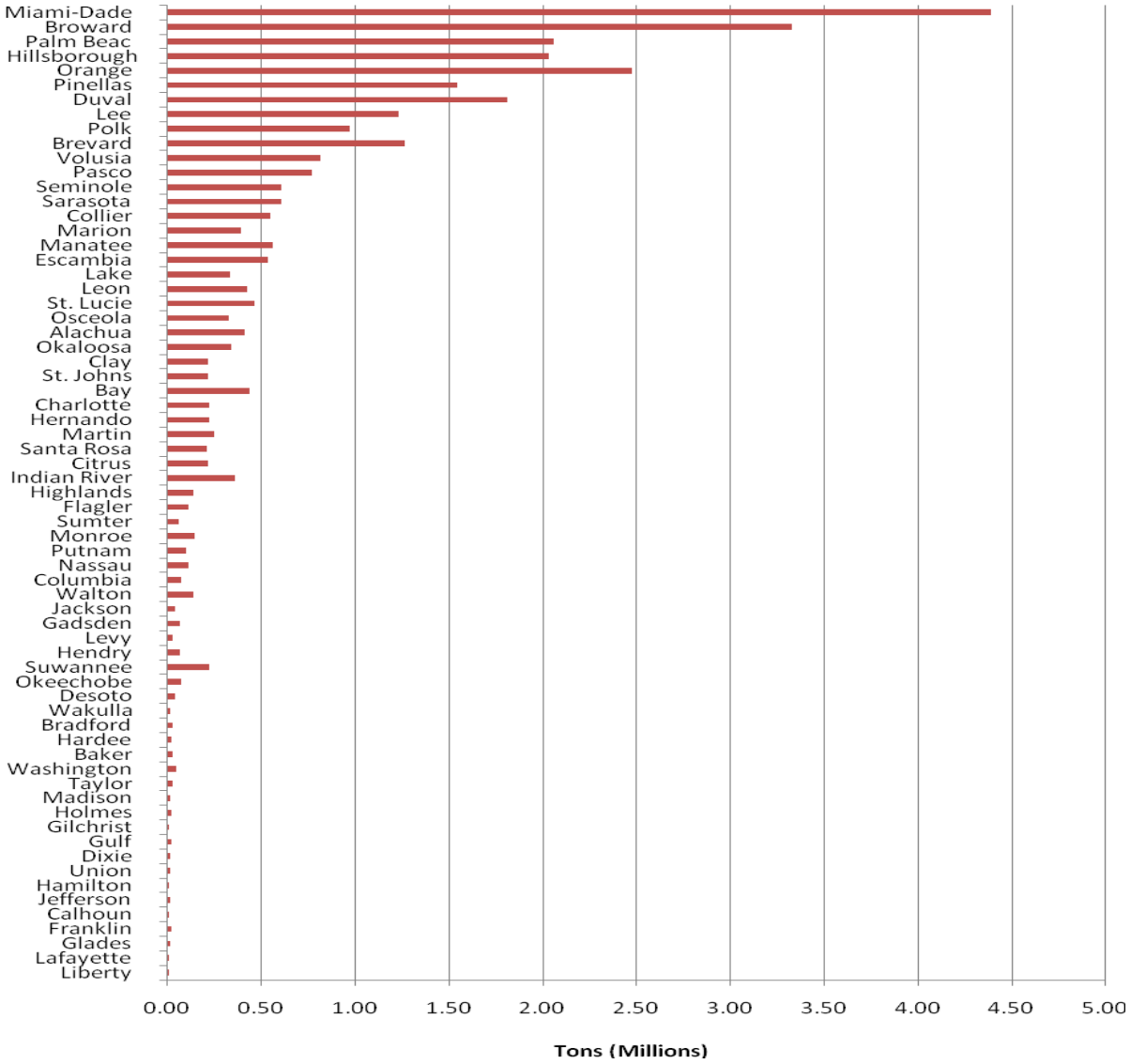


Figure 2 – Florida Municipal Solid Waste Collected in 2007

32 Million Tons

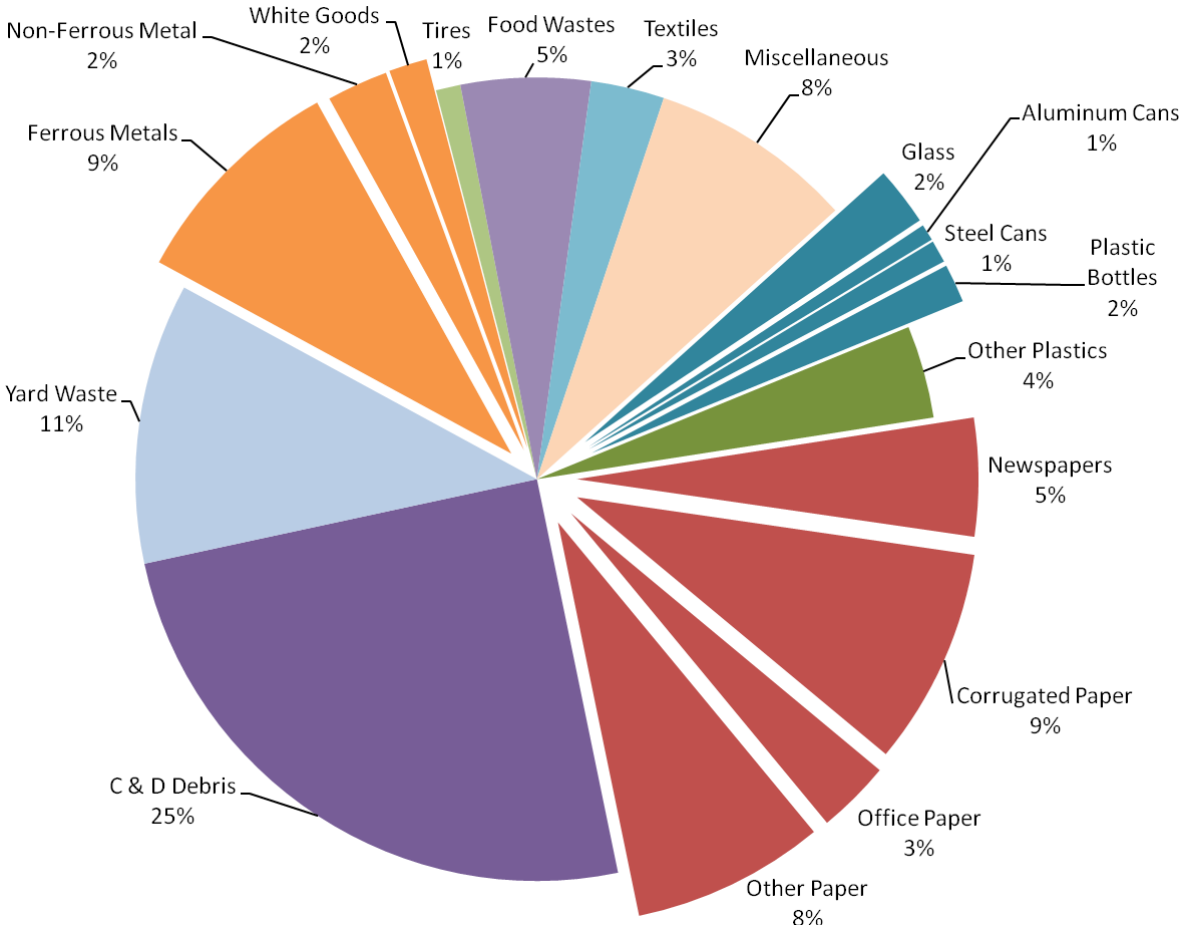


Figure 3 - Florida Counties with Waste-to-Energy Facilities