



Florida Department of Environmental Protection

Bob Martinez Center
2600 Blair Stone Road
Tallahassee, Florida 32399-2400

Rick Scott
Governor

Carlos Lopez-Cantera
Lt. Governor

Jonathan P. Steverson
Secretary

Memorandum

TO: Recycling and Solid Waste Directors

FROM: F. Joseph Ullo, Jr. P.E., Director *F. J. Ullo, Jr.*
Division of Waste Management

SUBJECT: Single Stream Recycling Contamination

DATE: December 2, 2015

Florida counties have been given the responsibility of implementing a recycling program within their boundaries under s. 403.706, Florida Statutes (F.S.). Large counties, defined as counties having more than 100,000 in population, are responsible for implementing recycling programs to meet the statewide 75% recycling goal by 2020. The state, counties, municipalities, and the solid waste and recycling industry have been working hard to make significant strides toward this statewide goal.

In an effort to reach the 75% recycling goal, many counties and municipalities have instituted single stream recycling programs. Single stream recycling programs have been successful by providing increased curbside collection efficiency while also increasing residential participation and the amount of recyclables collected. While there are many advantages to incorporating single stream recycling, it has not consistently yielded positive results for the recycling industry. Coupled with other trends in the industry, single stream recycling has also resulted in the collection of unwanted materials and poorly sorted recyclables, resulting in increased contamination of recycled materials.

Contamination hinders processing at Material Processing Facilities (MRFs) when unwanted items are placed into recycling bins. For example, many residential customers may not understand that while retail plastic bags are recyclable, they are harmful to the automated equipment typically used to process and separate recyclable materials from single stream collections. While MRFs are equipped to handle some non-recyclable materials, excessive contamination can undermine the recycling model resulting in additional sorting, processing, energy consumption, and other increased costs for recycling due to equipment downtime, repair, or replacement needs. In addition to increased recycling processing costs, contamination also results in poorer quality recyclables, and increased rejection and landfilling of unusable materials.

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Single stream contamination can result from cross-contamination of recycled materials. For example, recent trends with decreases in the use of newsprint and other fibrous content have contributed to the reduction in recyclable paper that would otherwise cushion glass in single stream recycling. As a result, there is an increased likelihood that recycled glass will become broken both in single stream containers, and during collection and transportation. Glass pieces smaller than 3/8" resulting from breakage during collection and transport can be comingled with paper, reducing the value of the paper or causing the entire load to be sent to the landfill.

The recycling industry has provided information showing that residential single stream contamination has increasingly become an obstacle to implementation and expanding recycling programs to meet the 75% recycling goal. While some local governments have implemented successful single stream recycling programs with low contamination rates, contamination rates for other programs have continued to rise, in some cases reaching contamination rates of more than 30-40% by weight. This disparity in program successes suggests that with proper education, combined with adequate controls and oversight, the contamination problem is one that can be better managed. Industry norms appear to suggest that contamination levels of 5% -10% by weight are manageable and acceptable under many existing recycling programs; however, MRFs cannot manage higher contamination levels effectively and efficiently. Local governments are in the best position to provide the leadership, vision and targeted incentives to ensure their implementation of an effective recycling program. It is critical for local government leadership to optimize long term recycling development by getting the best services that produce the highest quality materials. Indeed, it appears that reducing contamination rates will be an essential component for many counties to better implement or expand their recycling programs as part of their efforts to achieve the recycling goals outlined in s. 403.706(2), F.S.

For the State of Florida to reach our target recycling goal of 75%, it will take firm commitments from all local government units. The Department strongly encourages counties and cities to take steps today to address the increasing problem of contamination in your single stream recycling programs. Below are some ideas to consider when reviewing the implementation of your recyclable materials recycling program:

- Review the design of your recycling process as a whole and consider what controls are in place during collection to ensure proper identification, screening, and handling of incompatible materials that are being introduced in the single stream process.
- Consider meeting with and discussing these issues with the MRFs and haulers that service your county. What is the quality of the recyclable material products produced from your single stream program and the efficacy of your process?
- What improvements may be required for successful processing to ensure the material can be sorted to meet end use requirements or recycled product specifications?
- Review your existing contracts so they may help support a sustainable recycling program. Are they focused solely on diversion rates with little or no enforceable standards or language addressing contamination?
- What is known about the source(s) of contamination in your county?

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- Consider options, including the use of people, to help increase understanding and compliance by customers with directions on what items are suitable for recycling in residential recycling containers.
- Consider performing waste audits to determine the composition of the single stream materials sent to the MRF. (Your MRF may already have some information and may be able to help with this process.)
- Evaluate your current community outreach and educational programs. Are they effective? Do residents really know what can and should go in their cart? Are you making it easy for them to comply? Is there a way to screen and inform residents when they have included items in the single stream recycling bins that are incompatible?

The Department of Environmental Protection is partnering with the Florida Recycling Partnership and Recycle Florida Today to host a webinar concerning the growing contamination issue associated with single stream recycling. The purpose of the webinar is to discuss ways to reduce cross-contamination of recycled materials, increase the quality and quantity of materials recycled, and yield the highest percentage of materials that are accepted in your recycling program. This webinar is scheduled to occur on December 16th at 10:00 am. A “Save the Date” announcement was sent last week, and additional registration information will be sent to you within the next week.

The Department will also be organizing a stakeholders committee to examine the single stream contamination issue, as well as soliciting ideas on how best to help local governments work towards resolving this and other emerging recycling challenges. If you would like to participate or would benefit from technical assistance, or have ideas that you would like to share on reaching the 75% recycling goal, please be sure to contact the Department’s Waste Reduction & Recycling Program at Recycling@dep.state.fl.us. If you have any questions or would like to further discuss these topics in the meantime, please contact Karen Moore, Environmental Administrator, at (850) 245-8864, or Karen.S.Moore@dep.state.fl.us.