

Exceptional service in the national interest



Custodial Impact

Waste and Recycling



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Excerpt of Nomination

Another successful partnering within Sandia is with the Custodial department. In FY11 the leaders within Custodial agreed to have the custodians segregate foam for recycle. At the end of FY09, P2 was able to procure a foam densifier or compactor capable of making logs of dense foam that easily stack on pallets for shipping to recycle. Otherwise the material would be too voluminous to manage. The currently named SWCRC (SWTF at the time) houses the equipment, but shipping damage, installation problems, and procedural difficulties prevented efficient usage of the machine throughout FY10. The head facility operator finally developed an efficient means of staging and processing both EPS #6 Styrofoam and LDPE #4 foam in FY11, thus minimizing the waste of material when switching between processing runs. The custodians segregate the foams in the yellow mixed paper dumpsters distributed across the campus, and the foam is picked up weekly for processing or storage at the SWCRC. Furthering the relationship with Custodial, they agreed to pilot having the custodians manage mixed paper inside of (a few) buildings and moving it out to the yellow dumpster. Currently across most of the campus, this is accomplished by volunteers and Sandia had essentially capped out on the volume the volunteers were able to move. The custodians support will remove the volunteer aspect, making the process routine and efficient. This is agreed to occur in FY12 after training of new hires brings staffing back up to a workable level.





Custodians learn about solid waste and recycling processes



Material Streams – Solid Waste

- Collection process

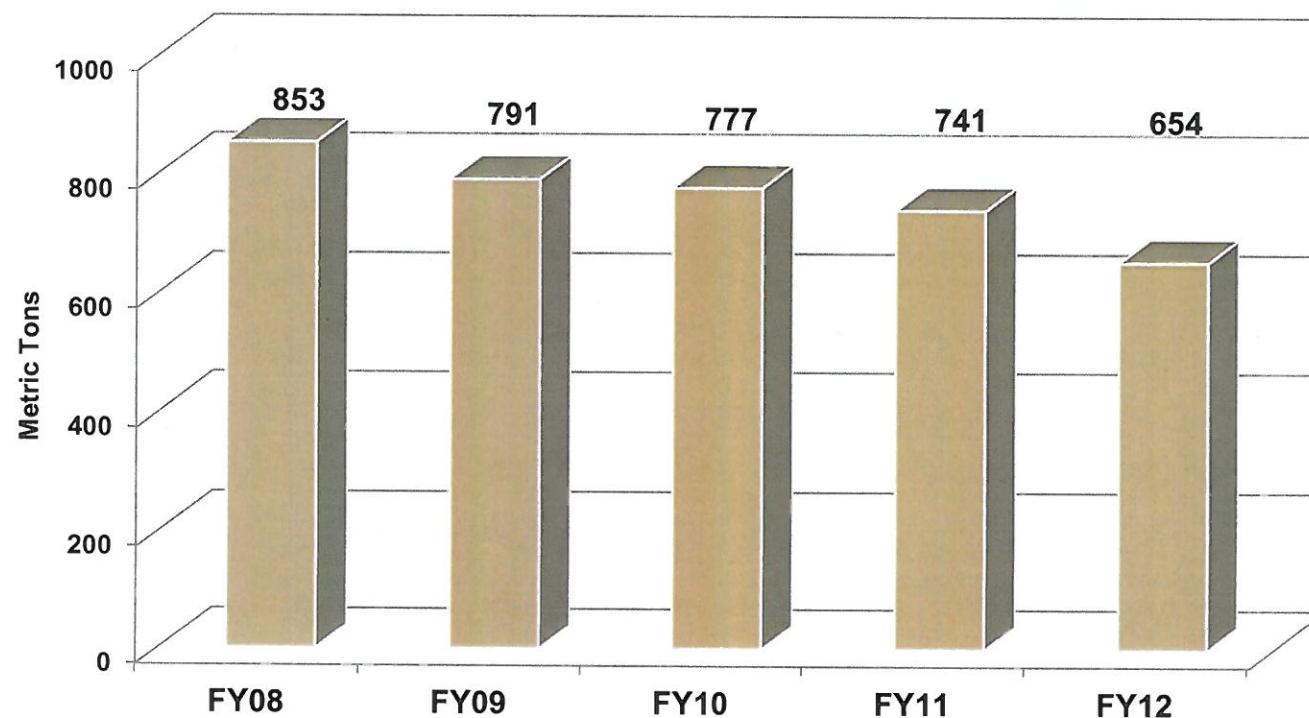
- Recycling

- _____
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Reduction in Solid Waste

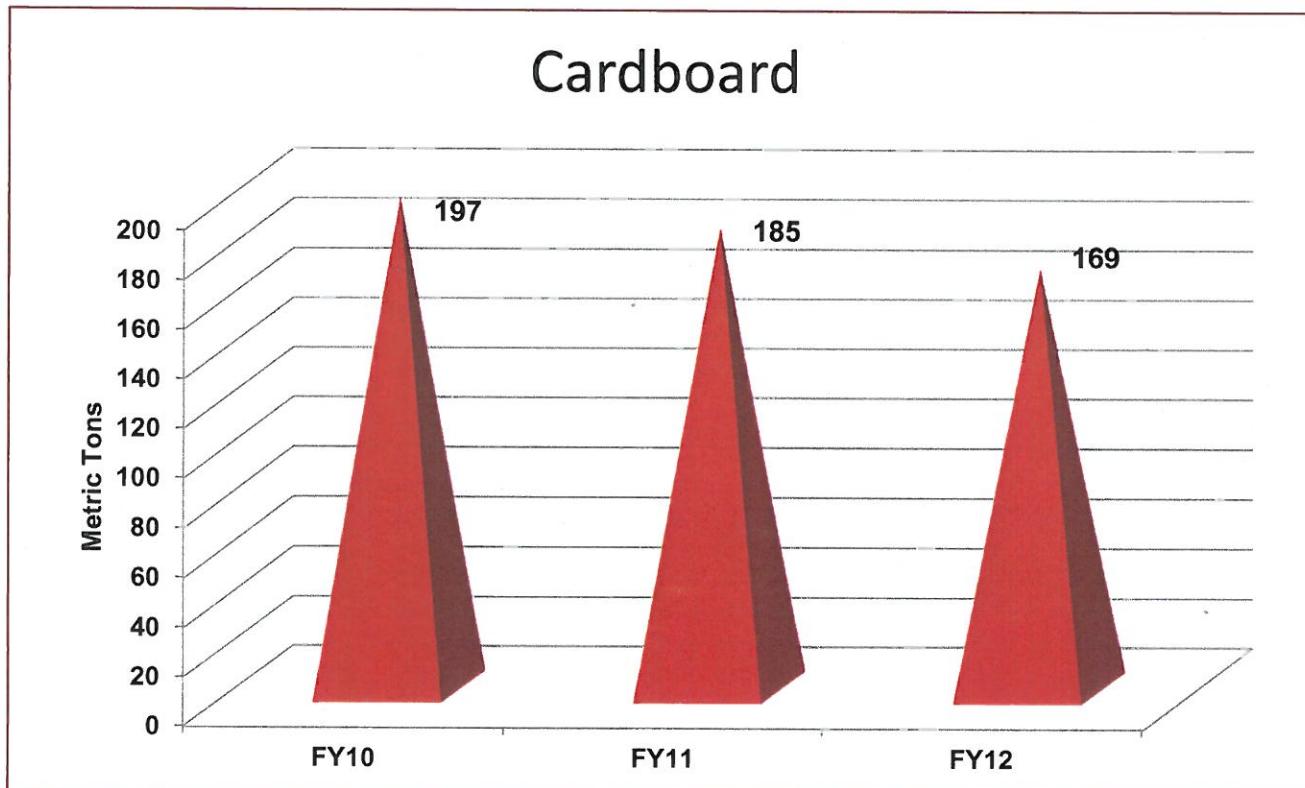
Solid Waste Moved by Custodial



Bale of Cardboard Ready to Ship



Material Streams - Recycling



Aluminum Cans



Collected aluminum cans



Baled aluminum cans

Plastic Material



Gabe collecting plastic bottles out of the recycling container



Baled-plastic bottles and additional plastic material

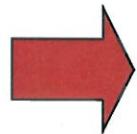
Bales of Mixed Paper



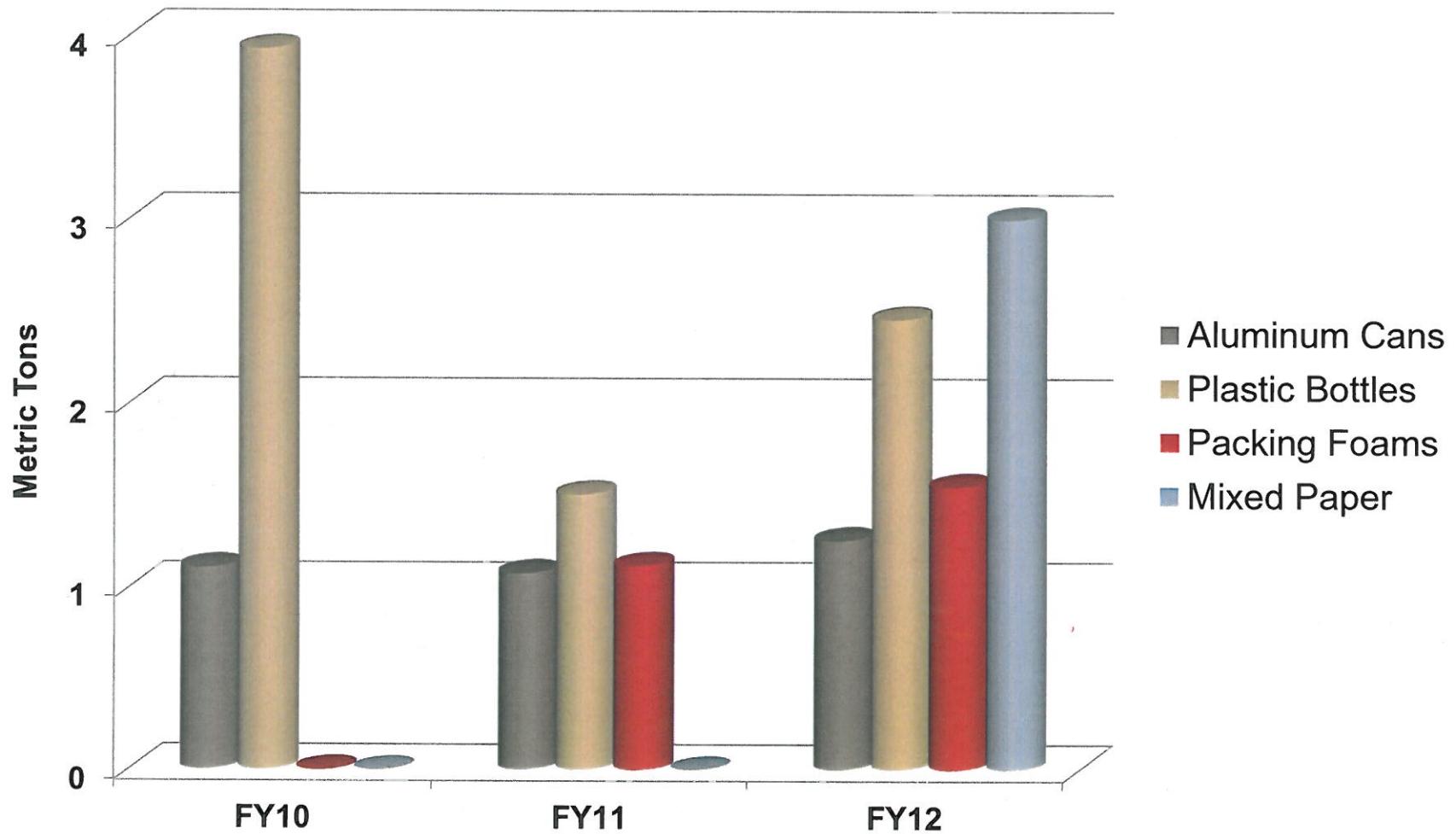
A new partnership
between custodial and
pollution prevention.



Packing Foam Logs

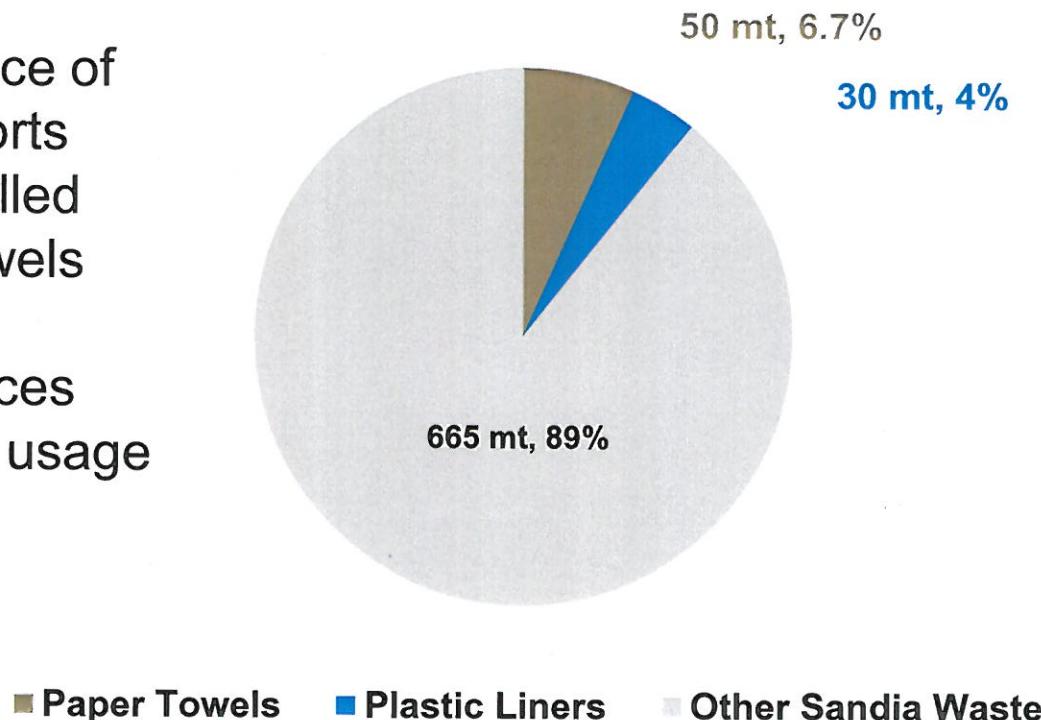


Diversification of Materials Recycled



Custodial Purchasing of Direct Waste Products (FY12 est.)

- Highlights the importance of Custodial Service's efforts to convert to the controlled dispensing of paper towels
- Liner usage best practices are worth reviewing for usage reduction opportunities



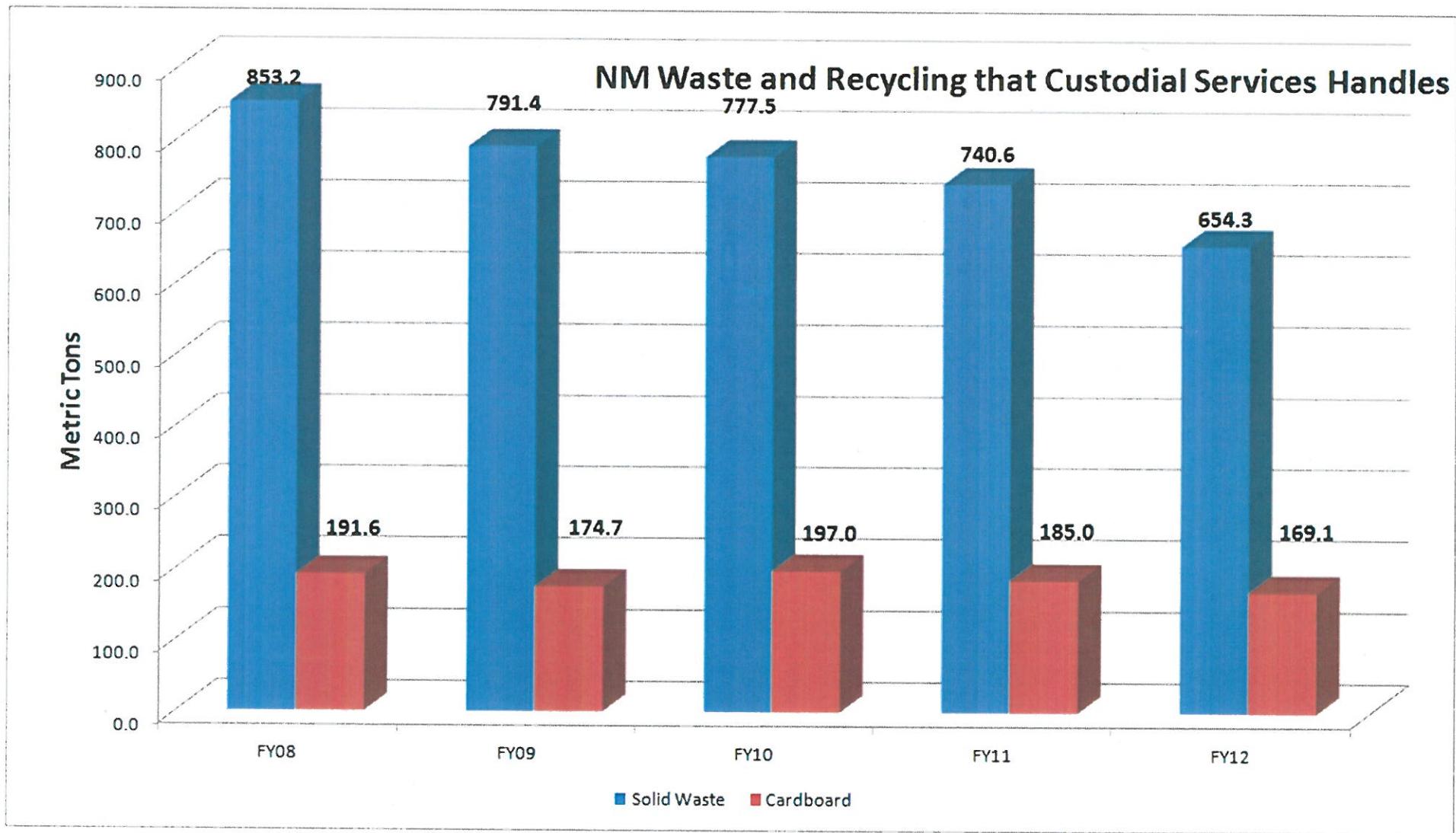
Workers Screen Collected Trash



Trash ready for
transport to landfill



New Mexico Waste and Recycling



Partnership

- Overall, improve our communication, and response time to requests (from either one of us)
- Respond to Custodial requests, or solicit ideas, for new or relocated dumpsters and notify when that's happened. One example lately is what we did on the south side of 880; another example is changes made on east and southeast corner of 962 ~ year ago.
- Striving for clustering of trash, cardboard and mixed paper dumpsters, for convenience to workforce and custodial crews
- Overview and tour of the SWCRC for new hires
- Refinements on collection of aluminum cans from building bins (to reduce likelihood of bags breaking and hence losing the cans to trash)
- Sharing the data on solid waste generation/reduction and recycling improvements.

Dispensers Ready For Recycling



Solid Waste Facts



- Municipal Solid Waste (MSW)—more commonly known as trash or garbage—consists of everyday items we use and then throw away, such as product packaging, grass clippings, furniture, clothing, bottles, food scraps, newspapers, appliances, paint, and batteries. This comes from our homes, schools, hospitals, and businesses.
- In 2010, Americans generated about 250 million tons of trash and recycled and composted over 85 million tons of this material, equivalent to a 34.1 percent recycling rate . On average, we recycled and composted 1.51 pounds of our individual waste generation of 4.43 pounds per person per day (Figure 1 and Figure 2).

Custodial Recycling Notes

Aluminum and Plastic Bottles

- Process agreement exists between Custodial and Solid Waste that full bags of aluminum cans and full bags of plastic bottles are screened (pulled) out of the trash before they leave Sandia. That is one of the reasons we use clear liners at Sandia. Aluminum cans 1.3 metric tons a year. Plastic bottles 2.5 metric tons a year.
- We receive .65 cents a pound for aluminum cans. This goes to buy items needed for solid waste.

Batteries

- Batteries are recycled

Cafeteria

- Our cafeteria composts its food waste from the kitchen and dish scraping.

Foams - These all go in the yellow mixed paper dumpster and are screened out.

- #4 Foam (Common with new computers, low density, Polyethylene and is spongy. It protects well and has a higher value)
- #6 Foam (a.k.a. Styrofoam Polystyrene) (Printer packing- it is stiff and will snap)
- These foam logs weigh 60 pounds to a log when put into logs
- Polyurethane Foam
- Bagged packing peanuts

Glass Bottles

- Red gabled roll offs recently placed at two locations for customers (870,878)
- Glass disposal box for broken glass

Mixed Paper what is it?

- Colored paper, glossy paper, junk mail, newspapers, softbound books, phone books, hardbound books (covers removed), chipboard (e.g. soda boxes, microwave meal boxes, bagged shredded paper).
- What is not mixed paper (white paper, cardboard anything classified)

White Paper what is it?

- White paper is collected at desk side in blue bins and put in wheeled blue cart when small bins are full (white copy printer paper, white card stock, (staples and ink are okay)

- **Moving Boxes are reused and available on gives and gets website**

Water Conservation

- **Between the years of 2010 and the beginning half of 2013 SNL recycled 5096 metric tons of paper equating to as much as 6,802,380 gallons of water preserved. This can be compared to the 15,752,880 gallons of water this paper took to produce. Paper can be recycled multiple times and does not have to be recycled to the same type of paper. Example: masking tape, bandages, dust masks, and hospital gowns can all be made by recycled paper.**
- **It takes anywhere from 13,920-26,400 gallons of water to make a metric ton of paper.**

Performance Results Initiative

Specific initiatives by Custodial Services have been implemented to reduce environmental impact and protect our built environment.

Custodial Services has a partnership with Waste Management /Pollution Prevention for recycling.

- This year custodial services have changed out approximately 1250 toilet paper dispensers. This change of dispenser with new style toilet paper (3.75 X 865 sheets) will save custodial services \$1,497.85 in cost. The new bay west/wausau toilet tissue is 100% recycled with up to 40% Post-Consumer Waste. Our previous tissue was 20% post-Consumer Waste.
- A change out of 450 roll towel dispensers will decrease the chance of contamination with a hands free dispenser. With the purchase of new baywest/wausau roll towels (7.5 X1000ft.) this will increase our post-consumer waste from 73% to 82% with a cost savings of \$18,778.
- A change out of 1560 soap dispensers will save our department 52% to replace with new soap. This results in a savings for soap of \$18,096. The previous soap used was not Green Seal Certified. Optisouce Soap is Green Seal Certified. The 52% savings is based on two things, the size of the shot each time you deploy the dispenser and secondly the cost per milliliter. Soap come in 1000 ml. bottles Shot size for Soft Care was 1ml, shot size for Opti Souce is 0.7ml
- Custodial had 1250 Toilet paper dispensers and 450 roll towel dispensers recycled. These dispensers were collected by Waste Management and Pollution Prevention to be recycled rather than disposal in the landfill.

Sandia Labs Custodial saved the following natural resources while reducing pollution. The purchasing of products using 30% of recycled content and the impact on our environment by trees saved is 980. By using 100% recycled paper products, cubic yards of landfill space saved is 185 compared to 265 cubic yards needed with no recycled content. This also minimizes harm to the environment and demonstrates waste reduction.

Material Streams

- From FY08-FY11 total reduction is 21% solid waste reduced. The recycling rate has been over 60% the last two years and a goal of sustainably achieving 65% or more by end of FY12
- Metric ton is 2000 short ton in US for a bale for trash. DOE metric tons is 2204
- A trash truck has a capacity of approximately 3-4 bales when compacted
- Sandia from FY2009-2012 we have 20 more cardboard dumpsters and 35 less trash dumpsters. A 30% reduction in trash dumpsters.
- Dispensers are made of polycarbonate and is valuable
- We have LESS 200 metric tons solid waste moved by Custodial from FY08 –FY 12.
- FY10 - no packing foams recycled/ FY2012 1.3 metric ton recycled of packing foam
- FY10 no mixed paper recycled/FY 2012 2.9 metric tons recycled.
- **FY10 Cardboard 197 Metric tons/ FY12 169 Metric Tons**
- **FY10 Plastic Bottles 3.8 Metric tons/ FY12 2.3 Metric tons**

Facts

- 4.3 pounds waste generated per person
- 2010- Americans generated 250 million tons of trash and recycled and composted over 85 million tons. This is a 34.1 recycling rate. On average we recycled and composted 1.51 pounds of our individual wasted generation of 4.43 pounds per person.
- It takes approximately 20 trees to make one metric ton of paper
- World population is 7 billion, NM population is 2.086 million, Michigan population is 9.883 million