



SAND2010-7253P

Pollution Prevention – Striving for Environmental Sustainability

Go Full Circle

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Reduce, Reuse, Recycle, **Buy Green**



Sandia is a multi-program laboratory managed and operated by Sandia Corporation, a wholly owned subsidiary of Lockheed Martin Corporation, for the United States Department of Energy's National Nuclear Security Administration under contract DE-AC04-94AL85000.



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What we'll cover

- Why P2?
- Community Oriented
- Scope of P2
- Programs & accomplishments
- Public outreach
- P2 information on the Web
- Your input please

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Why P2 at Sandia?

- Pollution Prevention Act of 1990
- DOE Orders over the years
 - Updates resulting from Executive Orders
- Formal P2 Program started about 1995
 - Recycling started much earlier
- Being proactive & continuous improvement
 - It's the right thing to do
 - Good Business case
- P2 adopted a new vision in 2007

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Vision

- **The P2 program promotes and integrates environmental sustainability into all SNL/NM operations.**
 - **To promote and integrate environmental sustainability, the P2 program will seek to: achieve 100 percent recycling of all recyclable commodities**

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Community oriented – Local Vendors

RECYCLING	PROCUREMENT
Ace Metals	Bocotek
BioPapel (Durango McKinley)	Document Solutions
Document Solutions	Holman's
PG Enterprises	Riteway Pallet
RASTRA (closed)	Sandia Office Supply
Soilutions	Sandia Paper Company
Wise Metals	
Wood-U-Recycle	

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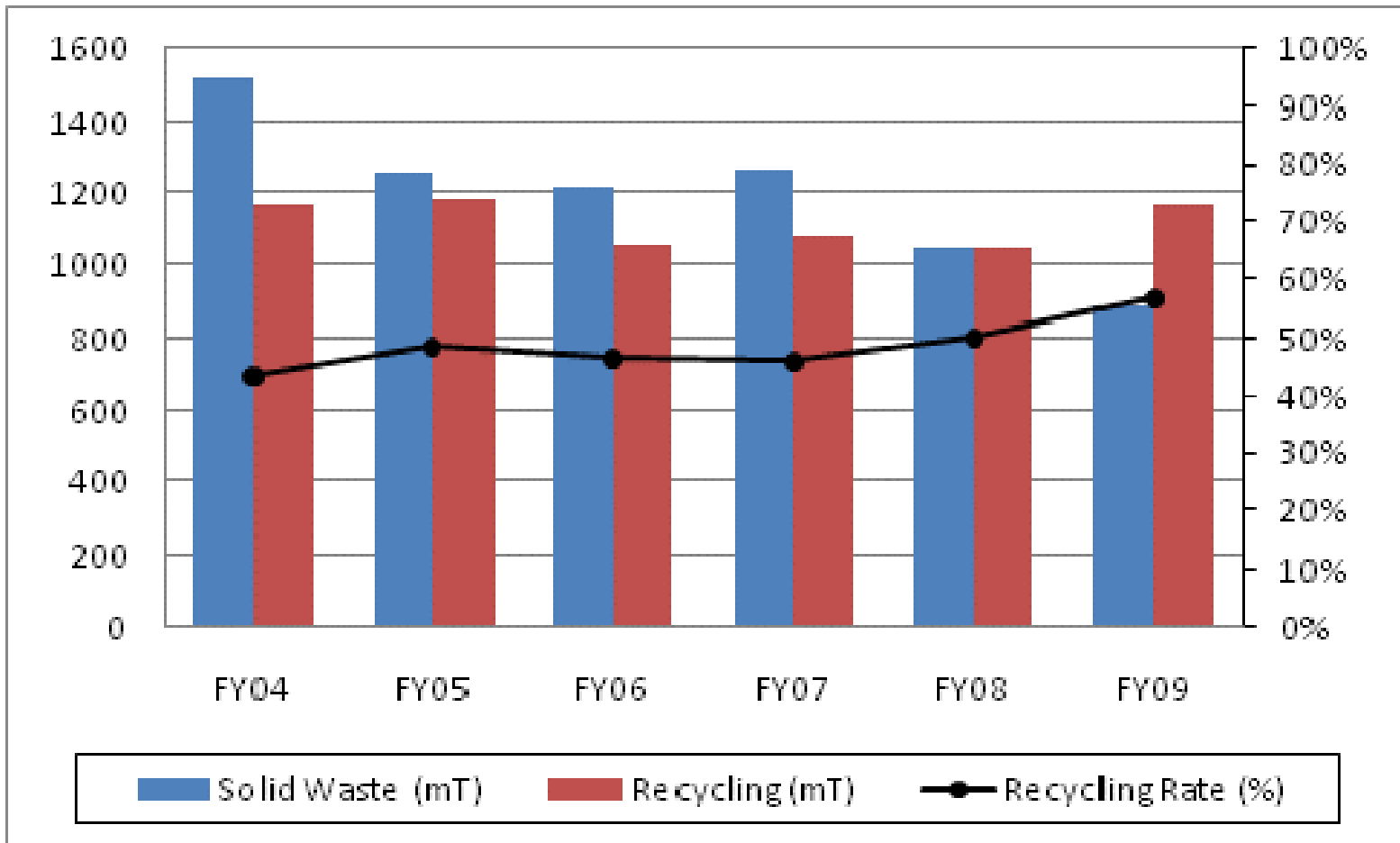


P2's Scope

- **Waste Reduction:**
 - Hazardous Waste & Solid Waste
 - Research options to reduce at point of generation or find recycle pathway for current landfilled waste.
- **Reuse:**
 - Office Chairs; “Computers for Learning”
- **Recycle:**
 - Improve Shrink Wrap & Foam; Add Yard Waste
- **Buy Green:**
 - Biobased Lubricants and Glass Cleaners



Recent Performance



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Optimization & Standardization, leading to waste reduction





New recycle streams

- **Beyond scrap metals, cardboard & white paper:**
 - Mixed paper continues to grow for 4th year
 - Packing foams #4 LDPE & #6 EPS started 2009
 - Shrink wrap #4 LDPE film
 - Alkaline Batteries



- **FY09 Recycling Opportunity Assessment**
(available on P2 external website)

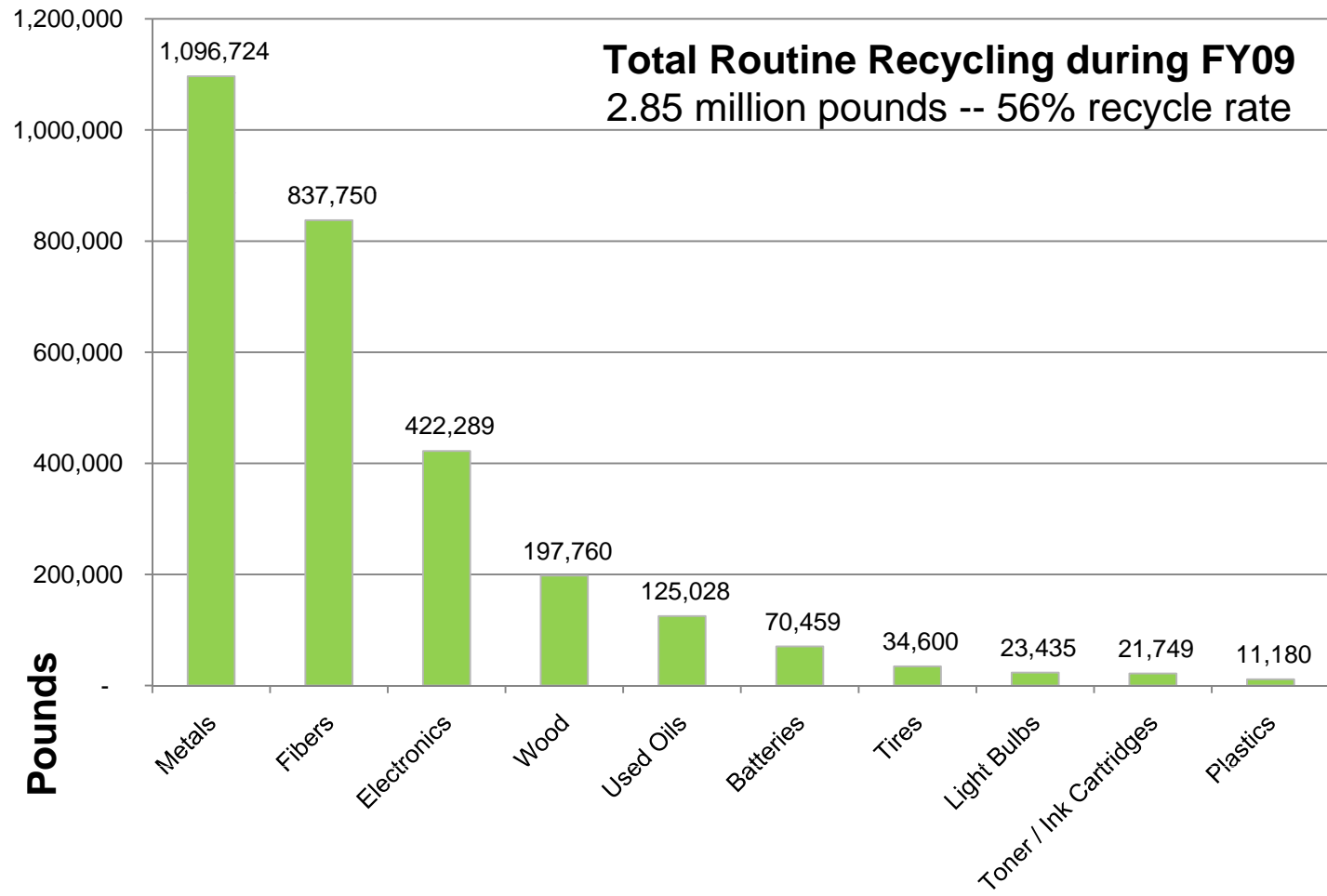


Going to Market





Statistics for FY09



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The “P2 Tent”

- Installed June 2007
- Staging area for electronics prior to recycle
- Many more uses now

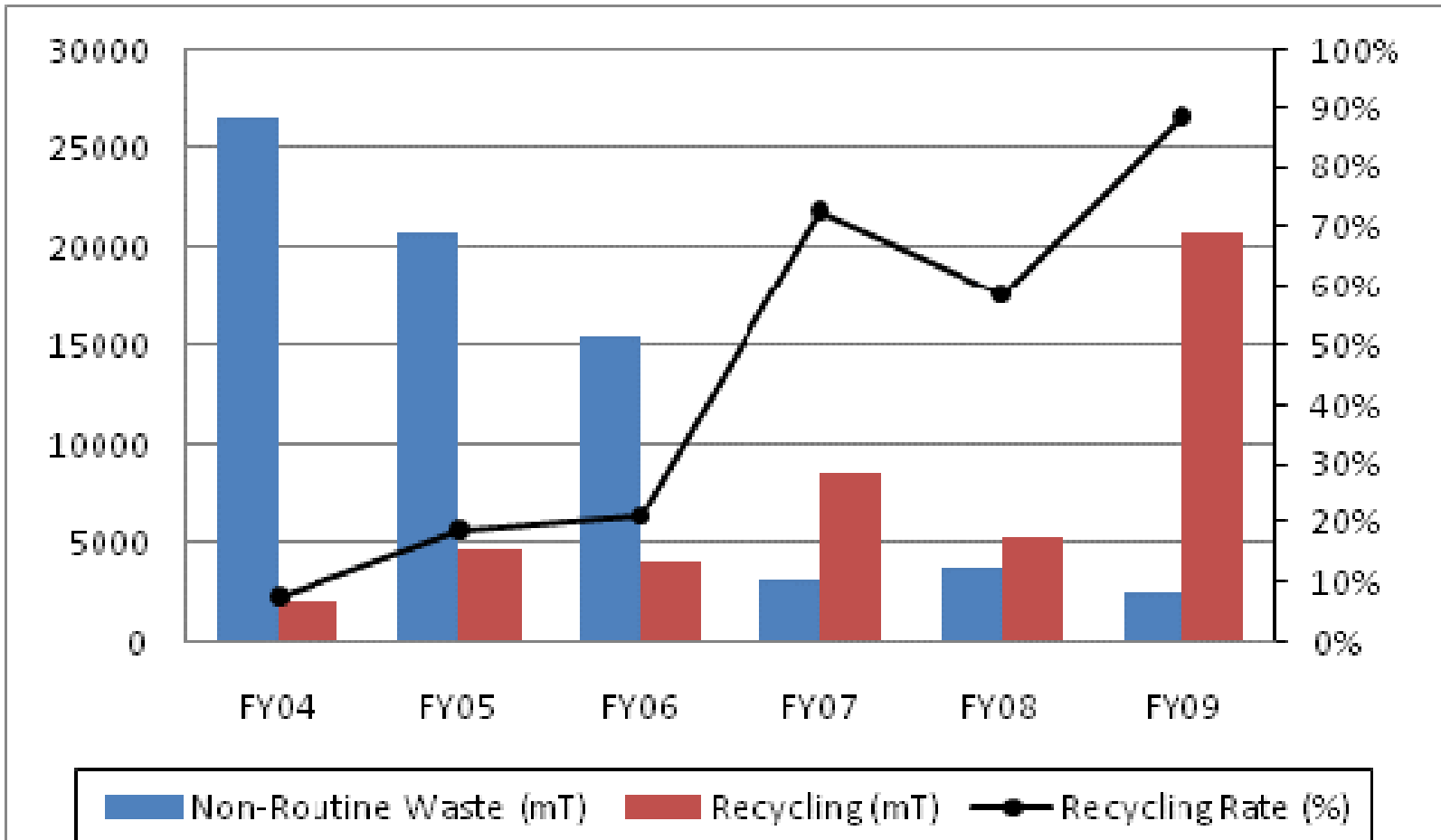


- Toner / Binder Exchanges
- Plastics accumulation
- Carpet / Ceiling Tiles

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C & D Waste – Diversion in Recent Years



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C & D Recycling

- **Concrete**
- **Asphalt**
- **Shipping Crates, pallets, dimensional lumber**
- **Carpet Tiles**
- **Ceiling Tiles**
- **Cardboard**
- **Making products from waste**
 - **Conphalt**
 - **Pellets**
 - **Ceiling tiles, carpet backing, cardboard**

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Sustainable Acquisition

- **What is Sustainable Acquisition?**
 - **Going Full Circle**
- **Seeking out, and giving preference to:**
Products with a reduced impact on the environment and human health
- **How Sustainable Acquisition can make a difference: \$200 billion in Federal purchases per year can pull the market**

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Sustainable Acquisition-Continued

- **Categories of sustainable products**
 - Recovered (recycled) content
 - Biobased content
 - Energy and water conservation
 - Hazardous material reduction
- **Contract language and specifications**

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Awareness/Outreach



- Monte Vista Elementary School 3rd-5th graders
- Annual youth conference – for HS student environmental education
- Info to City on Energy Savings from Recycling
- Presentations to Valley and Rio Rancho HS
- Tips throughout year to employees – home and work

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What Is It All About?

- **Life-cycle thinking**
- **Seeking continuous improvement**

<http://p2.sandia.gov>

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Questions/Comments



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Extra slides

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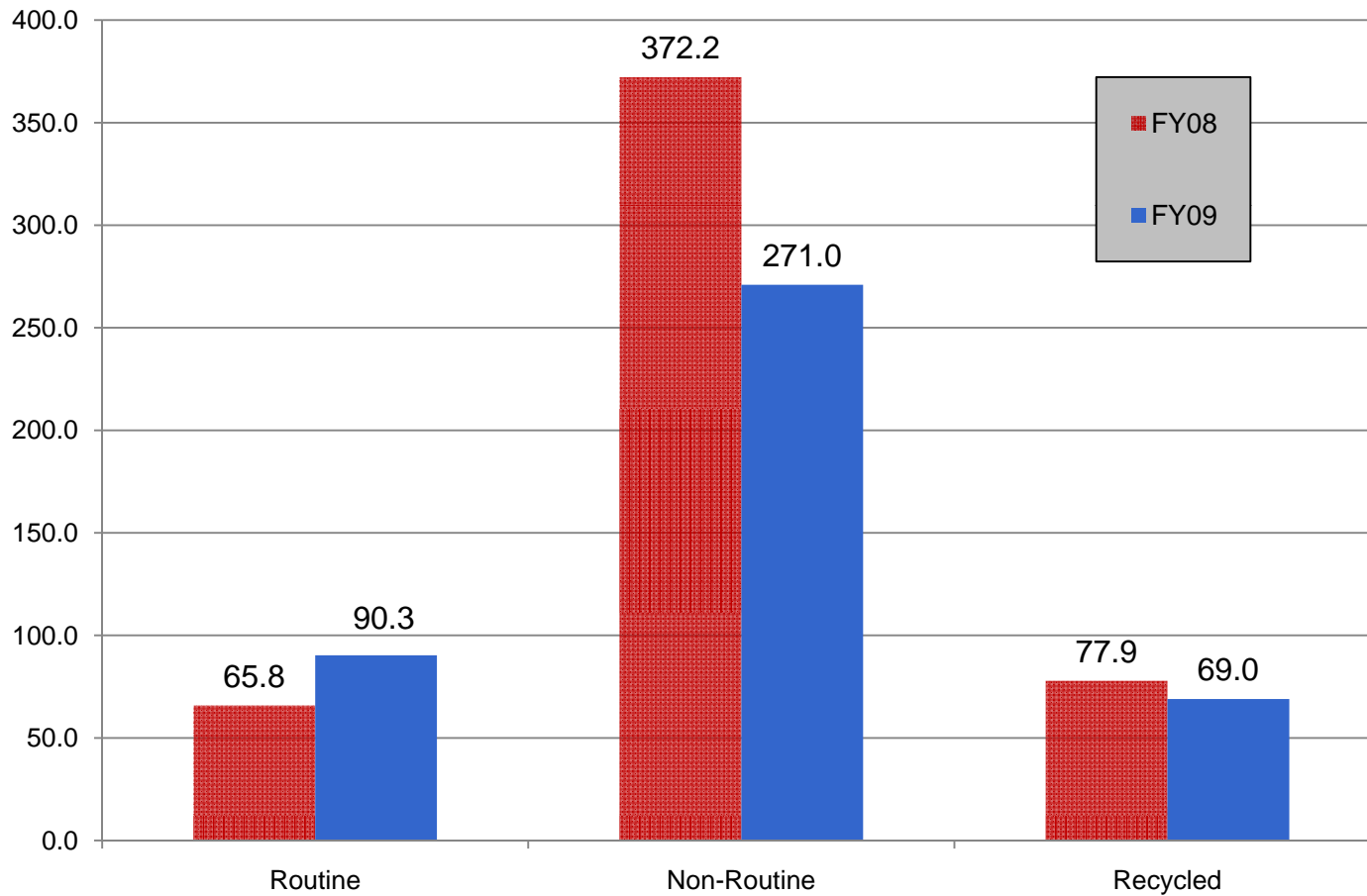
Community oriented

- Local recycling vendors
- Local sales vendors
- Reduced waste and emissions
- FY11 goals (e.g., computers donated to schools)

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Hazardous Waste



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Making product from waste

- **Crush concrete and asphalt debris into a useable product**
- **5000-6000 tons of debris diverted in FY10**

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Closed Loop Recycling

- **99% recycling!**
Over 12,000 Toner cartridges per year
- In FY07, purchased 4,728 remanufactured units, at average savings of \$48/unit, for annual savings of ~\$225,000
- Meets the need and completes the loop

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Reduced Waste & Emissions

- **Composting at Cafeteria – Began March 2010**
 - 14,270 pounds after 6 months
- **Commercial Solid Waste**
 - Reduced by 50mt (6%) from FY08 to FY09
- **C&D Waste**
 - Reduced by 1,130mt (30%) from FY08 to FY09

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Recycling Revenues Reinvested

will update thru Aug

	First 8 months	Full year	Net (of KAFB proceeds)	Paper & Scrap Metal
FY10	\$ 128,176			86%
FY09	\$ 121,773	\$ 162,276	\$ 146,469	79%
FY08	\$ 177,393	\$ 232,063	\$ 190,032	93%
FY07	\$ 123,399	\$ 169,784	\$ 141,796	73%
FY06	\$ 108,374	\$ 150,054	\$ 134,247	84%

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Electronics Stewardship

- **What is Electronics Stewardship?**
 - Full Circle with electronics including...
 - Procurement, Operations and End of Life
- **Procurement: EPEAT as a purchasing tool**
 - Hazardous materials reduction, recyclability, post-consumer content, upgradability, energy efficient
 - Mandated >95% of all applicable purchases

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Electronics Stewardship-Cont.

- **Operations: Power management, duplex printing, use of copiers for printing, REUSE!**
- **End of Life: Recycling of all IT equipment, working to re-start Computers for Learning**
- **SNL/NM as a high volume purchaser (can we say how much?),**
 - proper management
 - toxic materials
 - Technical Nutrients

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