

Exceptional service in the national interest



SANDIA MATERIALS SUSTAINABILITY AND POLLUTION PREVENTION



Recycling in Isolation

Samuel McCord
Recycling Planner



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





The Challenge of Recycling in New Mexico

*Our population is rural and distributed,
in a state that is itself isolated geographically.*

Can the value of our waste overcome this?

- Local End Markets
- Local Exporting Markets
- Developing material markets in New Mexico



New Mexico as an End Market



- **Cardboard Mill**
 - Manufacturing Plant in Prewitt
- **Styrofoam EPS #6**
 - Manufacturing/Supply Depot in Santa Teresa (and Texas)
- **Carbon Fiber**
 - Manufacturing in Albuquerque
- **Dimensional Lumber**
 - Albuquerque processing; Manufacturing in Milan, NM



New Mexico as an End Market



- **Toner Cartridges**
 - Remanufacturing in Albuquerque
- **Food Waste**
 - Donation; Feed Animals; Produce Compost
- **Plywood**
 - Limited government compost production (Bernalillo)
- **Glass**
 - Limited government down-cycling (Bernalillo; Los Alamos)



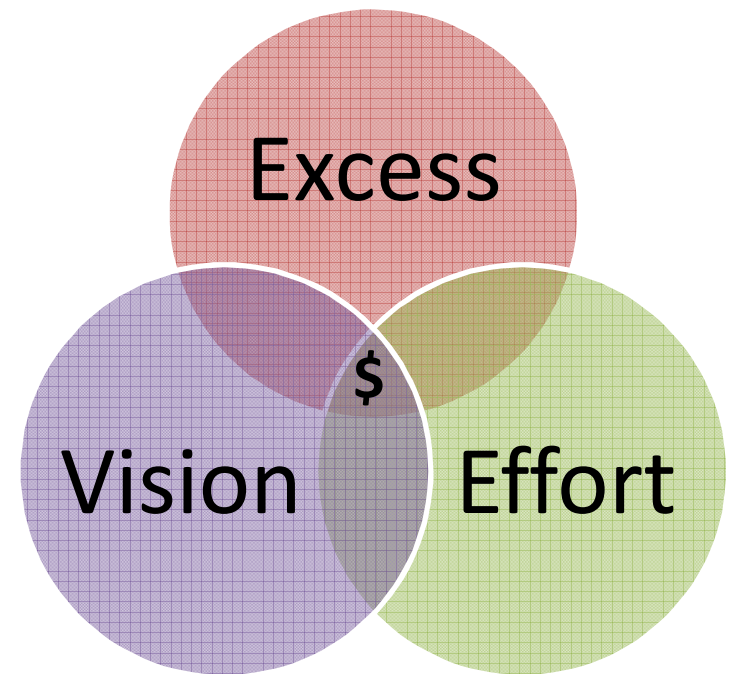
New Mexico as an Exporter

- Metals
 - Local sorting
- Paper
- Plastics
 - More to come
- Technology
 - More to come



New Mexico Recycling Economics

- Job creation due to recycling
 - Biggest benefit from Plastics¹
- Extend useful life of landfills
 - Delay future tax burden
- Re-brand recycling as a “*Value Added Service*”
- Buy recycled products as possible



¹ NMRC Report: Adding 5,000 Jobs to New Mexico's Economy, 2013, Table 7



Developing Local Material Markets

Construction Recycling Can Be Profitable

- Carpet Tiles – Vinyl Backed
 - Shipped 12 pallets to Georgia for \$0.06/pound: *44% Net Revenue*
- Carpet Padding / Polyurethane Foam
 - Local vendor paid \$0.04/pound
- Ceiling Tiles
 - Free – Local consolidation depot
- Plywood
 - Free



Developing Local Material Markets

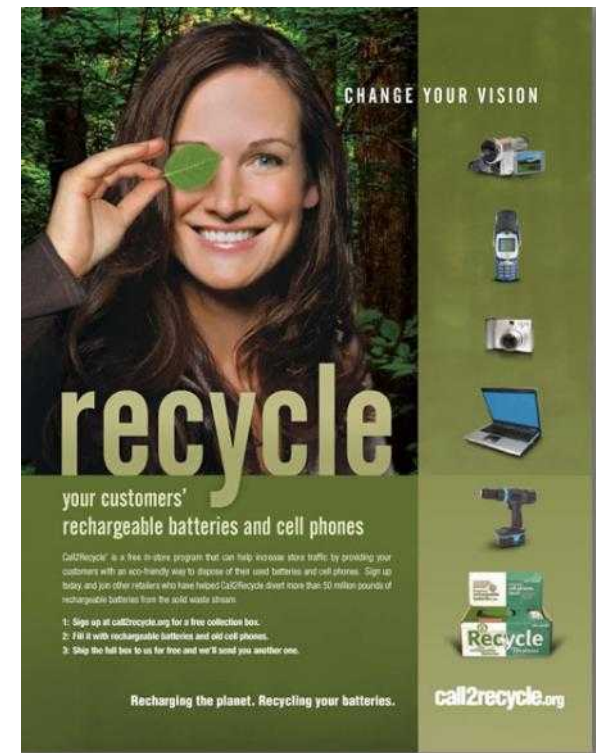
Landfill Alternative Services

- Mixed Construction & Demolition Recycling Facility
 - El Paso, TX
- Asphalt milling and resale
 - Albuquerque options
- Concrete crushing and resale
 - Albuquerque options
- Pallets
 - Can be worth around \$1 each locally



Providing Access for Niche Materials

- Manufacturer Cooperatives fund some materials
 - Called “Extended Producer Responsibility (EPR)”





Plastics – *The Nitty Gritty*

- Does your plastics recycling program break even?
 - ***CELEBRATE!***
- Build a relationship with a broker
- Keep it clean; Keep it honest
 - Say what you have
 - Ship what you say





Technologies – Old and Developing

- Lots of potential toxics in electronics
- Don't chase the \$\$\$
- Consider your liability
- Get help from an independently certified vendor





Hard to Recycle Materials – What's Left ??

- Every material will be different
 - Don't be afraid of creativity
- Look for industry associations
 - Think of the batteries and thermostats
- Talk to manufacturers
 - What do they do with their off-spec products?
- Network with others that have the same materials



Parting Thought:

I love my job in recycling.
I wish that for others too.

Samuel McCord
Sandia National Laboratories
samccor@sandia.gov
505-844-8916