



MANAGING NON-TRADITIONAL RECYCLABLES



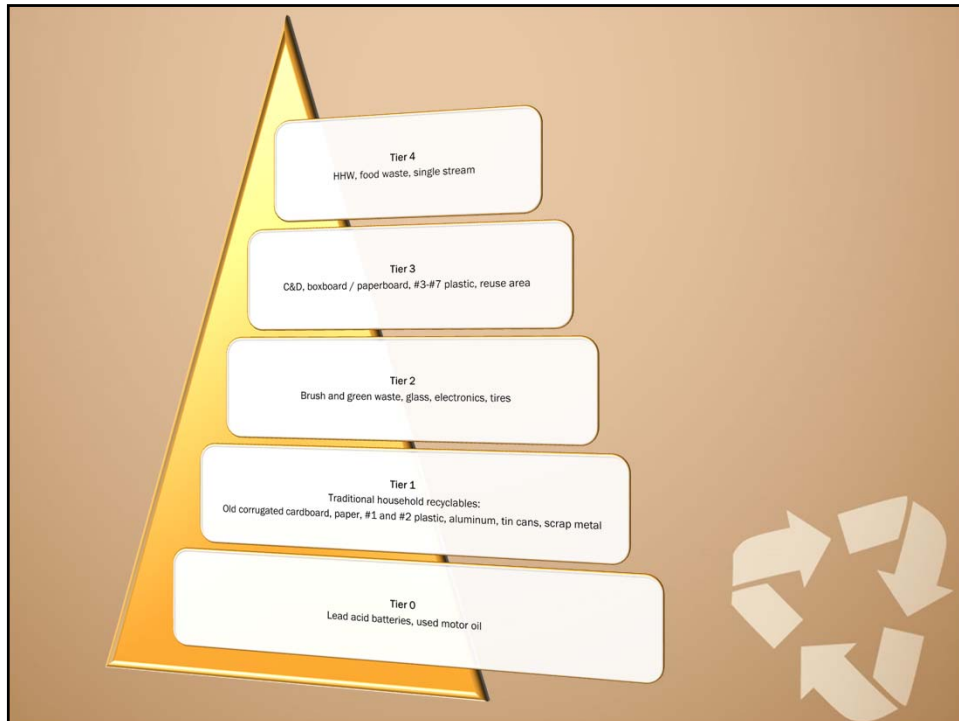
“TRADITIONAL”

- ☐ Plastic
- ☐ Paper
- ☐ Cardboard
- ☐ Paperboard
- ☐ Glass
- ☐ Aluminum cans
- ☐ Steel/tin cans

“NON-TRADITIONAL”

- ☐ Food
- ☐ Yard trimmings
- ☐ Animal carcasses
- ☐ Tires
- ☐ Batteries
- ☐ Motor oil/antifreeze
- ☐ Concrete/asphalt
- ☐ Lumber
- ☐ Electronics
- ☐ Much more



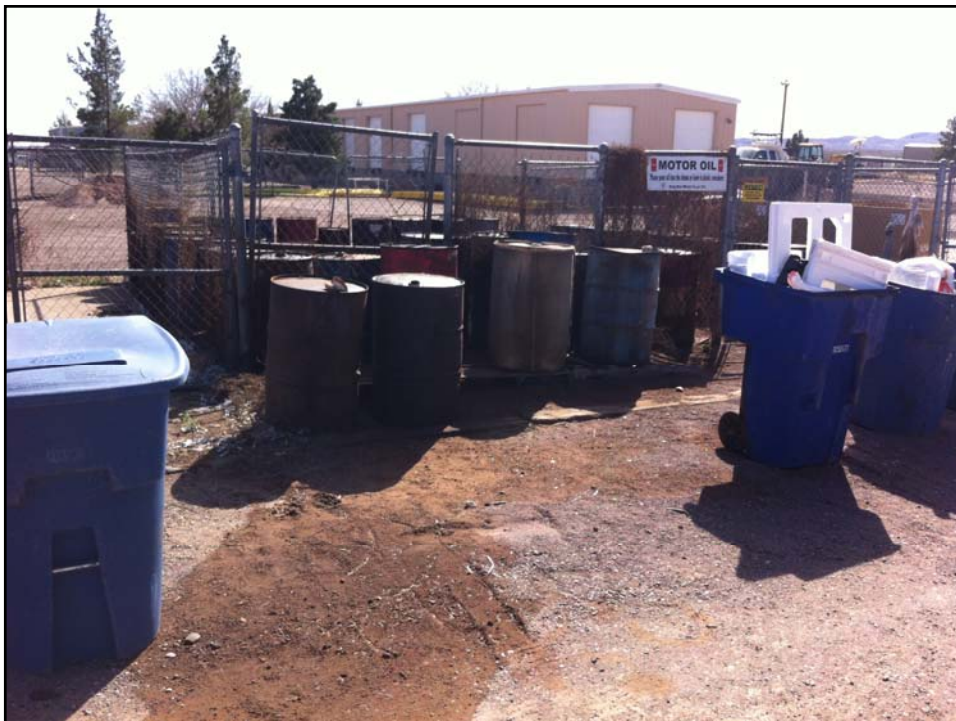
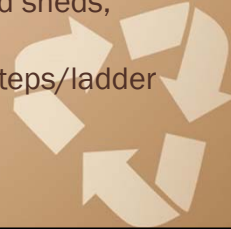


TIER 0 - MOTOR OIL

- ❑ Landfilling prohibited in New Mexico
- ❑ Re-refined into motor oil equal to quality of virgin motor oil
 - ❑ One gallon used oil → 2.5 quarts new motor oil
 - ❑ 42 gallons crude oil → 2.5 quarts new motor oil
 - ❑ Uses 1/3 of the energy as using crude oil
- ❑ Used in oil burning furnaces & power plants
- ❑ Motor oil NEVER wears out!

MOTOR OIL

- ❑ 11% of motor oil from DIY jobs is recycled.
 - ❑ 100% would power 360,000 homes for a year or provide 96 million quarts of high grade motor oil.
 - ❑ 40% of pollution in U.S. waterways is from used motor oil.
- ❑ Safety/environmental protection
 - ❑ Keep covered
 - ❑ Use secondary containment
 - ❑ Keep away from ignition sources or fuel (wood sheds, recyclables, etc.)
 - ❑ Design so public can dispose without using steps/ladder
- ❑ Transport offsite regularly.

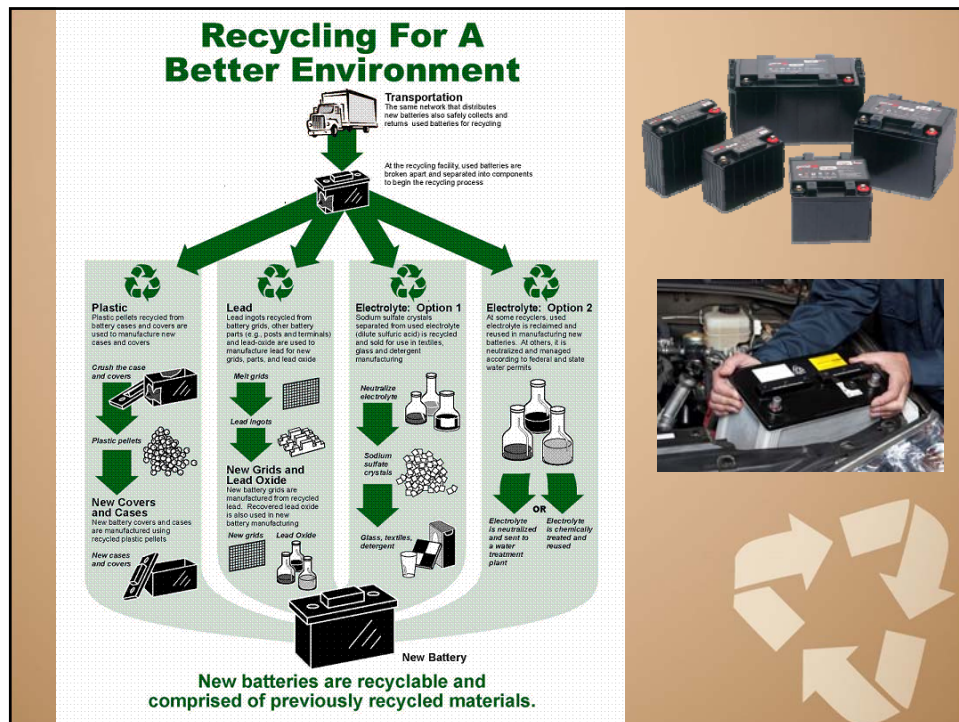




TIER 0 – ENGINE COOLANT

- ❑ Landfilling prohibited in New Mexico
- ❑ Processed back into engine coolant of equal quality (or better) as virgin coolant
- ❑ Less expensive for manufacturers
- ❑ Same safety & storage considerations as motor oil





TIER 0 – LEAD ACID BATTERIES

- ❑ Landfilling prohibited in New Mexico
- ❑ Design storage for forklift, if possible.
- ❑ If storing on shelves,
 - ❑ Ensure shelving is designed to hold heavy items.
 - ❑ Do not overload.
- ❑ Cracked/leaking batteries are a hazardous waste!
 - ❑ Not recyclable
 - ❑ Separate from good batteries (use PPE)
 - ❑ Store in leak-proof container on top of layer of baking soda or lime. Do not add baking soda/lime directly to battery.

HAZARDS

- ❑ Electrolyte fluid
- ❑ Sulfuric acid – liquid and fumes
- ❑ Lead – liquid and dust
- ❑ Mercury vapors
- ❑ Explosive hydrogen gas



STORAGE

- ❑ Leak-proof container
- ❑ Stack neatly
- ❑ No more than 5 layers high
- ❑ Rigid, non-conducting material between layers
- ❑ Inside or covered
- ❑ Keep seal loose or ventilate
- ❑ Away from ignition source



AVOID THIS



BY BEING SAFE



FLUORESCENT BULBS

- ❑ Hazardous waste if not recycled (expensive)
- ❑ Bulbs from households are NOT banned from landfills in NM
- ❑ Broken bulbs release mercury.
- ❑ Broken down into glass, aluminum, mercury, and phosphor powder
- ❑ Use bulb crushers onsite or ship offsite.
 - ❑ Bulb crushers must be permitted by the NMED Hazardous Waste Bureau!



TIER 1 – SCRAP METAL RECYCLING

- ❑ Bulk scrap and white goods
- ❑ Nonferrous metal can be recycled infinitely.
- ❑ Separate drop-off from primary disposal area.
- ❑ Store where water will not pool/drain.
- ❑ Do not store where vegetation will grow.
- ❑ Keep bulk metal separate from electronics, lead acid batteries, and aluminum/tin cans.
- ❑ Check for radiation.



WHITE GOODS

- ❑ Recycled for their metal
- ❑ Remove doors.
- ❑ Make sure they won't hold water.
- ❑ Check inside for problem waste.
- ❑ Keep white goods containing refrigerants, mercury, and PCBs separate from those without them.



REFRIGERANTS

- ❑ Removal required by law
- ❑ Receiver accepts responsibility to remove refrigerants prior to recycling/disposal unless proper documentation provided.
- ❑ Person removing refrigerants must be certified by EPA



REFRIGERANTS

- ❑ Do not accept white goods with refrigerant lines cut without proper documentation being provided.



- ❑ Documentation must include:

- ❑ A signed statement from the customer stating that refrigerant has been removed in accordance with EPA standards,

- ❑ The name and address of the person who removed the refrigerant and the specific date the refrigerant was removed

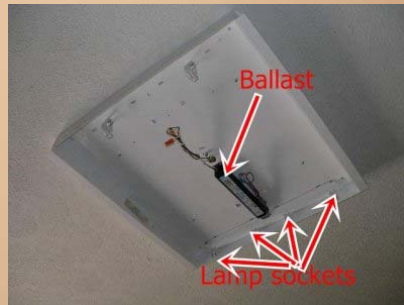
KEEP OUT OF SCRAP METAL RECYCLABLES

- ❑ Fuel cans
- ❑ Propane tanks
- ❑ Pesticide/herbicide/fungicide containers
- ❑ Aerosol cans or any contents under pressure
- ❑ Scrap that contains asbestos
- ❑ Sealed barrels/drums



KEEP OUT OF SCRAP METAL RECYCLABLES

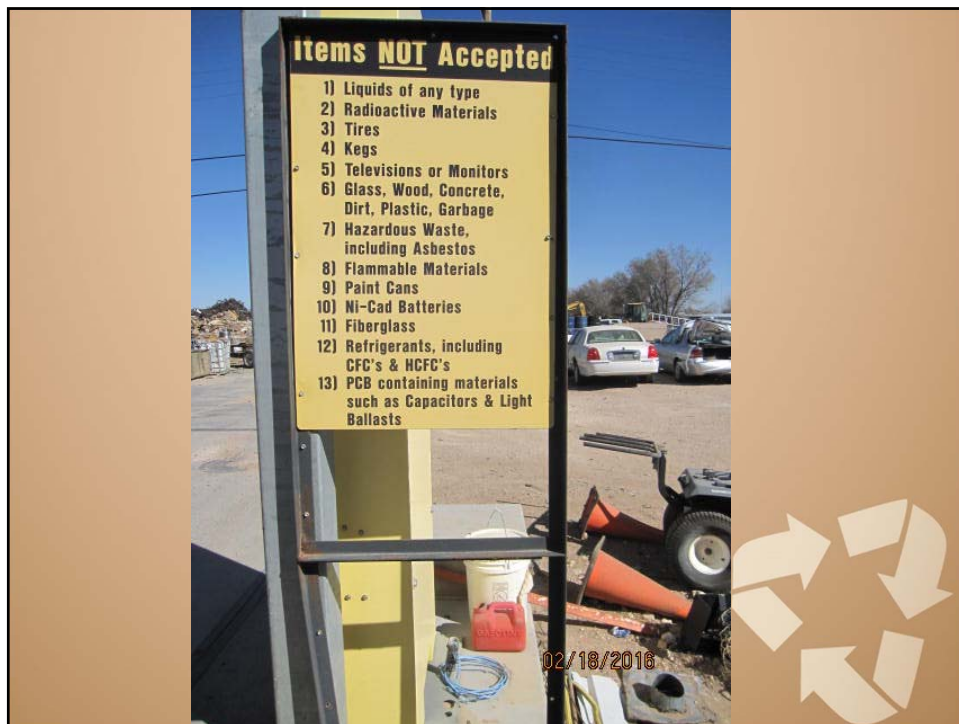
- ❑ Excessively greasy or oily materials
- ❑ Light fixtures with ballasts
- ❑ Paint cans
- ❑ Radioactive equipment/containers
- ❑ Any type of filter (oil, gas, etc.)



HOUSEKEEPING

- ❑ Do not accept
 - ❑ Brake shoes
 - ❑ Other combustible or hazardous materials
- ❑ Inspect loads
- ❑ Mail/flyer outreach campaign





TIER 2 - ELECTRONICS

- ☐ Televisions
- ☐ Computers
- ☐ Cell phones
- ☐ Scanners
- ☐ Printers
- ☐ Copy/fax machines
- ☐ MP3 players
- ☐ Stereos
- ☐ DVD players
- ☐ VHS
- ☐ Walkman
- ☐ Cordless phones
- ☐ Computer monitors
- ☐ Mice
- ☐ Keyboards
- ☐ Hard drives
- ☐ Hand held games
- ☐ Anything with a cord

TIER 2 – ELECTRONICS

Last 2010, the U.S. recycled

649,000
tons of e-waste
(around 27% of all electronics disposed)



YES! <<<

COLLECTED >>> NO!



Last 2010, the U.S. produces
2,440,000
tons of e-waste

TO REUSE A COLLECTED GADGET IS THE MOST DESIRABLE PATH BECAUSE:



All e-waste from the U.S.' waste stream can occupy more than
60 U.S. landfills



1 icon = 1 landfill

1.79 M
tons of e-waste
that is trashed and left to accumulate



Weight of 291,560 elephants

1 icon = 10,000 elephants





Recycling 1 million cell phones can recover:

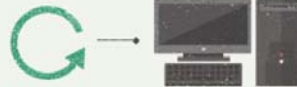
 ×10
50 POUNDS of gold

 ×110
550 POUNDS of silver

 ×20
20 POUNDS of palladium

 ×2000
20,000 POUNDS of copper

Reuse creates more jobs.

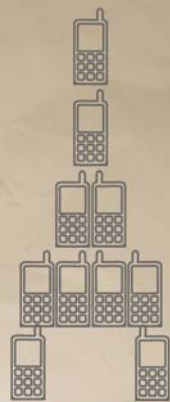


Compared to throwing computers away, reuse creates **296 more jobs** for every **10,000 tons** of material disposed each year.

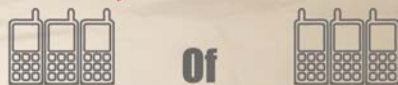
Recycling metals from e-waste uses a fraction of the energy.



Recycling **aluminum** saves **90%** of the energy needed to mine new aluminum.



65,000 TONS



Of



Mobile Phone Waste Is Discarded Each Year
That's Like 6.5 Eiffel Towers



World Population:
6,854,000,000

Mobile Phone Population:
4,180,000,000



It Only Takes

515



RECYCLED
Mobile Phones To Power A Home For A Year

ELECTRONICS

- ❑ Encourage donation of working electronics.
- ❑ Be the last line of defense – Tell customers to utilize manufacturer/retailer takeback programs.

BEST BUY RECYCLE



No matter where you bought it, we'll recycle it

We'll recycle just about any electronics, including TVs, DVD players, computer monitors, audio and video cables, cell phones, and more.
See what happens to your recycled product >



ELECTRONICS

- ❑ Hard to stack – leads to light loads
- ❑ Use gaylord boxes or shrink wrap on pallets
 - ❑ Ask for training for buyer on stacking trucks



ELECTRONICS

- ❑ Cathode ray tube TVs and computer monitors are expensive to handle because high concentrations of lead and phosphorus.
- ❑ Recycle cell phones for no cost with Call2Recycle boxes.



TIER 2 - TIRES

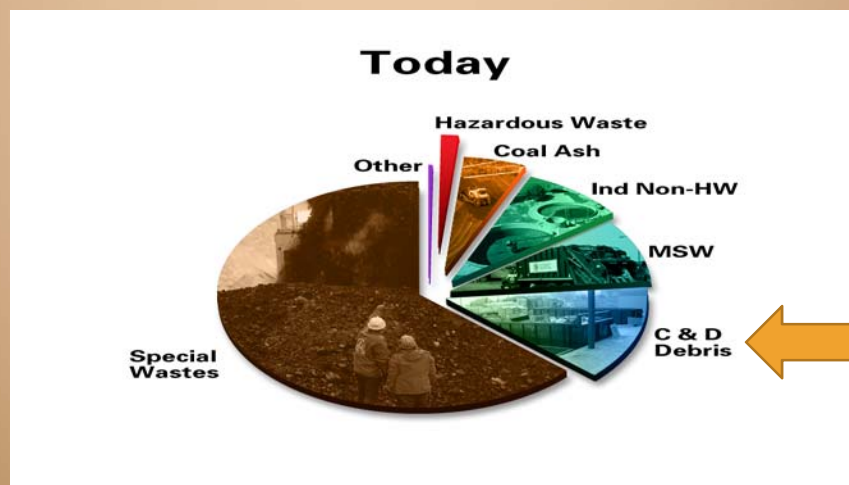
- ❑ Do not divert without an end use.
 - ❑ Fire/vector hazards
- ❑ Roughly 2 million scrap tires generated annually in NM
- ❑ Do not compact in landfills. They tend to "float."
- ❑ Encourage reuse as building material, flower pot, tire swing, etc.
- ❑ Power plant/manufacturing fuel
- ❑ Crumb rubber, rubber mulch, and rubberized asphalt
- ❑ Tire bales – wall construction & barriers



TIRES



TIER 3 – CONSTRUCTION/ DEMOLITION DEBRIS



TIER 3 – CONSTRUCTION/ DEMOLITION DEBRIS



Construction

Aggregate
Cardboard
Carpet
Wallboard
Metal
Roofing
Wood



Demolition

Asphalt	Porcelain
Brick	Roofing
Carpet	Tile
Concrete	Wood
Metal	



Lumber



Mulch



Shingles



Aggregate



Wallboard



Soil amendment



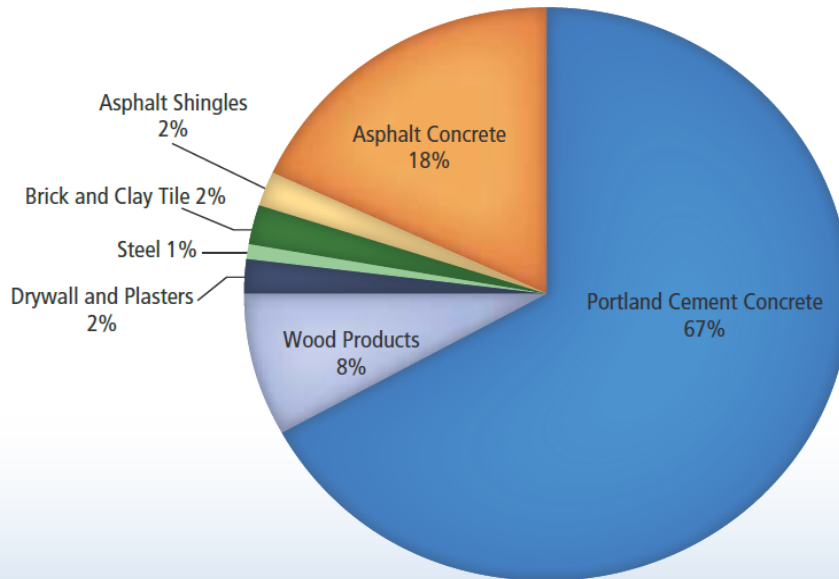
Brick



Landscaping material
or fill



Figure 10. C&D Generation Composition by Material, 2013
530 Million Tons (before recycling)



TIER 3 – CONSTRUCTION/ DEMOLITION DEBRIS

- ❑ Heavy materials → Expensive tip fees
- ❑ Bulky materials → Lost landfill space
- ❑ Valuable materials!
- ❑ Encourage salvaging/reuse first
- ❑ Focus on cement & asphalt
- ❑ Consider public/private partnerships
- ❑ Avoid hazardous material



PORTABLE CONCRETE CRUSHER

- ❑ Units that attach to backhoes and slip steers
- ❑ Stand-alone units
- ❑ \$20,000 starting price



PORTABLE ASPHALT GRINDER

- ❑ Stand-alone units
- ❑ \$40,000 starting price



TERRACYCLE



- ❑ No cost
- ❑ They send box & shipping label.
- ❑ Cigarette butts
- ❑ Electronic waste
- ❑ Shoes
- ❑ Writing instruments
- ❑ More
- ❑ Zero waste boxes

