



EMC CORPORATION – APEX, NC

2016 MANUFACTURERS ZERO WASTE CONFERENCE

JANE WOODALL, MAY 23, 2016

EMC²

ABOUT EMC

**Who
We Are:**

EMC is a global company that provides solutions to help our customers store, manage, protect, and analyze their information

**Our
Value to
Customers:**

We help customers avoid the risks and reduce the costs associated with managing information, while fully exploiting its value for competitive advantage

**How
We Deliver
Value:**



EMC'S NORTH CAROLINA PRESENCE



Apex
Manufacturing



EMC²

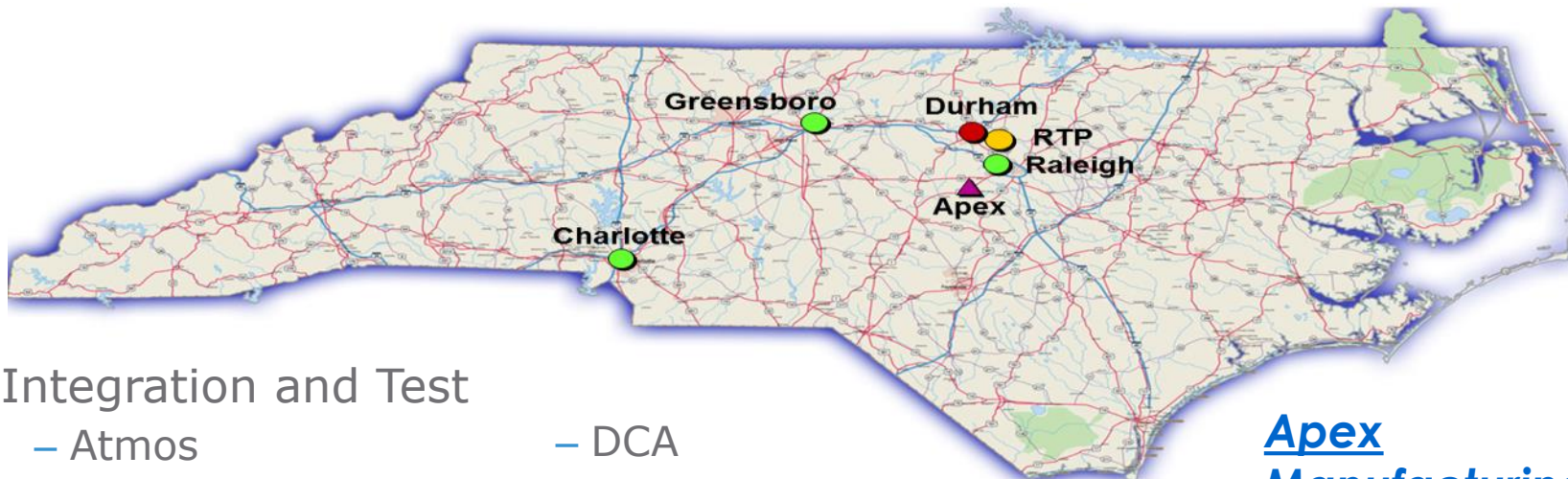
EMC'S NORTH CAROLINA PRESENCE



Apex
Manufacturing

- Plant opened in 1981
- 388,000 ft² on 140 acres
 - 307,000 ft² of manufacturing floor space
 - 81,000 ft² of engineering lab space and offices
- Lean Six Sigma manufacturing

EMC'S NORTH CAROLINA PRESENCE



- Integration and Test

- Atmos
- Avamar
- Centera
- ECS Nile
- DLM
- DCA
- VNX, VNXe
- Data Domain
- Recover Point

Apex
Manufacturing

WHAT DOES THAT MEAN?



PRODUCTS SUPPORTED

STORAGE



DATA PROTECTION



CLOUD



BIG DATA



ELECTRONICS = LOTS OF CORRUGATED



ELECTRONICS = LOTS OF FOAM



- Expanded Polypropylene and Polyethylene
- Recyclable – just not economically feasible in its expanded form
- We have LOTS of it

EMC APEX ZWTL TIMELINE



ZWTL Goal



- Corrugated
- Office Paper
- Pallets

- Film
- E-waste

- All Paper
- Bottles/Cans

- Compost

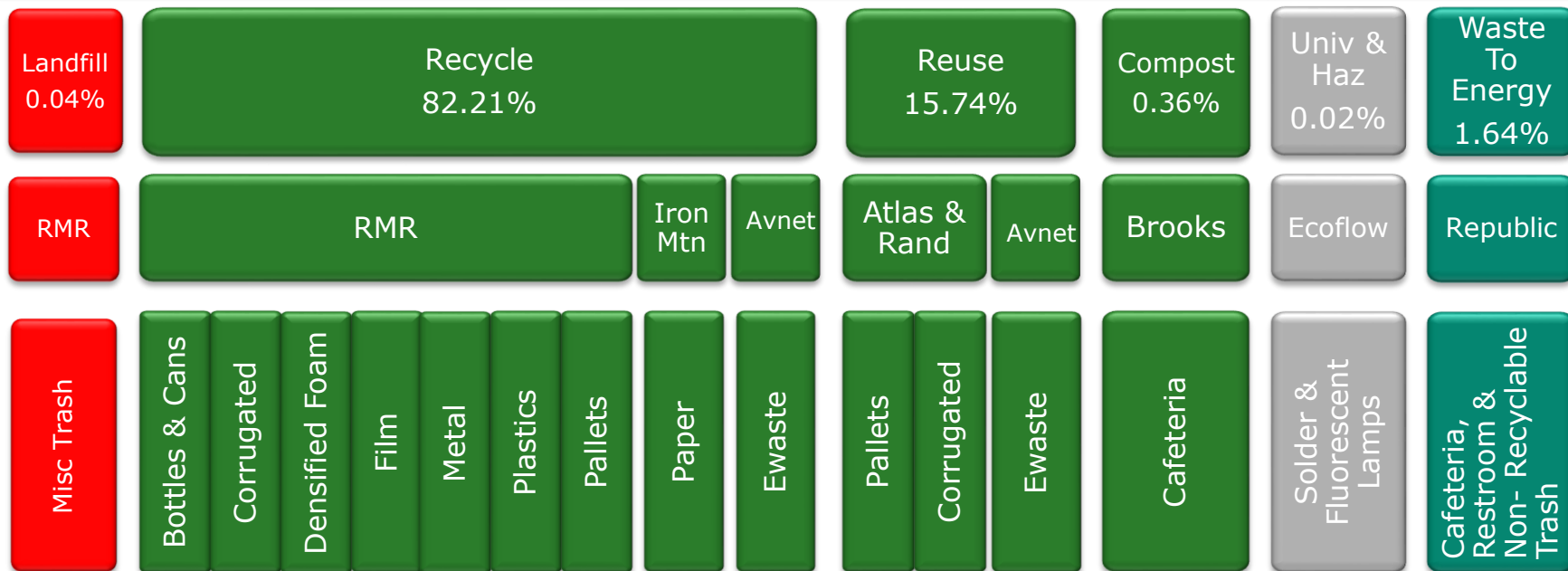
- Foam
- Misc Plastic
- Small Metal

- Packaging Reuse
- WTE

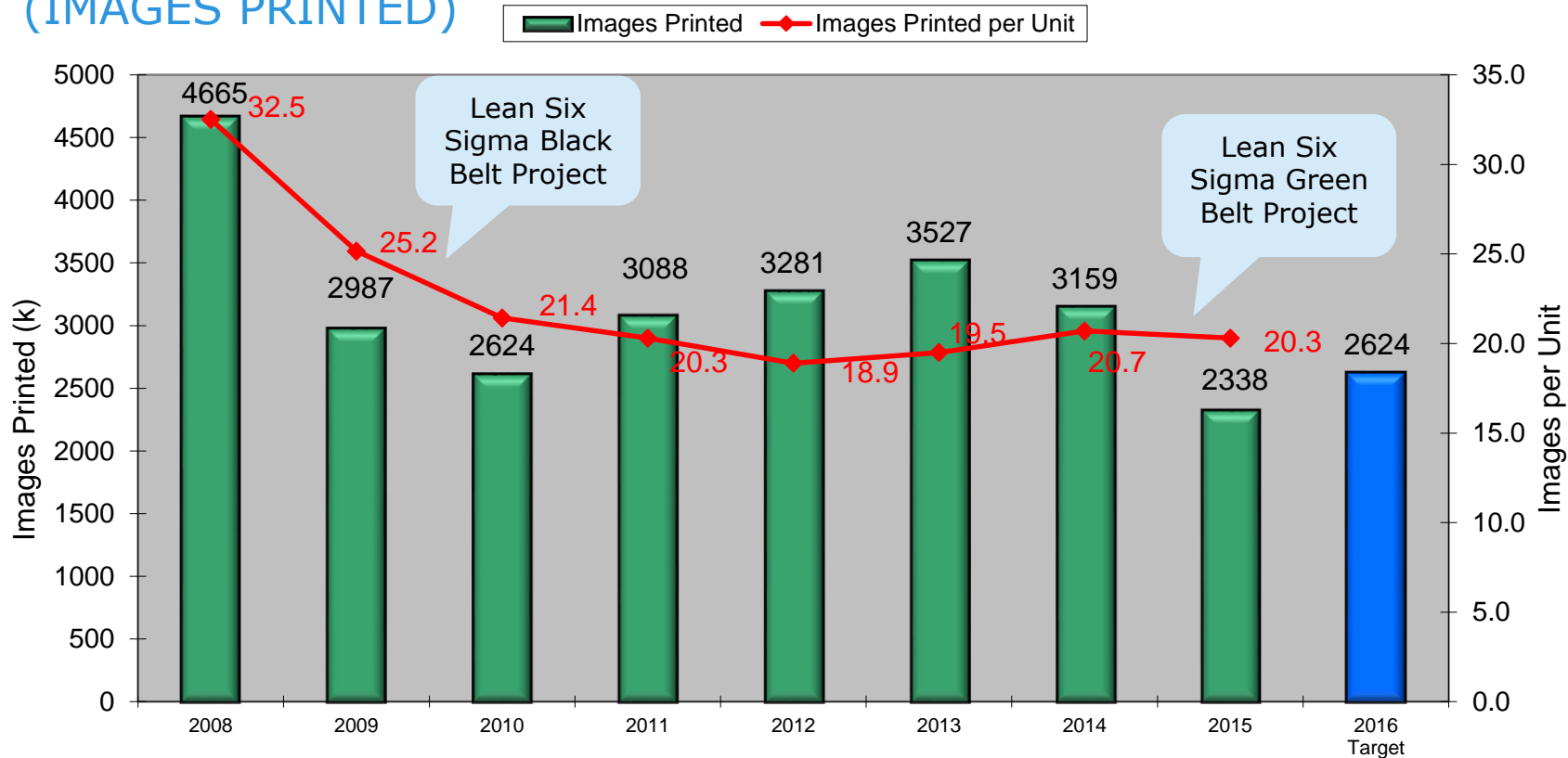


APEX WASTE STREAM ANALYSIS

2015 Total Apex Manufacturing Waste Stream – 4035.5 Tons

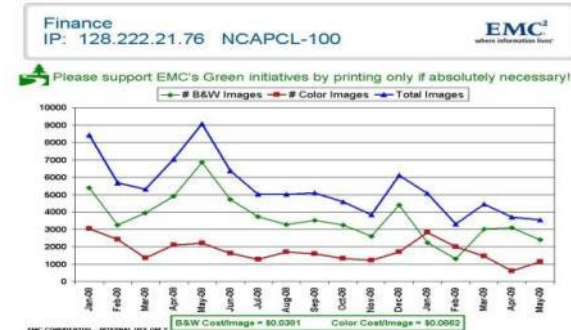


REDUCE: APEX PAPER USAGE (IMAGES PRINTED)



APEX PAPER USAGE REDUCTION (IMAGES PRINTED)

- Oracle Paper Reduction Black Belt Project 6S02220
 - Reduced printing by 706k sheets per year
 - \$93k in annual savings (printing, storage, and labor costs)
- Printer default settings changed to duplex
- Communication and awareness through metrics
- Green Belt Project 6S03866 (after ERP system change to SAP)
 - Reduced printing by 510K sheets per year
 - \$19.4K reduction in printing costs per year

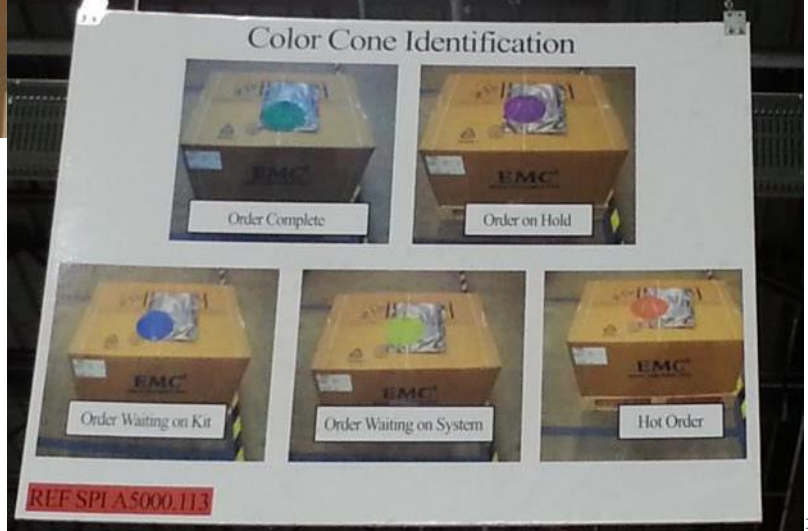


REDUCING SCRAP, PACKAGING, PAPER TAGS

- Cabinet Side Skin & Trim In-Process Scrap Reduction Green Belt Project 6S02073
 - 83% reduction in trim panel scrap
 - 44% reduction in side skin scrap
 - \$30k per year in hard savings
- Clariion Cabinet Ramp Reduction Lean Kaizen
 - Eliminated 2692 plywood ramps per year
 - \$111k per year in hard savings
- Cable Bundling Lean “Just Do It” Project
 - Eliminates separate packaging for cables by tying cables
 - \$4k per year in labor and material savings
- Electronic Failure Tag Black Belt Project 6S01111
 - Eliminated printing of 492k paper tags per year
 - \$69k in annual savings (materials, labor costs)



REDUCE: CONES RATHER THAN LABELS OR PAPER



REUSE: PARKING LOT RENOVATION

- Completed during the summer of 2008
- 100% of materials reused on site
 - 2700 cubic yards of asphalt (used as base for new paving)
 - 3908 cubic yards of soil
- Reclaimed 2.6 acres of “green” space
- Added employee walking path



REUSE: PACKAGING INITIATIVES

- Reverse Logistics Packaging Reuse Lean “Just Do It” Project
 - Reuses good packaging from field returns
 - \$678k in material savings for 2009
- Cabinet Packaging Reuse Green Belt Project 6S01690
 - Implemented a return process for cabinet brackets
 - Saves approximately 22k metal brackets per year from going to landfill
 - \$250k per year in hard savings



REUSE OF PALLETS AND CABINET BRACKETS



REUSABLE DRIVE HANDLING EQUIPMENT



REUSABLE PACKAGING / TOTES

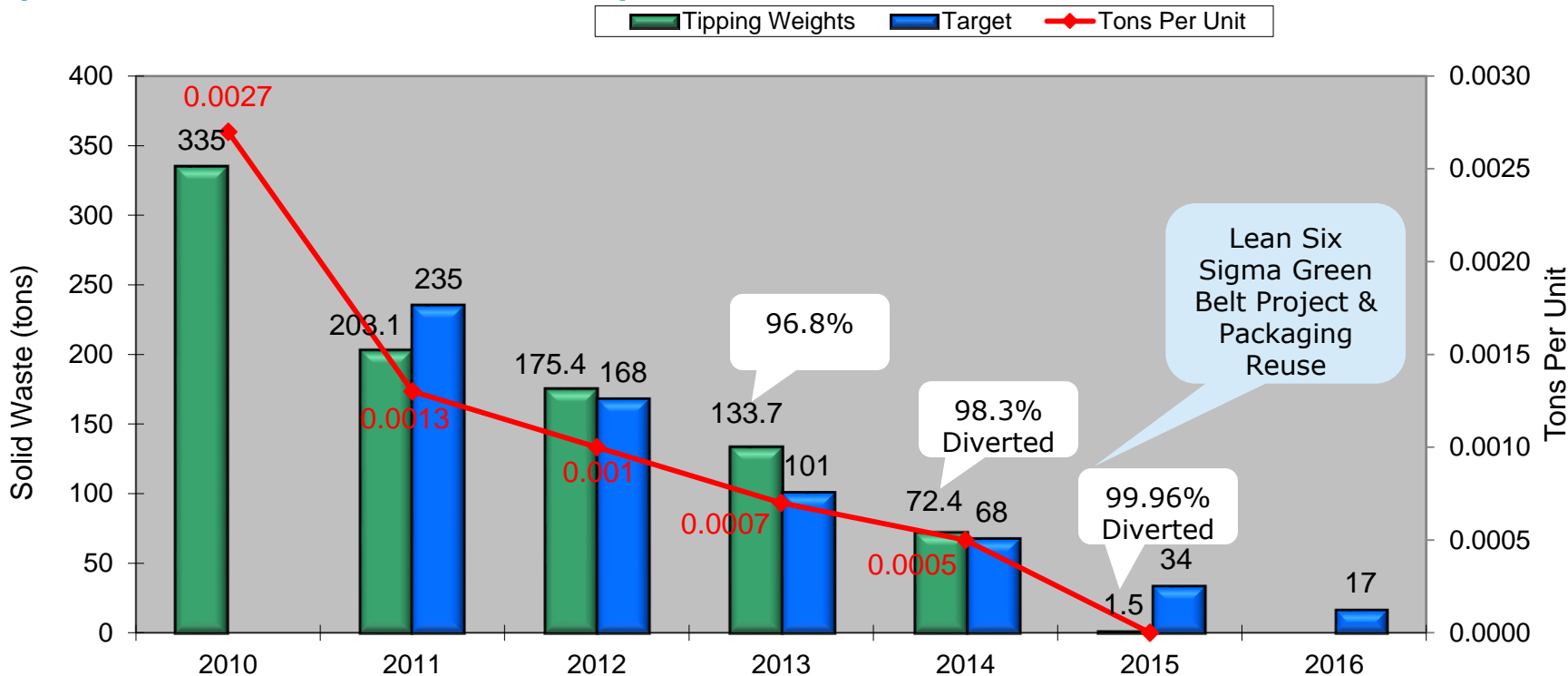


REUSABLE DOOR AND TRIM CRATES



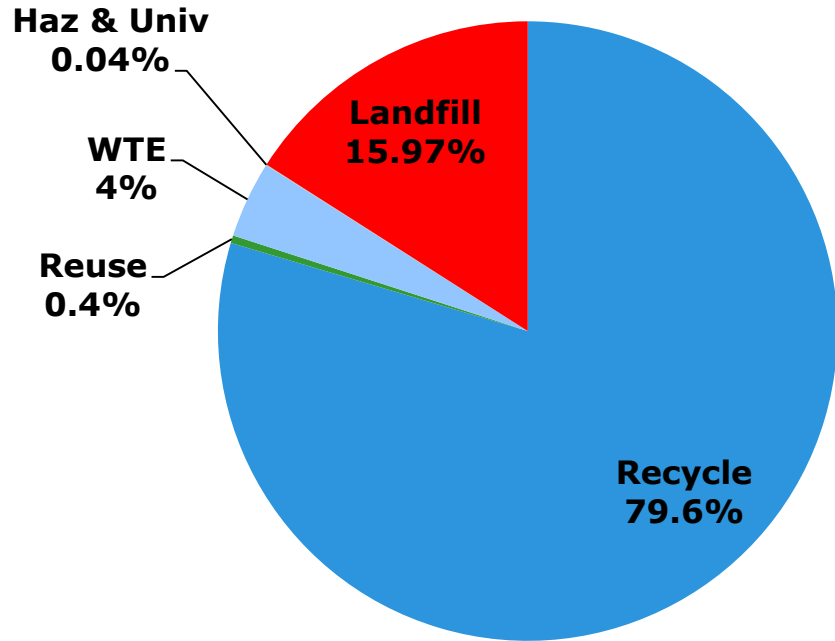
ZERO LANDFILL

(REDUCE, REUSE, RECYCLE)

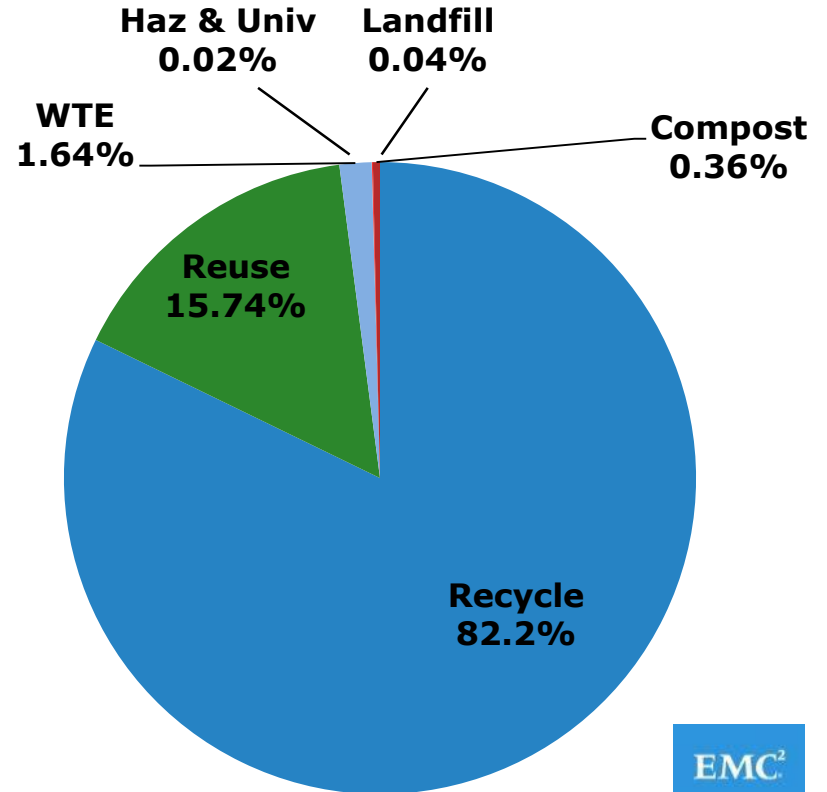


EMC APEX WASTE STREAM

2010



2015



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