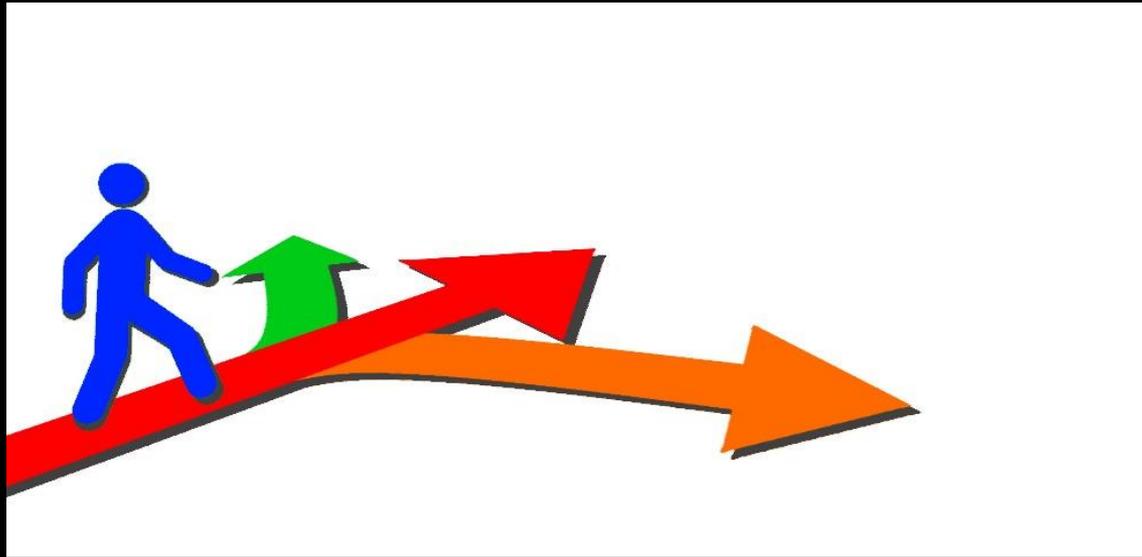


Waste Reduction & Recycling...



...Making the Right Choices

Where We've Been

- 1929 – Great Depression
- 1960's – Age of Activism
- 1970's – First Earth Day
- 1980's – Regulations
- 1990's – Product considerations
- 2000's – World view



Move from environmentalism to sustainability.

Where did our journey begin?

1912 Steelcase



- ✓ Protect the Environment
- ✓ Values driven company
- ✓ Sense of responsibility
- ✓ Product development
- ✓ Based on efficiency & costs



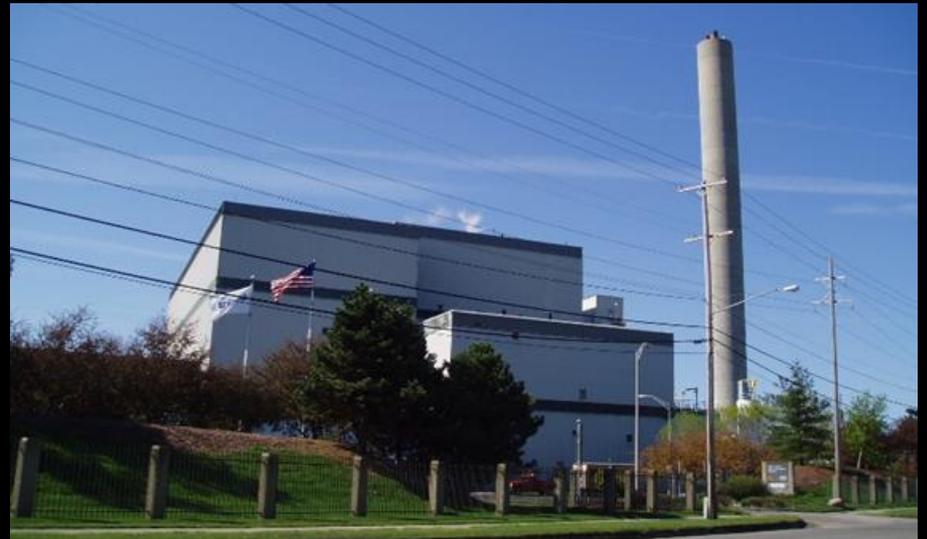
*Founded on the premise
of "how to manage waste."*

Quantity-based Metrics

Commodity	Tons/Year (recent year)
Steel	4774
Paper	104
Corrugated	593
Plastic film	27
Compost	141
Sawdust	~312+
Powder coating	~270+
Wood waste	~2400
Incineration	462
Landfill	246

This “reactive” approach started out delivering big improvements.

It Went Away!



We got paid to recycle!



But not creating waste in the first place was missing.

Do you know what your
product is made of?

New Chemical Approval Process

- ✓ Chemical based (not raw materials)
- ✓ Addresses potential hazards & exposure
- ✓ Start of “Green Chemistry” approaches
- ✓ Compliance
- ✓ Employee safety/public health
- ✓ Hazardous waste management



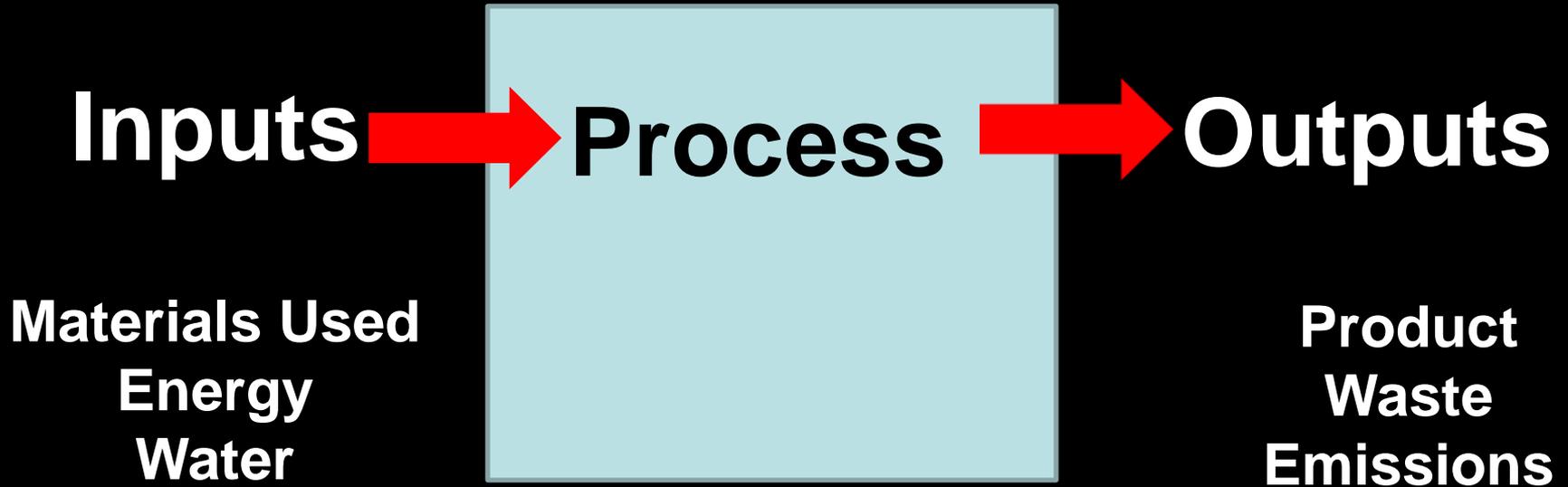
Improves compliance & safety, reduces liability, minimizes environmental impact & reduces costs

Product Design

- ✓ Raw material choices
- ✓ Design for ease of disassembly
- ✓ Interchangeable components
- ✓ Reuse & recycling
- ✓ End of use strategies

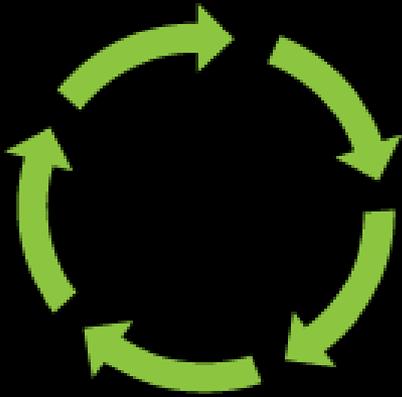


Material Assessment



A better understanding of our inputs and outputs allowed us to identify more opportunities to reduce impact and costs.

Up Front Choices = End Result



- ✓ Technology & process equipment
- ✓ Hazardous or non-hazardous waste
- ✓ Waste Management

Not just HOW MUCH but WHAT you create...

It's Complicated

- ✓ Steel & aluminum
- ✓ Powder coating
- ✓ Wood waste (particleboard, veneer, solids)
- ✓ Sawdust
- ✓ Plastics
- ✓ Fabric
- ✓ Foam
- ✓ Food waste
- ✓ Pallets
- ✓ Mixed components
- ✓ Paper and other office supplies



Are my materials made from recycled content, recyclable or compostable?

Engineering & Process Improvements

- ✓ Buy to size
- ✓ Yield Improvement
- ✓ Less inventory



Evolving Culture

Lean Manufacturing

- ✓ Less materials
- ✓ Fewer resources
- ✓ Yield improvement
- ✓ Smaller footprint



Ask yourself: What materials are leaving your facility as waste versus product?

Distribution

- ✓ Dealer network
- ✓ Six Regional Distribution Centers
- ✓ Consolidated trips
- ✓ *Packaging strategies*
- ✓ Less fuel/GHG
- ✓ Customer Experience



Less packaging = less cost and waste for you and your customers.

What Steelcase did in
the manufacturing
environment...

Goals

- ✓ Reduce our Global footprint 25% by 2006-2012
- ✓ Reduce our Global footprint 25% by 2012-2020
- ✓ Zero Recyclables to Landfill
- ✓ Zero Wood Waste to Landfill
- ✓ Zero Waste Powder to Landfill
- ✓ Conditionally Exempt Small Quantity Generator of hazardous waste at all U.S. facilities
- ✓ ISO14001 registration at all Global manufacturing facilities



Get Started!

- ✓ Review invoices
- ✓ Form Teams
- ✓ Dumpster dive



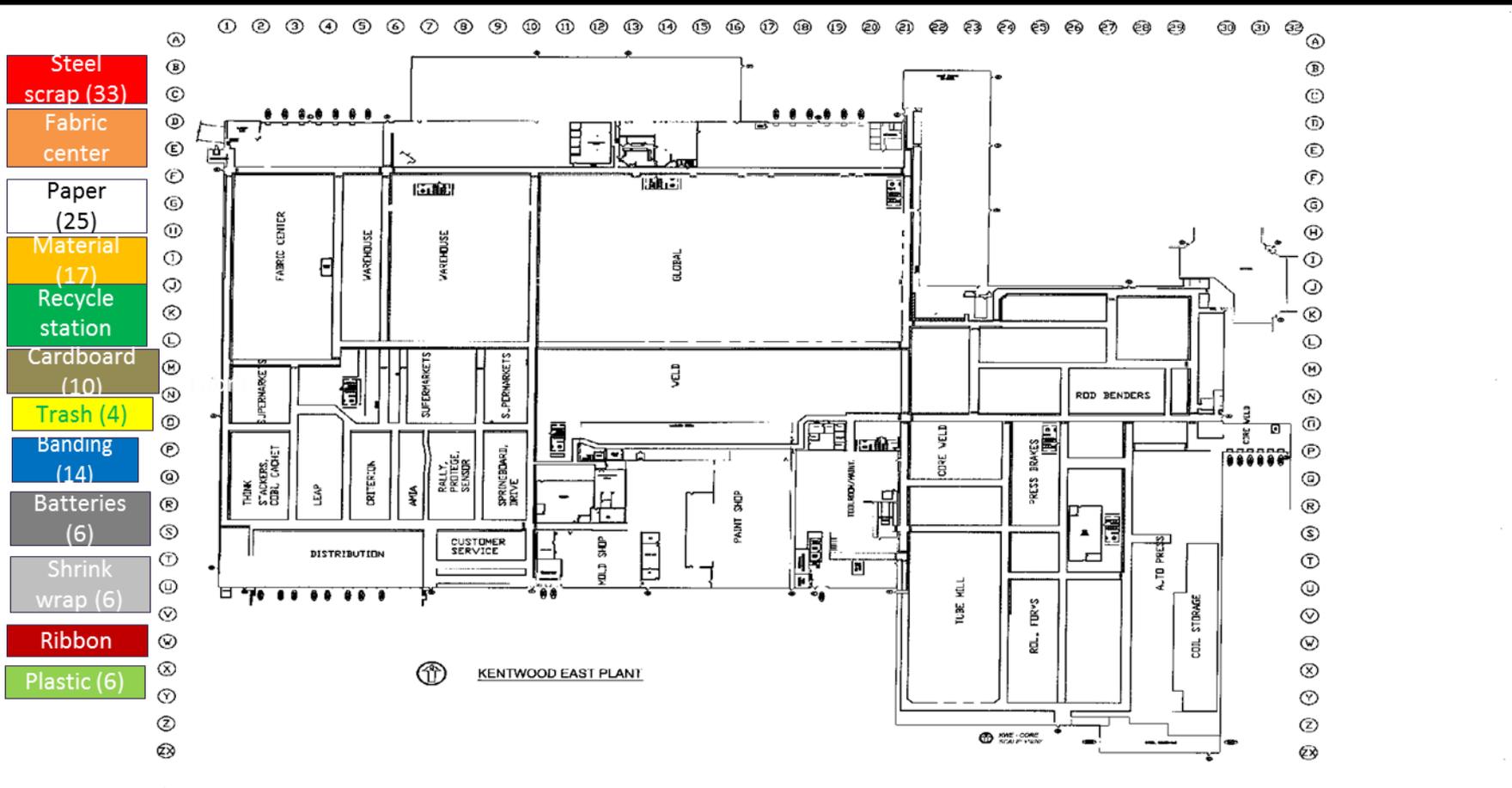
Go Team!

- ✓ Champion
- ✓ Empower you employees!
- ✓ Vendor solutions
- ✓ Housekeeping Partners
- ✓ Food Service Partners
- ✓ Training
- ✓ Have fun!

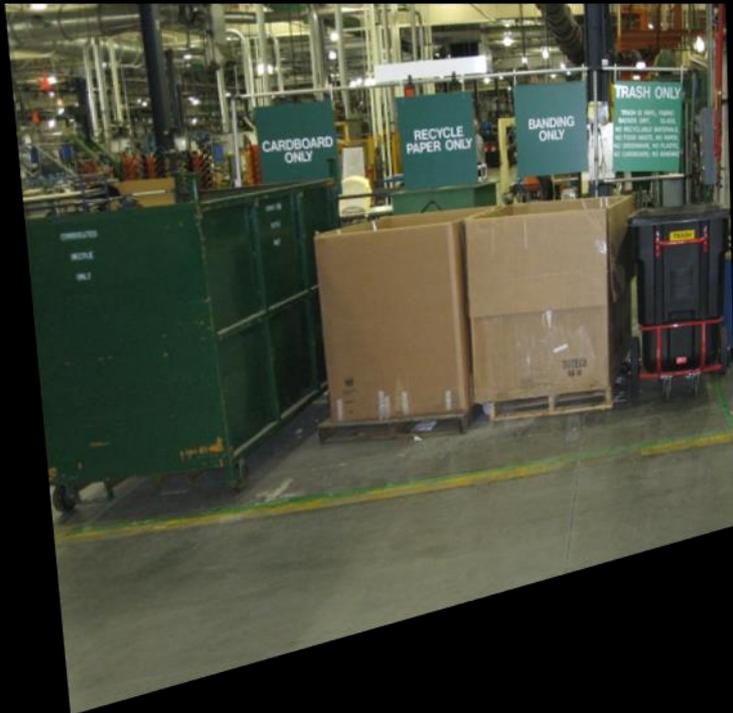


Do you have an employee suggestion program?

Convenience



What Works!



Cardboard- Can be recycled at GHQ or SULC/IC dock

Toner Cartridges- Place in replacement packaging. Designate "recycle" and mail via inter-office

Batteries- Dispose in designated buckets located in shared service/mail stations

If in doubt, contact Betsy at 616-247-3041 or trash it.

The Challenge!



Got rid of 10 of the big blue dumpsters



Replaced with 5 smaller ones:
Contents more visible
Takes up less room in the
recycle centers

The Result!



From 7 to 2 loads
in 2 months

Next Step - Composting

- ✓ Kitchens only
- ✓ Dining rooms
- ✓ Offices & manufacturing
- ✓ Restroom paper towel
- ✓ Green events



If 5,000 Steelcase employees can compost YOU can too!



Don't forget to

COMPOST



WHOA! DON'T TRASH US!!

SUSTAINABLE IS ATTAINABLE!

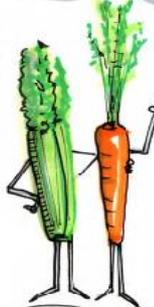
LET'S DO THIS, PEOPLE!

OUR FUTURE BEGINS WITH THE BIN WE'RE IN!

WE'RE COMPOSTABLE!



I'M CAPABLE OF SO MUCH MORE!



FOOD CONTAINERS AND LIDS

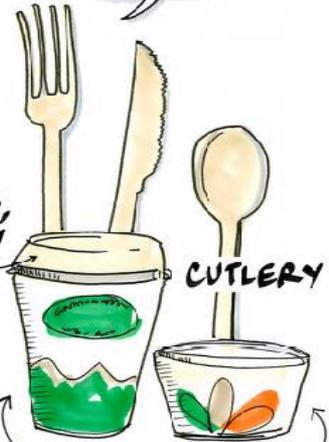
CLEAR SODA CUPS, LIDS & STRAWS



CANDY CUPS



NAPKINS



LIDS, TOO!

CUTLERY

COFFEE & SOUP



mocorn4@steelcase.com

“Greening the Office”

- ✓ Take away office trash containers
- ✓ Introduced centralized compost, recycling, trash containers
- ✓ Printers default to 2-sided copying
- ✓ Dial-up, dial-down & turn off the lights campaign
- ✓ Technology & equipment changes
- ✓ Virtual meetings, webinar, telepresence
- ✓ Green Events
- ✓ Employee training
- ✓ Donate obsolete office supplies

It's not just about your product, your process or your services.

Training & Engagement

- ✓ New Hire Orientation
- ✓ Weekly “E” Dose
- ✓ Small Green Steps
- ✓ Earth Day & America Recycles Day recognition
- ✓ Air Action! Day promotion
- ✓ Adopt-A-Highway clean-up
- ✓ May Bike-to-Work Month/Active Commute Week
- ✓ Household Recycling/Curbside Composting
- ✓ ISO14001 certification

*Opportunity to educate, engage and inspire at work...
and beyond.*

GLOBAL Goals

2006-2012

VOCs	down 59%
Water	down 42%
GHGs	down 40%
Waste	down 63%

2001-2014

VOCs	down 99%
Water	down 74%
GHGs	down 65%
Waste	down 89%

Gross sales up 11% from 2010-2014

HOLISTIC APPROACH

Waste reduction hierarchy or how do we approach “zero”?



Life Cycle Thinking

- ✓ Raw materials
- ✓ Manufacturing
- ✓ Use
- ✓ End of use



By addressing challenges farther upstream we could save more throughout the life cycle.

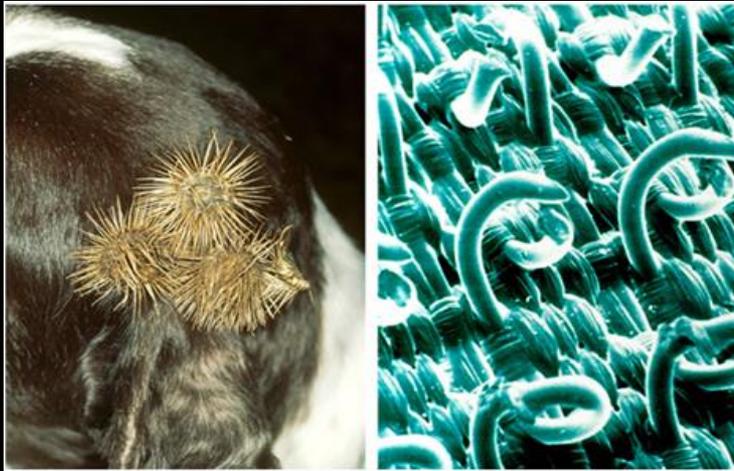
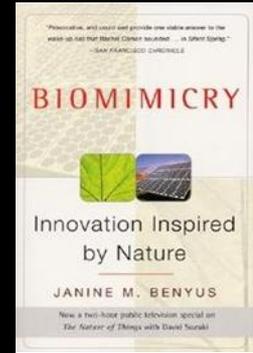
Beneficial Reuse/By-Product Synergy

- ✓ Coal ash in cement industry
- ✓ Powder coating & plastic resins for plastic lumber, playground equipment
- ✓ Mushroom packaging



Can MY waste become a raw material for YOUR product?

HOW CAN WE Learn from nature?



Burrs lead to velcro.



“Spider webs” in glass to spare birds.



Barnacles stick to boats but not sharks – why?

Changing markets/
What's next?

Customer/Stakeholder Expectation

- ✓ Chemistry
- ✓ Legal requirements
- ✓ Cost



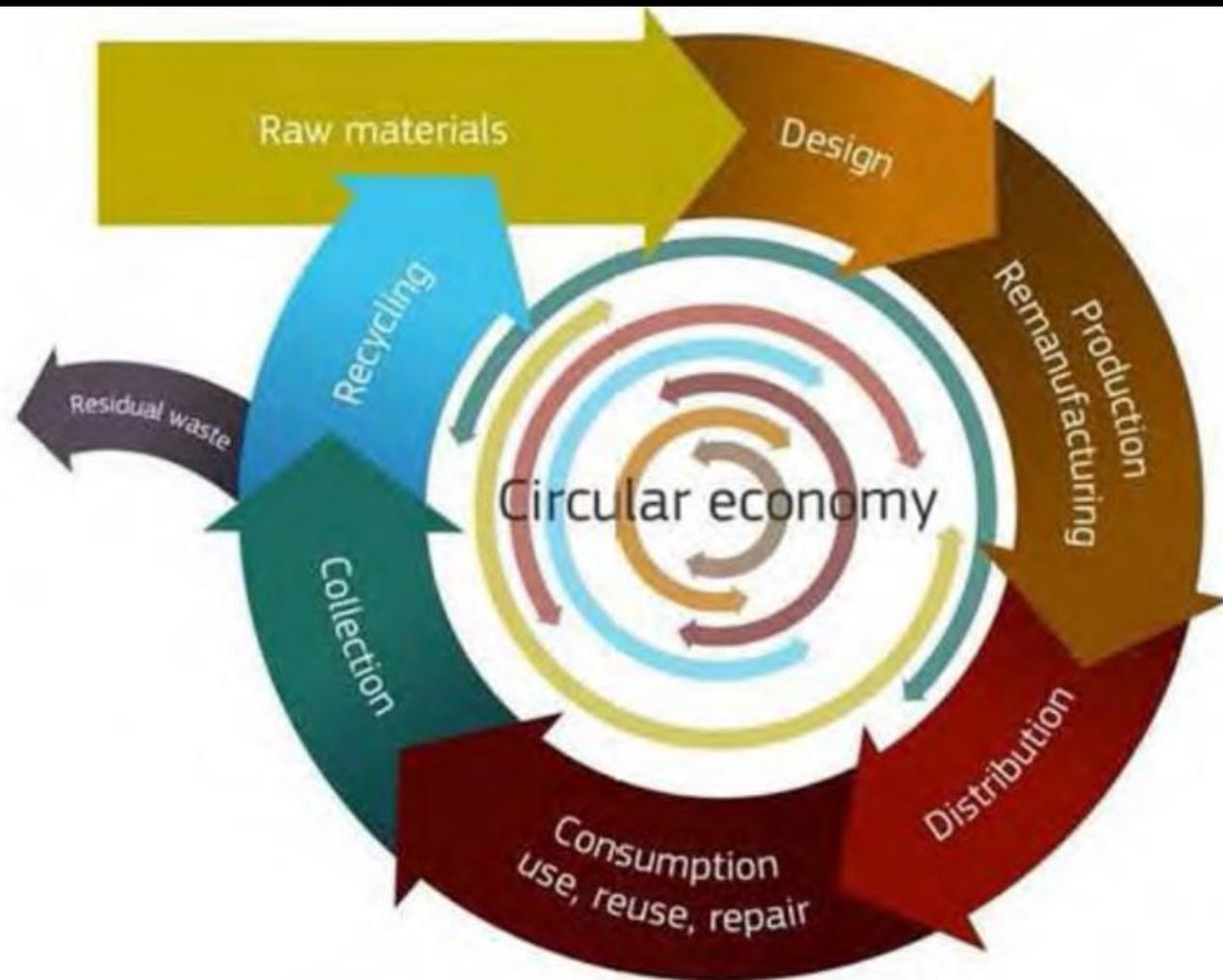
92% of customer Request for Proposals (RFPs) have an environmental focus

Metrics Evolution

- ✓ More than just quantities
- ✓ Not just “how much” but “what”?
- ✓ Yield



“Proactive” metrics to 100% utilization versus recycle more.

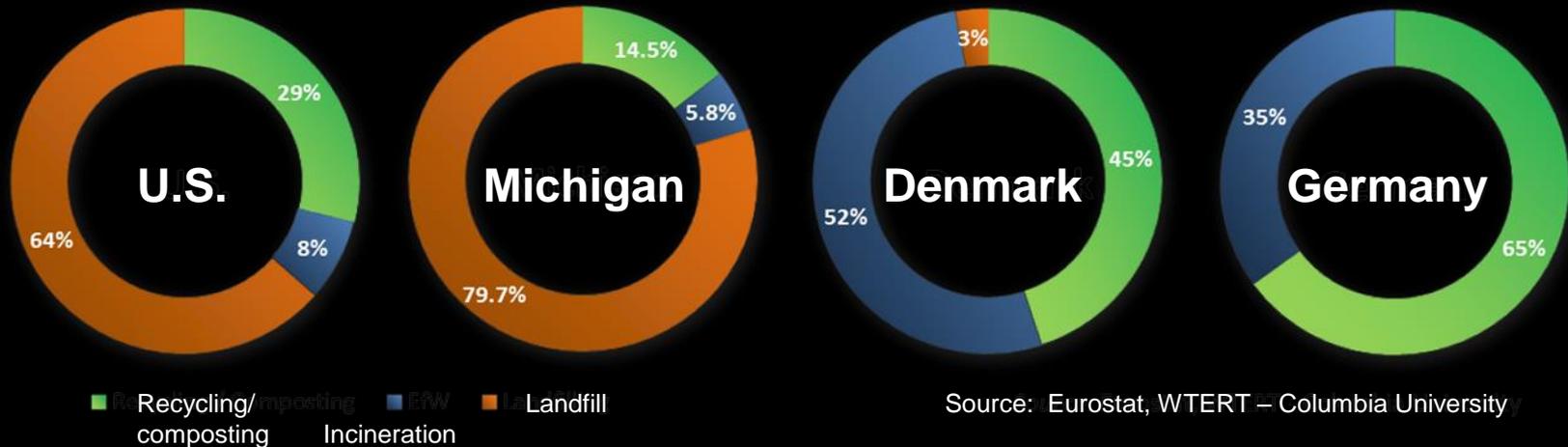


Victor 2



**What's happening in
our region?**

The Impact



2015 Totals

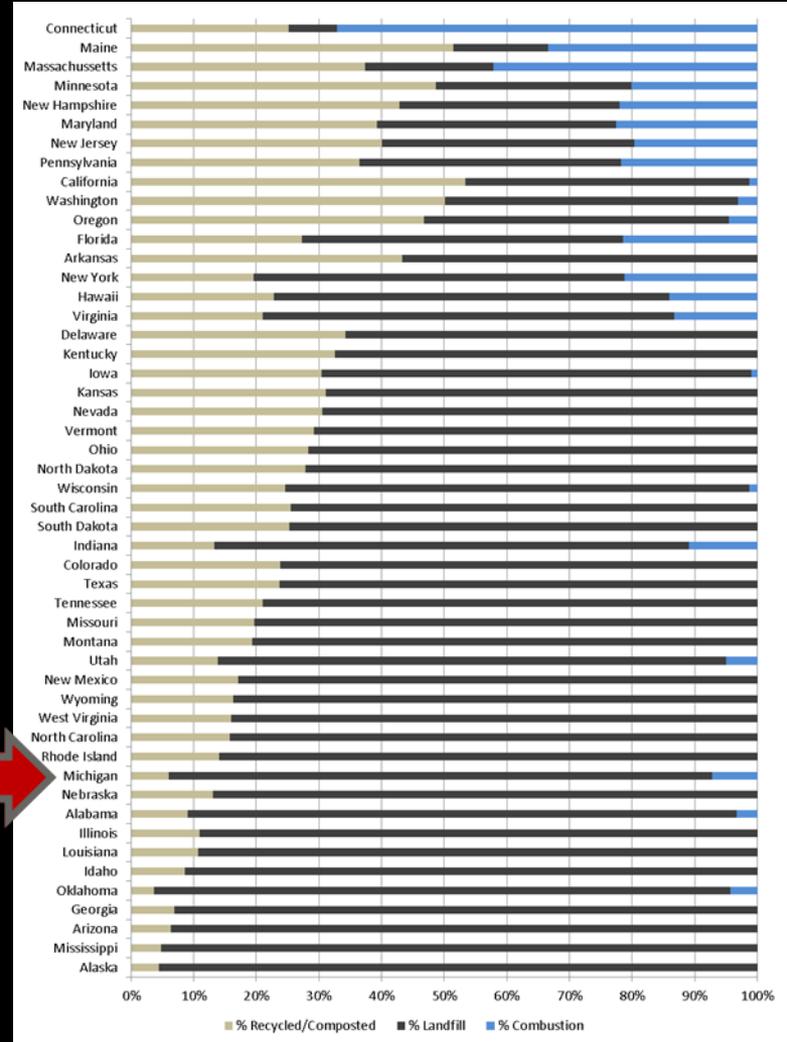
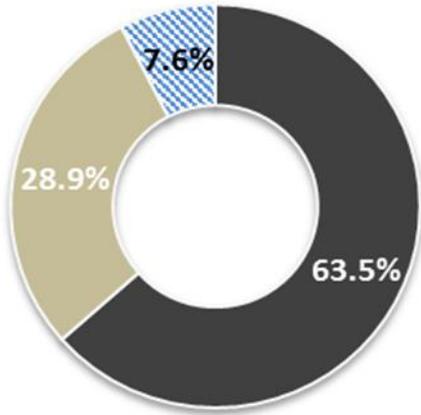
Kent County – 1,806,249 cubic yards
 Ottawa County – 998,059 cubic yards
 Muskegon County – 686,009 cubic yards
 Allegan County – 321,046 cubic yards

TOTAL 3.81 million cubic yards total – 4.4% increase over 2015

Opportunity at a regional level?

MSW in United States

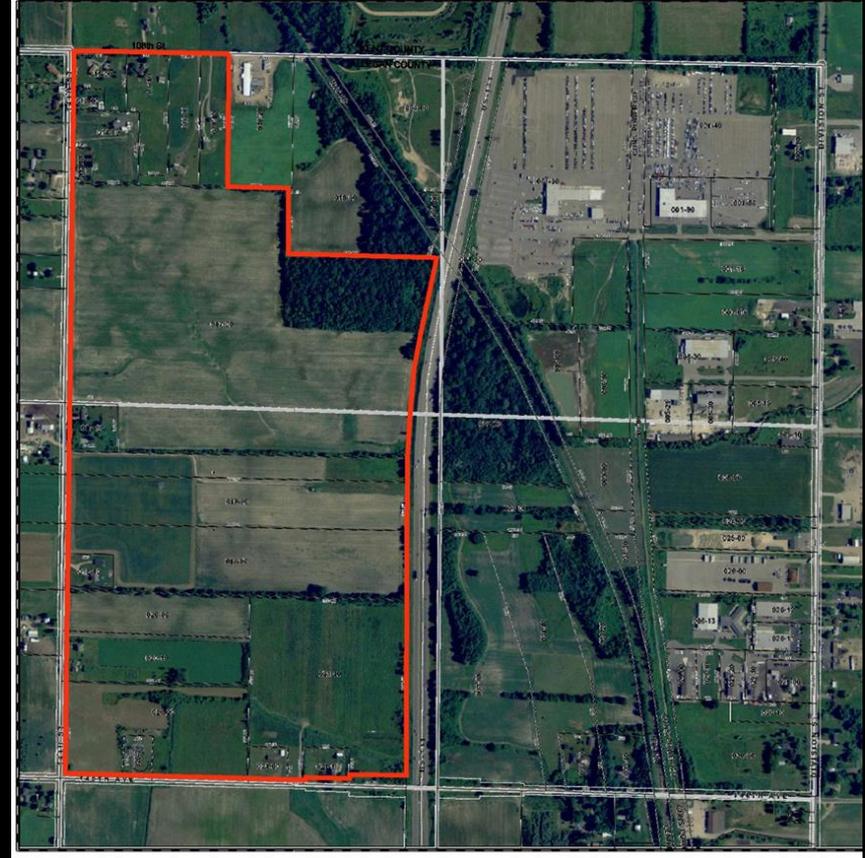
■ Landfill ■ Recycling/Composting ■ WTE



Capacity



Kent, Ottawa, Muskegon & Allegan Counties discard nearly 4.5 “Big Houses” of trash every year.



Build more landfills?

Take Aways

- ✓ Start now!
- ✓ Educate, engage & inspire
- ✓ Communication/Training
- ✓ Monitor to improve
- ✓ Celebrate success
- ✓ Have fun!
- ✓ Don't give up!



*Reminder: Please join the July 21st webinar on **Green Chemistry** to hear about making more improvements upstream in the design phase to reduce environmental impacts over a product's life cycle.*

*Do all the good you can,
For all the people you can,
For as long as you can...*

Peter M. Wege

Thank you!

Betsy Hernandez,
ehernand@steelcase.com

616.247.3041



Do what you do better.™

Steelcase®