



# SUSTAINABILITY AT SIA

Measuring for the Future

# The Zero Landfill Journey

Where do we start?

With a good  
inventory

AKA the  
dumpster dive

The List:

- What types of waste are being generated
- Order it by volume or weight

Have to know what you're dealing with, in order to deal with it



# The Zero Landfill Journey

## Motivate Management through Measurement

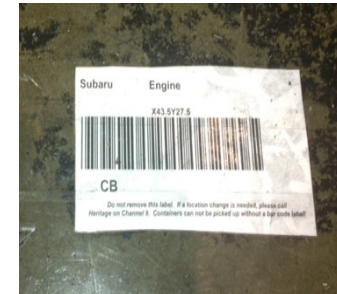
- Develop a system to measure the waste being generated
- Make it ACCURATE
- Level the playing field
  - pounds of waste per unit, per capita
- Make managers accountable
  - ECOC, tours
- Provide further motivational tools

HERITAGE INTERAC

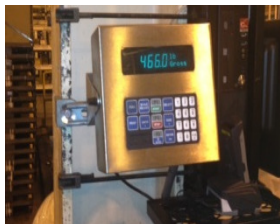
Material	Location				Gondola #	Weight	Gondola #
CB	X	29.5	Y	15.5			
CB	X	29.5	Y	21.5			
CB	X	30	Y	3			
CB	X	30	Y	9.8	131	109	
CB	X	30	Y	12.8			
CB	X	30	Y	21.5	022	4.0	
CB	X	30.5	Y	4.5			
CB	X	30.5	Y	6.5			
CB	X	30.5	Y	7	037	56	
CB	X	30.5	Y	7.5			

# Waste Tracking System

1. Heritage scans barcode on ground
2. Heritage scans barcode on gondola
3. Gondola is brought back to Heritage
4. Gondola is scanned and weighed



Connects gondola to X-Y coordinate



**USING ACTUAL, REAL-TIME WEIGHTS**



## **BENEFITS:**

- Eliminates the potential for human error in marking and tracking gondolas
- Removes subjectivity on whether gondola is “full” or not
- Provides accurate reflection of each shop’s waste generated

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CB	X	30.5	Y	4.5			
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CB	X	30.5	Y	7	037	56	
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# Environmental Tours



Two key parts of each week's tour are having the Section Managers explain their targets/results and the Team Leaders explain their teams' kaizen activities.

Every week top management goes to a different section and reviews that section's plan and progress towards achieving safety, environmental and energy goals.





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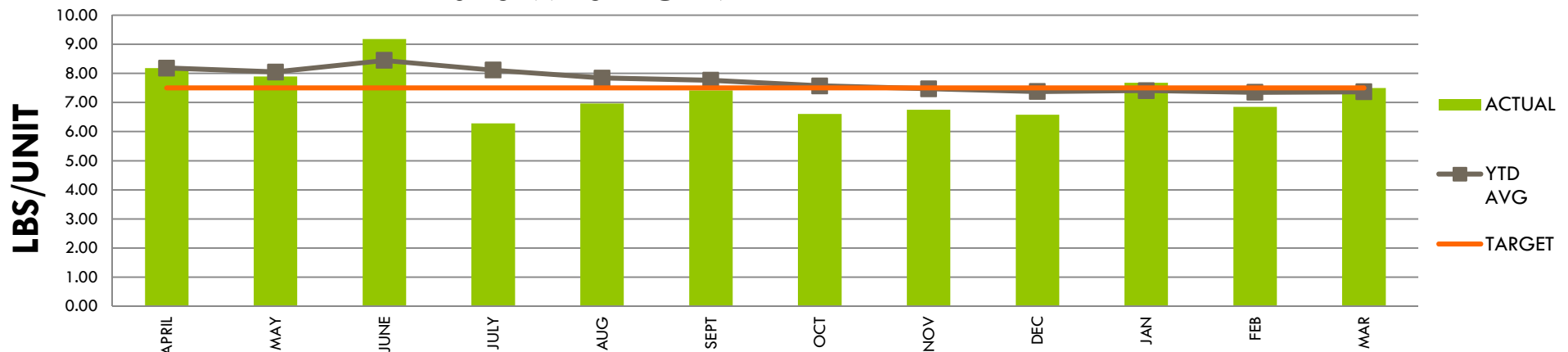


# The Zero Landfill Journey

## Shop Environmental Data--Trim

FY2016		APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER		OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH		YTD	
WS	DESCRIPTION	TOTAL	LBS/UNIT	TOTAL	LBS/UNIT	TOTAL	LBS/UNIT	TOTAL	LBS/UNIT	TOTAL	LBS/UNIT	TOTAL	LBS/UNIT	TOTAL	LBS/UNIT	TOTAL	LBS/UNIT	TOTAL	LBS/UNIT	TOTAL	LBS/UNIT	TOTAL	LBS/UNIT	TOTAL	LBS/UNIT	TOTAL	LBS/UNIT
	TRASH	16,659	0.65	16,788	0.68	20,152	0.73	6,581	0.47	15,088	0.52	16,207	0.5794	16,662	0.5588	16,268	0.6341	14,908.5	0.64	17,634.5	0.6743	17,578.5	0.5961	14,682	0.488	189,207	0.604
	POLYSTYRENE	99	0.00	124	0.01	211	0.01	455.5	0.03	96.5	0.00	163	0.0058	206.5	0.007	253.5	0.0099	114.5	0.0049	793	0.0303	499.5	0.0169	1083	0.036	4101	0.013
	POLYPROPYLENE	38.5	0.00	414.5	0.02	27.5	0.00	268	0.02	213.5	0.01	2	7E-05	114.5	0.0038	26	0.001	0	0	164.5	0.0063	0	0	0	0	1269	0.004
	CARDBOARD/MIXED PAPER	163,748	6.34	149,677	6.08	197,924	7.20	61,530	4.36	164,222.8	5.66	152,164.1	5.4395	150,588	5.0501	128,906.8	5.0242	119,232	5.1209	156,214.5	5.9733	153,540.5	5.2064	175,513.35	5.8331	1,773,321.1	5.658
	PLASTIC	11,776	0.46	13,148	0.53	16,033.5	0.58	7,620	0.54	13,353	0.46	17,687	0.6323	15,211.7	0.5101	11,489	0.4478	8,204	0.3522	11,370.5	0.4348	11,869.5	0.4025	14,830	0.4929	152,592	0.487
	BOTTLES	2,760.5	0.11	2,801.6	0.11	3,175.0	0.12	1,609.5	0.11	2,402	0.08	2,662	0.0952	3,022.5	0.1014	2,496	0.0973	2,564	0.1101	2,861.5	0.1094	4,003.5	0.1358	3,039	0.101	33,397	0.107
	CANS	612.5	0.02	880.0	0.04	868.5	0.03	401.0	0.03	493	0.02	716.5	0.0256	839	0.0281	720	0.0281	627.5	0.0269	876.5	0.0335	920	0.0312	696.5	0.0231	8,651	0.028
	GLASS	0	0.00	78	0.00	38	0.00	37	0.00	129.5	0.00	310.5	0.0111	46	0.0015	15	0.0006	46.5	0.002	0	0	19	0.0006	574.5	0.0191	1,294	0.004
5500-3	SEALER WITH DEBRIS	0	0.00	0	-	0	-	0	-	0	-	0	-	0	0	0	0	0	0	899	0.0344	0	0	0	0	899	0.003
5500-4	URETHANE AND PRIMER	6,811	0.26	6,165	0.25	5,736	0.21	3,994	0.28	2,925	0.10	7,696	0.2751	5,185	0.1739	6,601	0.2573	3,990	0.1713	4,550	0.174	4,758	0.1613	7,325	0.2434	65,736	0.210
5500-11	GREASE W/DEBRIS	0	0.00	0	-	0	-	0	-	0	-	0	-	0	0	0	0	0	0	0	0	0	0	349	0.0116	349	0.001
5500-12	WASTE SILICONE W/DEBRIS	198	0.01	0	-	0	-	186	0.01	0	-	917	0.0328	220	0.0074	0	0	0	0	0	0	284	0.0096	504	0.0167	2,308.12	0.007
5500-14	GASOLINE W/DEBRIS	0	0.00	0	-	350	0.01	0	-	0	-	0	-	0	0	0	0	0	0	0	0	250	0.0085	311	0.0103	911	0.003
5500-17	WASTE ABSORBENT, OIL AND ANTIFREEZE	0	0.00	0	-	341	0.01	0	-	1,400	0.05	196	0.007	0	0	350	0.0136	0	0	0	0	280	0.0095	273	0.0091	2,841.3	0.009
5500-23	VALVE ACTION PAINT MARKERS	0	0.00	500	0.02	350	0.01	0	-	0	-	0	0	110	0.0037	0	0	0	0	600	0.0229	0	0	0	0	1,560	0.005
5500-25	GAS, OIL, AND ANTIFREEZE	350	0.01	0	-	0	-	300	0.02	0	-	0	0	0	0	0	0	0	0	0	0	350	0.0119	0	0	1,000	0.003
5500-26	ANTIFREEZE/BRAKE FLUID	7,519	0.29	3,795	0.15	4,985	0.18	4,521	0.32	1,800	0.06	8,491	0.3035	4,863	0.1631	6,128	0.2388	3,494	0.15	3,500	0.1338	6,693	0.227	6,012	0.1998	61,800.14	0.197
5500-30	PAINT FILTERS	0	0.00	0	-	0	-	0	-	0	-	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.000
5500-31	BODY SEALER W/NO DEBRIS	317	0.01	0	-	0	-	469	0.03	0	-	0	0	0	0	0	0	0	0	0	0	937	0.0318	0	0	1,722.5	0.005
5500-34	PAINT AND PURGE THINNER	0	0.00	0	-	0	-	700	0.05	0	-	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.000
5500-40	RUST INHIBITOR	0	0.00	0	-	0	-	0	-	0	-	0	0	0	0	0	0	0	0	1,050	0.0401	0	0	0	0	0	0.000
5500-41	ETHYL ACETATE PRIMER	350	0.01	0	-	0	-	0	-	0	-	350	0.0125	0	0	0	0	0	0	350	0.0134	0	0	0	0	1,050	0.003
5500-43	GASOLINE	0	0.00	0	-	2,131	0.08	0	-	0	-	0	0	0	0	0	0	0	0	0	0	0	0	350	0.0116	2,481	0.008
	TOTAL	211,238.5	8.18	194,370.9	7.9	252,322.4	9.2	86,670.6	6.3	202,121.8	7.0	207,562.4	7.4	197,070.2	6.6	173,253.5	6.75	153,240.6	6.58	200,864.0	7.68	201,982.4	6.85	225,541.5	7.5	2,306,488.9	7.357
	UNITS	25,825		24,614		27,480		14,111		29,007		27,974		29,619		25,657		23,295		26,152		29,491		30,089		313,514	

## FY2016 WASTE GENERATED--TRIM





# The Zero Landfill Journey

## Management Involvement



Steel Coil Reductions=102  
lbs/unit reduction

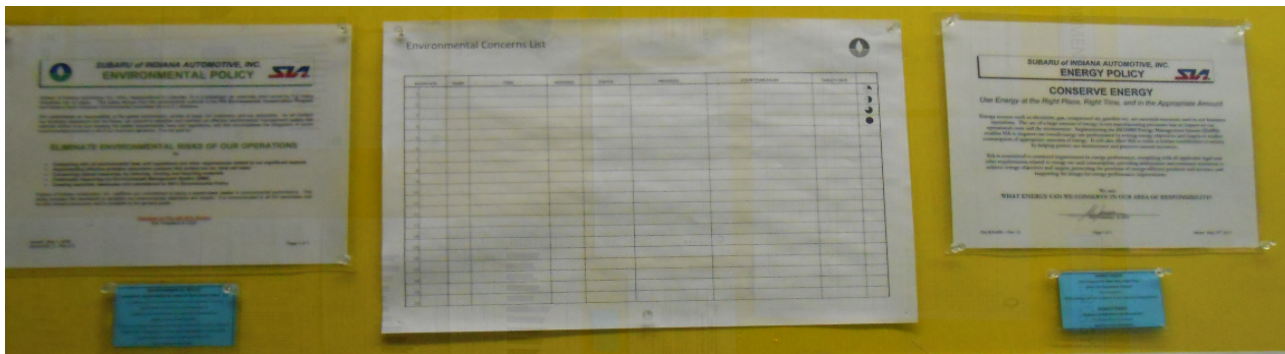


Sorbent Reused = 0.12lbs/unit  
reduction

# The Zero Landfill Journey

## Associate Involvement

- Engage champions
  - Provide opportunities to offer ideas



- Create champions
  - Make it fun
- Reward champions
  - Prizes, acknowledgement

# The Zero Landfill Journey

## Associate Involvement—partial lid boxes



BEFORE



AFTER

# The Zero Landfill Journey

## Associate Involvement—sealer reuse projects



### ANNUAL SAVINGS

\$16.32/gallon  
x 4,800 gallons  
= **\$78,336**

No need for  
off-site  
recycling



# The Zero Landfill Journey

## Partner with Suppliers

- Eliminate redundant packaging
- Reusable containers
- Returnable packaging

670 tons of  
Styrofoam  
returned to  
Japan in 2015

Savings=\$1.3mil.



# The Zero Landfill Journey



In 2015, SIA reused  
approximately  
1,450,977 caps





# The Zero Landfill Journey

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## Collaborate with waste experts

- Understand your limits
- Heritage Interactive Services
  - Waste collection
  - Secondary waste sorting
  - Advice on recycling options
  - Networks of recyclers

SIA worked to create a company culture valuing environmental improvements; Heritage provided the services needed to make it happen.

# The Zero Landfill Journey

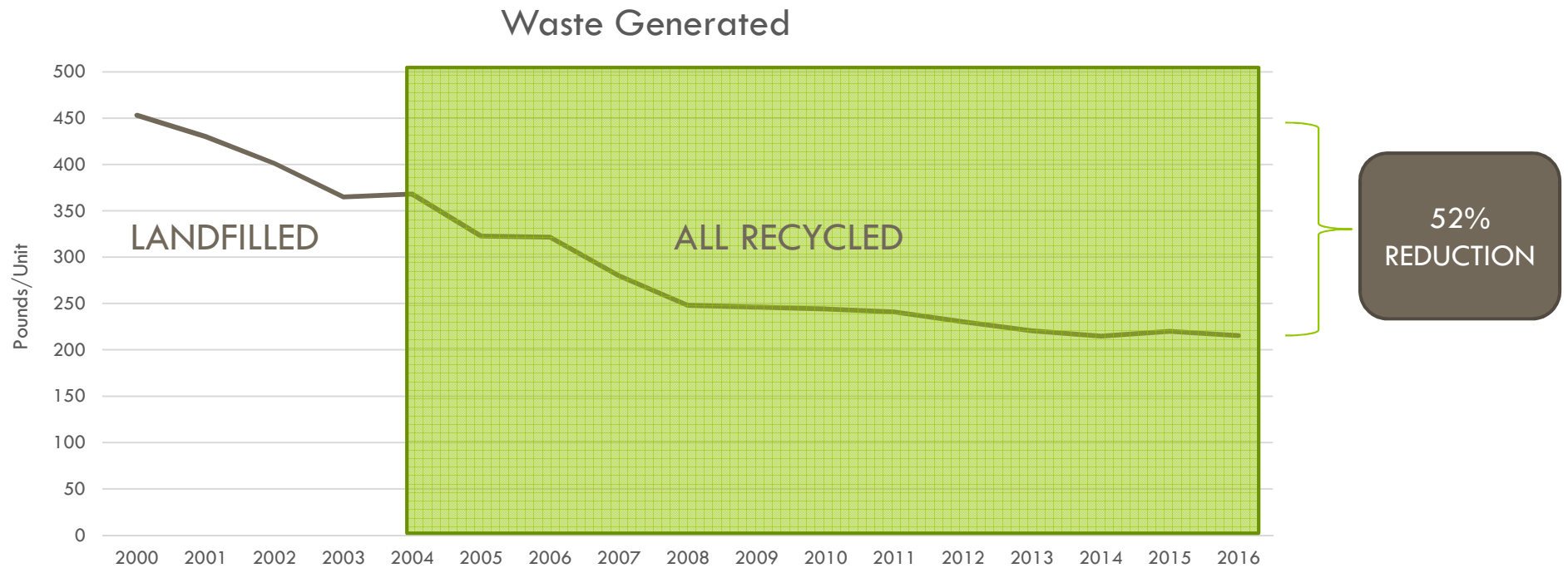
## Collaborate with waste experts

- Fill in that last piece of the puzzle
  - Tradebe
    - Recycles organic solid waste
  - Covanta
    - Generates energy from waste

Offers a beneficial option  
for those materials not  
traditionally recycled



# Results



SIA has also recognized a **\$13 million benefit** over the cost of its environmental program since going Zero Landfill



# SLA's Challenges

- Converting the “non-believers”

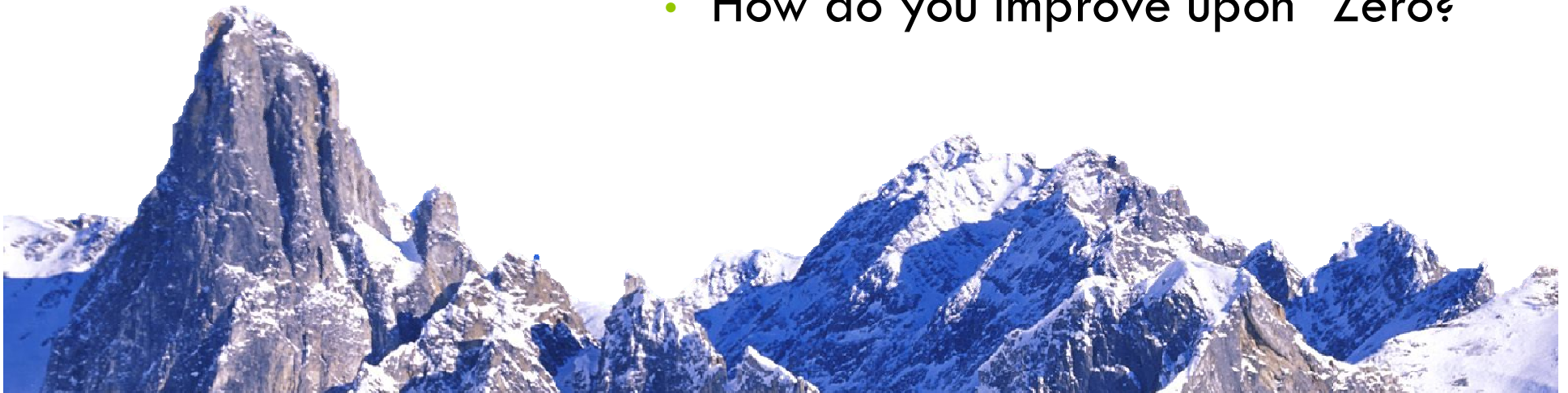
- Communicate and educate
  - External and internal benefits
- Peer pressure

External	Internal
Helping the environment	Pride in workplace—marketing eco
Lower costs of operations	Rec, Daycare, Wellness Centers
Lower-priced vehicles	Bonuses
Better quality products	



- Maintaining the momentum

- How do you improve upon “Zero?”



# The next step

Energy is the third-largest expense for businesses (after employees and real estate), representing an average of 19% of total expenses and accounts for 75% of a company's carbon footprint.





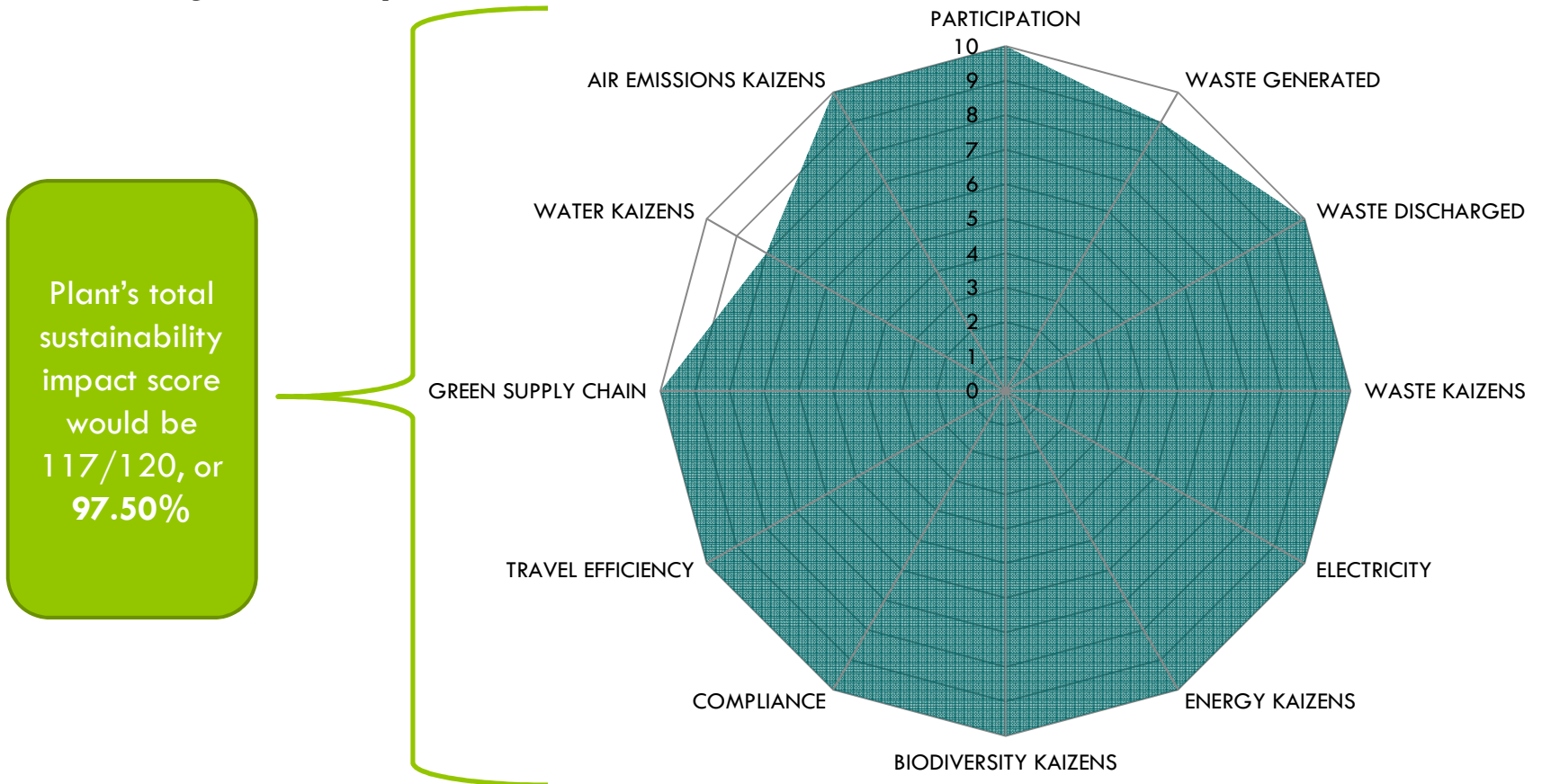
# Plant Environmental Impact





# Plant Sustainability Impact Score

Add targets for more KPIs and track progress, providing an impact score.



# Sustainability Participation-Campaigns

## Training to the Sustainability Liaisons

Waste Generated Disposal Methods

More Beneficial				Less Beneficial
Reclaimed	Recycled	Solid Distillation	Waste to Energy	
Used Oil	Cardboard	Sealer Debris	Trash	
	Plastic	Urethane and Primer	Paint Sludge	
	Steel Scrap			



## Associate training



## Educational posters

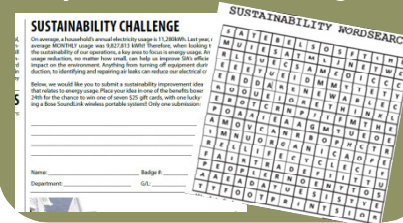


## Monthly Focus Item

## CCTV Educational spots



## Update Challenges



## Update kaizen competitions



# Plant Sustainability

Expanded activities, justified by sustainability program

## Compost Initiative



Diverted 10,930  
lbs of waste  
from landfill in  
2015

## Prairie Restoration



30 acres  
restored



# Sustainability Outreach

## SIA STARS

Students and Teachers Achieving Recycling Success



# WHO WE ARE IS WHAT WE LEAVE BEHIND



# PROJECT OVERVIEW

- In support of the National Park Service 2016 Centennial, National Park Services' Green Parks and Climate Friendly Parks Plans, NPCA has partnered with Subaru of America (SOA) and Subaru of Indiana Automotive, Inc. (SIA) to leverage Subaru's expertise to identify, test and scale zero landfill best practices starting with three iconic national parks.





# THE PROBLEM

- Landfills (LF) are filling up at an alarming rate
  - Groundwater pollution
  - Methane gas generation
  - Millions of dollars to close old LF and open new LF
  
- In 2013, the three pilot parks:
  - Had over seven (7) million visitors
  - Generated 26.3 million pounds of waste
    - 16.6 million pounds were recycled
    - 9.7 million pounds of waste landfilled.



# VISION

- In pursuit of zero landfill national park, collaborative goals will be set that are ethical, economical, efficient and visionary.
- The process...
  - To support our goals, a plan will be developed to both guide people in changing their waste habits while influencing organizations to change their practices. Through new approaches, we will support behaviors to not burn or bury where all discarded materials are recycled, repurposed or rethought to become resources for other to use...zero landfill



# OVERALL OBJECTIVE

- ❑ Assist the parks in achieving zero waste to the landfills
- ❑ Decrease the rate of waste being generated
- ❑ Increase the rate of waste being reused
- ❑ Increase the rate of waste being recycled
- ❑ Enhance the Organizational Culture, engage employees
- ❑ Engage the stakeholders in the area
- ❑ Educate visitors

# Thank you

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