Better Plants
U.S. DEPARTMENT OF ENERGY

Implementing a Waste Diversion Program

Virtual INPLT Training

Session 7

Tuesday – April 1, 2025

10:00 am – 12:30 pm EDT

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DOE's Waste Reduction Network:

- Open to all existing Better Plants partners
- Goals are flexible
- Six goal options based on partner feedback
- Quarterly webinars
- Bi-monthly newsletter
- Access to new waste-related tools, trainings and programmatic elements

Waste Virtual INPLT Agenda

- **Week 1 (February 18th) – Introduction: Waste Diversion and Reduction 101**
- **Week 2 (February 25th) – How to Effectively Track and Measure Your Waste**
- **Week 3 (March 4th) – Source Reduction and Waste Minimization Techniques**
- **Week 4 (March 11th) – Finding Outlets for Hard to Manage Waste Streams**
- **Week 5 (March 18th) – Construction Waste Management and Green Building Certifications**
- **Week 6 (March 25th) – Scope 3 Emission Considerations**
- **Week 7 (Aril 1st) – Implementation of a Waste Diversion Program – Developing a Roadmap to Zero Waste**
- **Week 8 (April 8th) – Conclusions, Summaries, and Wrap up Presentations**

Plan of Action

Today, we will:

- Review the previous training
- Discuss the homework
- Lecture on today's topic, "Implementing a Waste Diversion Program"
- Test your knowledge with a Kahoot! quiz
- Conduct a Q&A session

Takeaways

Today, you will learn:

- How to prioritize waste reduction opportunities
- How to structure a waste diversion program
- What should be included in a roadmap to zero waste to landfill
- Which third-party certification are relevant for waste

Presenters from Sustainable Solutions Corporation

Tad Radzinski, PE, SEP, LEED AP, SFP
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Quick Review

Remembering Session 6

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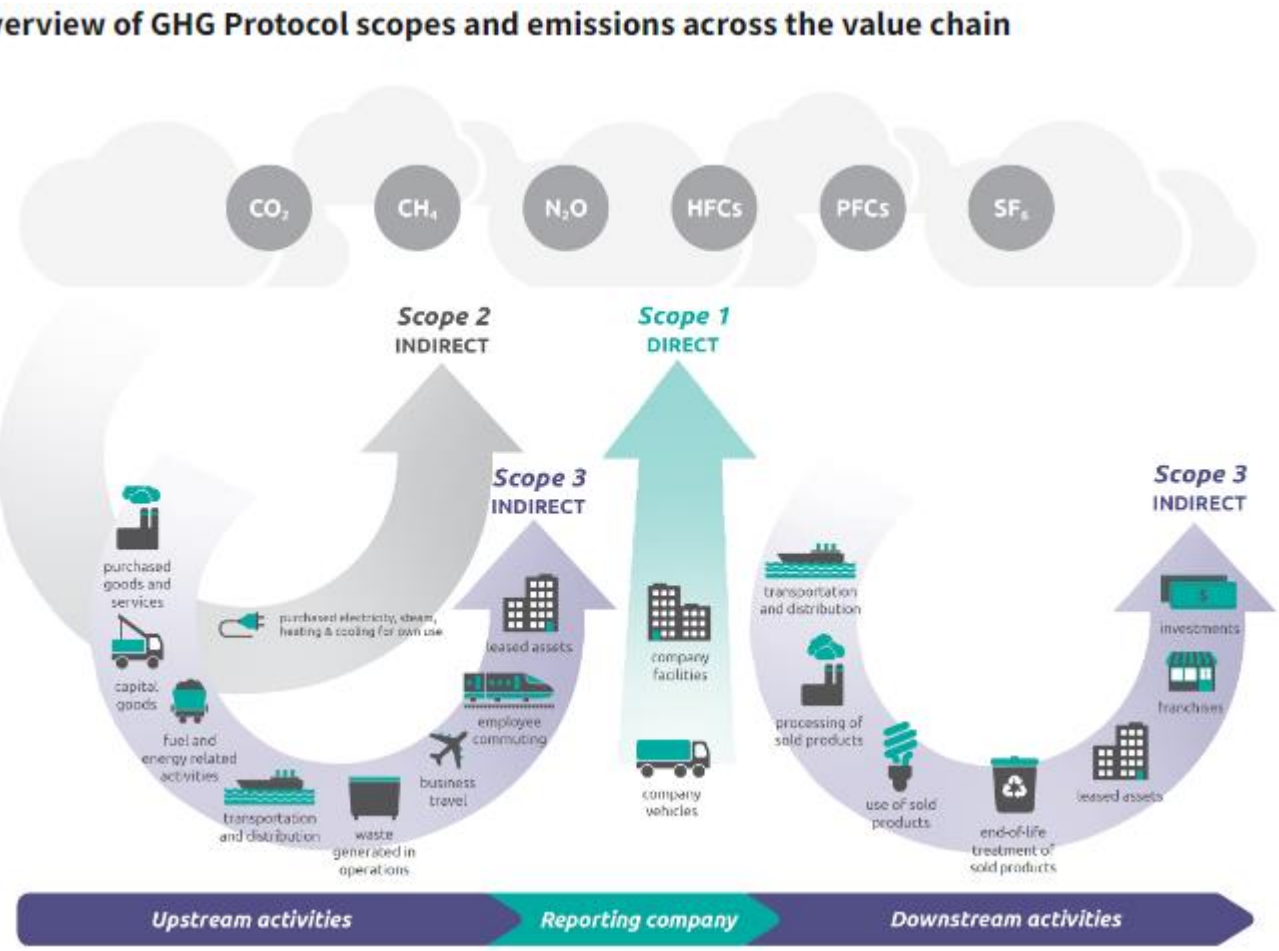
Session 6 Review: Which of the following would not fall under Scope 3 emissions?

Please respond to the Zoom poll

Answer: Onsite water treatment

Review: Scope 3 Emission Considerations



GHG Protocol

In the last session you learned:

- Overview of greenhouse gas reporting frameworks
- Various categories for Scope 3 emissions
- Calculation methodologies for quantifying Scope 3 emissions
- How to integrate sustainability into sourcing and procurement

Homework Discussion

Homework Takeaways

Overview

- Estimate the current waste diversion rate for the site. Considering the strategies discussed over the previous sessions, identify minimizable or divertible wastes and state their influence on the diversion rate.

Takeaways

- Diversion rates were variable company to company and industry to industry
  - Ranges were from under 25% to up over 90%
- Regardless of diversion rate, homework noted streams that could be minimized
  - Proposed minimization increased diversion rate varying amounts
- Efforts to implement strategies to increase the diversion rate would involve numerous parties

Today's Topic:

Implementation of a Waste Diversion Program

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Developing a Waste (Minimization and) Diversion Program

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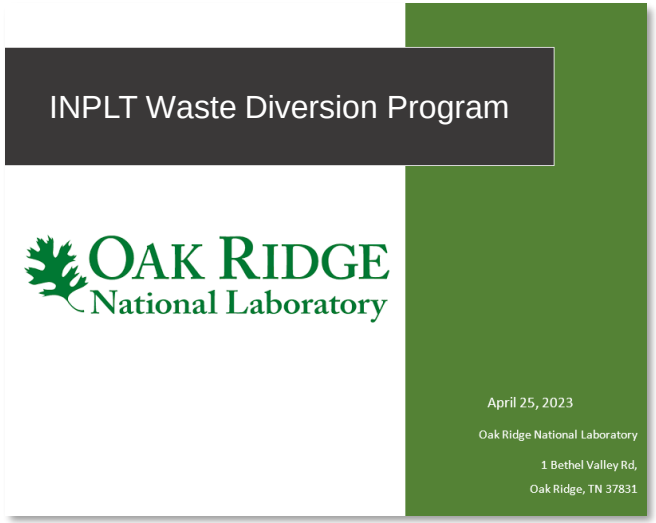
What is a waste diversion program?

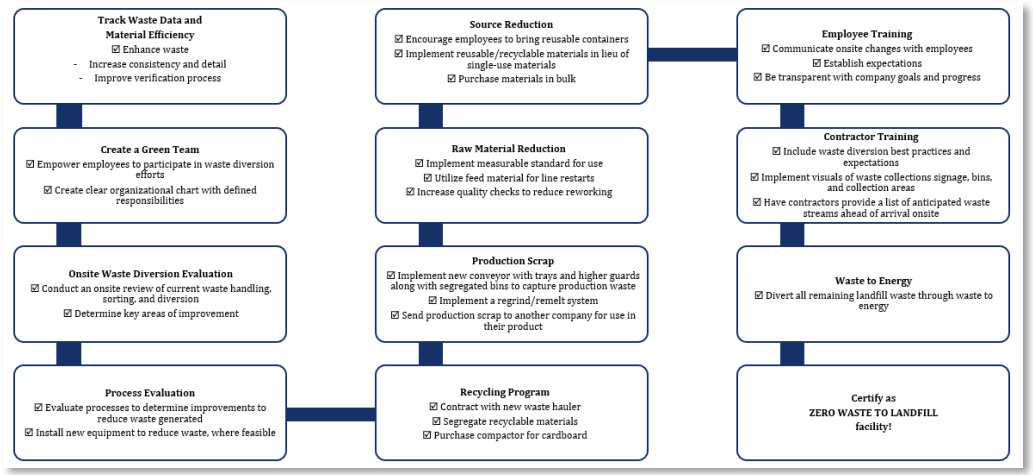
- An organized plan including varying personnel which helps ensure continual progress on waste minimization and diversion efforts

Structures for Reaching Zero Waste to Landfill



Waste Diversion Program

- Sets your company's approach to waste diversion and minimization
- Establishes policies, procedures, and the base structure for company-wide waste management



Zero Waste to Landfill Roadmap

- Detailed plan for achieving your zero waste goals
- Organizes strategies by priority
- Sets a timeline for implementation

These will look **different** to fit your company's **specific goals!**

OPERATION ZERO WASTE

8-Step Process to Achieve Zero Waste to Landfill

1

UNDERSTAND THE WASTE

Conduct site visit to characterize and measure all material flows and waste streams.

2

DEVELOP WASTE DIVERSION ROAD MAP

Develop comprehensive waste minimization and diversion strategy.

3

FIND NEW OUTLETS FOR MATERIALS

Identify new outlets for difficult to manage waste streams to divert from landfill.

4

REPORT OUT MEETING WITH CLIENT

Share the road map and areas for improvement.

5

PROCEDURE DEVELOPMENT

Create policies for employees to assist with correct waste handling practices.

6

EMPLOYEE TRAINING

Educate employees and assist in road map implementation.

Third-party Verification

7

CERTIFY IMPROVEMENTS

Audit and certify waste minimization and diversion achievements.

Third-party Verification

8

MARKET ACHIEVEMENTS

Utilize various social media platforms to market client achievements.

Waste Diversion Program Overview

How do you create a waste diversion program?

1. Establish a Green Team
2. Gather and review data
3. Determine your areas of focus
4. Establish policies and procedures
5. Prioritize opportunities
6. Develop a Zero Waste to Landfill Roadmap
7. Review program regularly

1. Establish a Green Team

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Poll: True or false – a Green Team should only include people with job roles and responsibilities related to the environment.

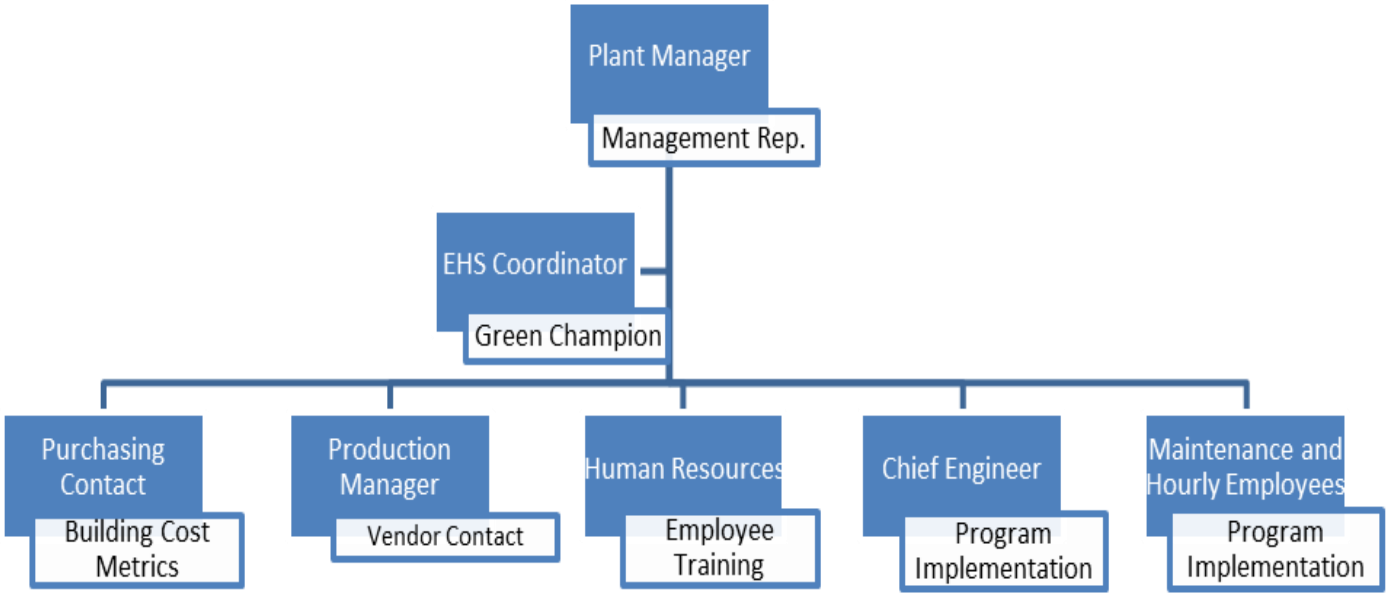
Please respond to the Zoom poll

Answer: False

1. Establish a Green Team

Who should be involved?

- Key personnel from various areas who:
  - Are from different levels of the organization's structure
  - Can give context to data
  - Know how waste streams are segregated, generated, and handled
    - Understand the process
  - Oversee waste hauler contracts and communication
  - Are best suited to identify and implement possible solutions



Question: Do any of you have a Green Team at your facility? If so, what roles are involved?

Please type your responses in the chat

1. Green Team Communication

- Personnel from various areas can support each other on sustainability initiatives
- There is value in having different stakeholders
  - **Example**: To influence change, one group may focus on a waste diversion rate increase, another on the cost benefit, and a third may only be interested in influences on production metrics
- Bring considerations on how changes will influence other areas
  - Environmental Health and Safety
  - Manufacturing
  - Research and Development
  - Quality Assurance
  - Marketing
  - Sourcing/Procurement

1. Green Team Communication

- Ask critical questions
  - How do the proposed changes influence our sustainability goals?
  - How will stakeholders, customers, or suppliers view these changes?
  - How should we market the sustainability story or these changes?
  - If this change saves the company money, how should this money be used?
  - Will the time to pay for or implement changes impact other areas of the facility?
    - Will other budgets be trimmed?
    - Will processes be interrupted?

1. Example: Green Team in Action

Opportunity: Labels were applied to bottles after they were filled. Issues with labels then led to entire bottles of liquid product thrown away.

To implement a solution, viewpoints from the following Green Team members were vital:

- **EHS**: Provided waste data and assisted in ROI calculation
- **Manufacturing**: Evaluated changes in line design to apply and check labels before bottles were filled
- **Quality Assurance**: Identified areas for additional checks and ensured line design changes would not impact product quality

2. Gather and Review Data

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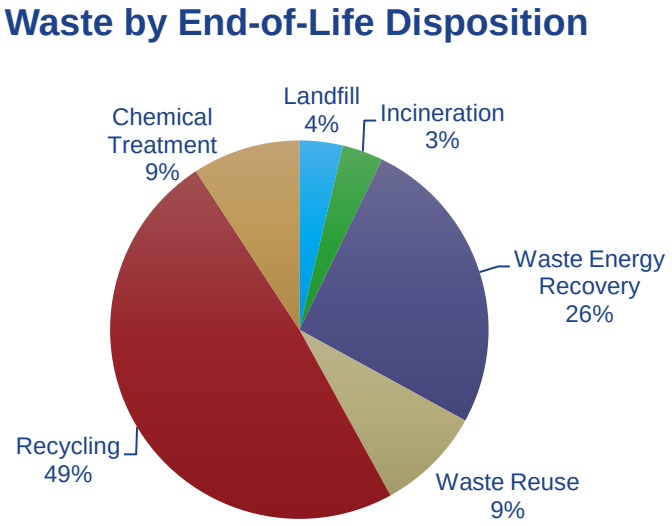
2. Gather and Review Data

Recall strategies from Session 2!

- Compile data and review data trends
- Benchmark
  - Metrics for benchmarking such as production or operating hours
  - Utilize benchmark and trends to establish key performance indicators



2. Gather and Review Data

Recall strategies from Session 2!

- Establish data review procedure including:
  - Personnel in charge of gathering and reviewing data
  - Frequency of review
  - Considerations for ensuring quality control

Waste Stream	Unit	Value	Cost ($)	Outlet (Current)
Production Scrap	Tons			Reuse
Sand	Tons			Reuse
Raw Material	Tons			Reuse
Raw Material	Tons			Recycle
Bag House Dust	Tons			Landfill
Pallets	Tons			Recycling
Pallets	Tons			Reuse
Metal	Tons			Recycling
Cardboard	Tons			Recycling
Wood	Tons			Recycling
Oils	Tons			Landfill
Oils	Tons			Waste-to-Energy
Paint	Tons			Landfill
Paint	Tons			Waste-to-Energy
Plastic Tote	Tons			Reuse
Drums	Tons			Recycling
Electronic Waste	Tons			Recycling
Plastic Film	Tons			Recycling
Plastic Film	Tons			Waste-
Hazardous Waste	Tons			Landfil
Hazardous Waste	Tons			Waste-
Plant Trash	Tons			Landfil
Plant Trash	Tons			Waste-

End-of-life	Code
Landfill	LA
Recycling	RE
Offsite Reuse	FR
Onsite Reuse	NR
Waste-to-Energy	WE
Incineration	IN
Anaerobic Digestion	AD
Compost	CO
Other	OT

Waste Stream	Code #
Production Scrap	01
Sand	02
Raw Material	03
Bag House Dust	04
Pallets	05
Pallets	06
Metal	07
Cardboard	08
Wood	09
Oils	10
Paint	11
Plastic Tote	12
Drums	13
Electronic Waste	14
Plastic Film	15
Hazardous Waste	16
Plant Trash	17

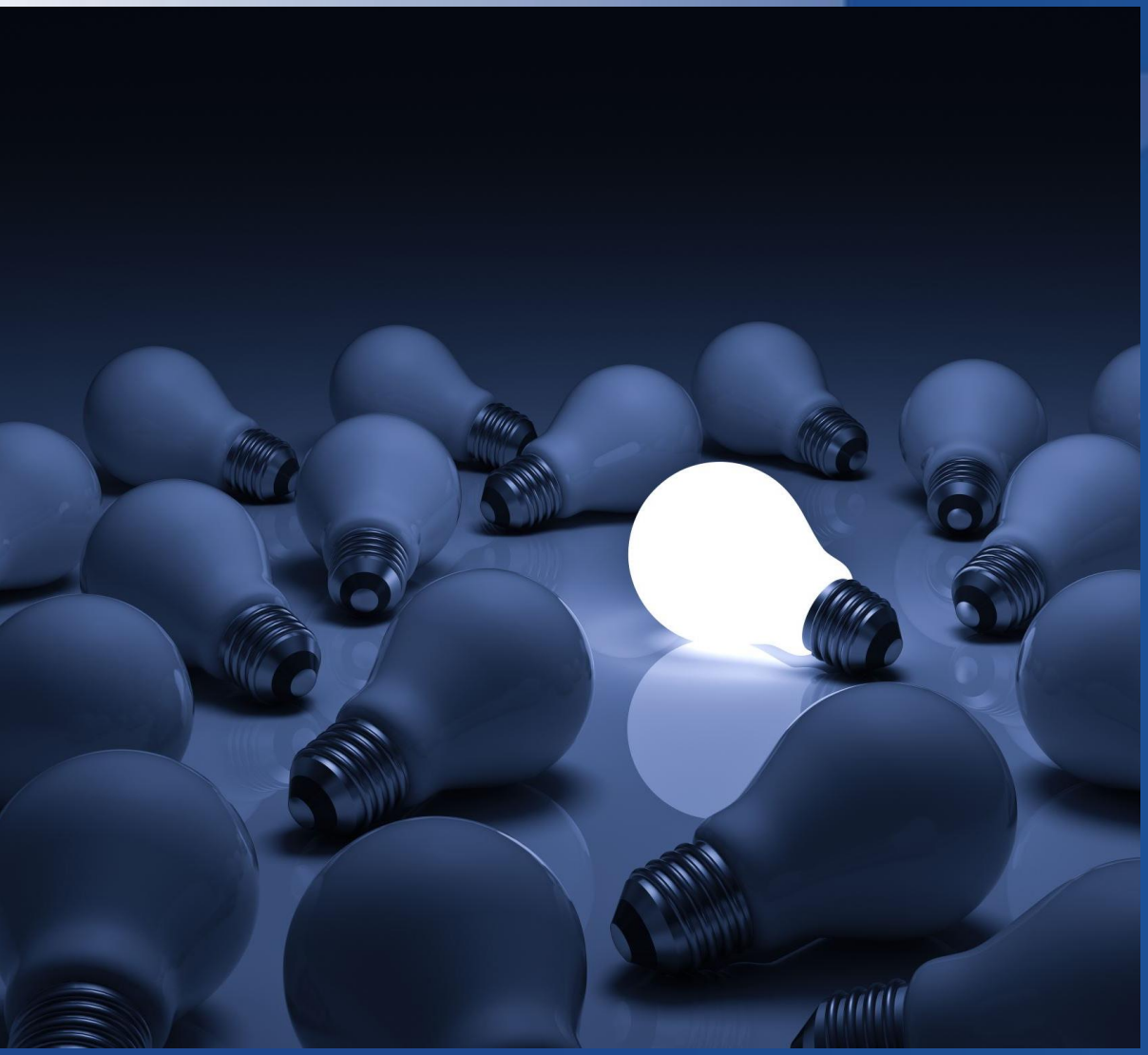
2. Gather and Review Data

- Determine what (if any) metrics will be disclosed publicly
  - How you communicate your progress externally depends on the available data
- Will you need to improve how data is collected and verified before setting public targets?

Fiscal Year 22/23 Data

- Plastic packaging: 712,000 metric tons
- Recycled plastic resin: 101,000 metric tons
- Percent total resin from recycled sources: 14% recycled resin
- Manufacturing waste diverted from the landfill: 676,000 metric tons
- Zero manufacturing waste to landfill: Achieved and maintained since 2020

Procter & Gamble



3. Determine Areas of Focus

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3. Determine Areas of Focus

Recall strategies from Sessions 1, 2, and 3

- Review the data
- Conduct an onsite assessment and waste characterization
- Evaluate production processes
- Adjust focus based on results achieved

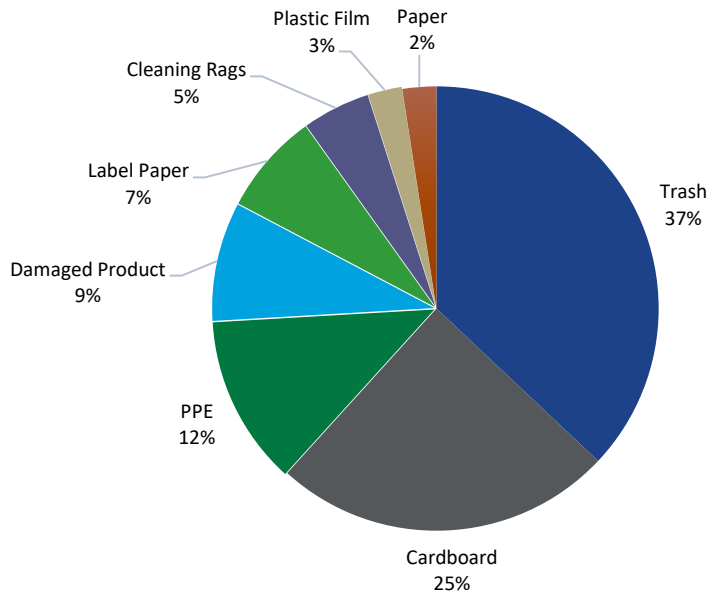
Question: What are some waste-related focus areas for you onsite?

Please type your responses in the chat

3. Determine Areas of Focus

- Identify your major opportunities
  - What are the largest waste streams onsite?
  - Where is the most money spent on waste management?
  - Where does the design of the product influence waste at the manufacturing site?
  - What were the key findings from the waste characterization?

Plant Operations Trash Waste Characterization Breakdown



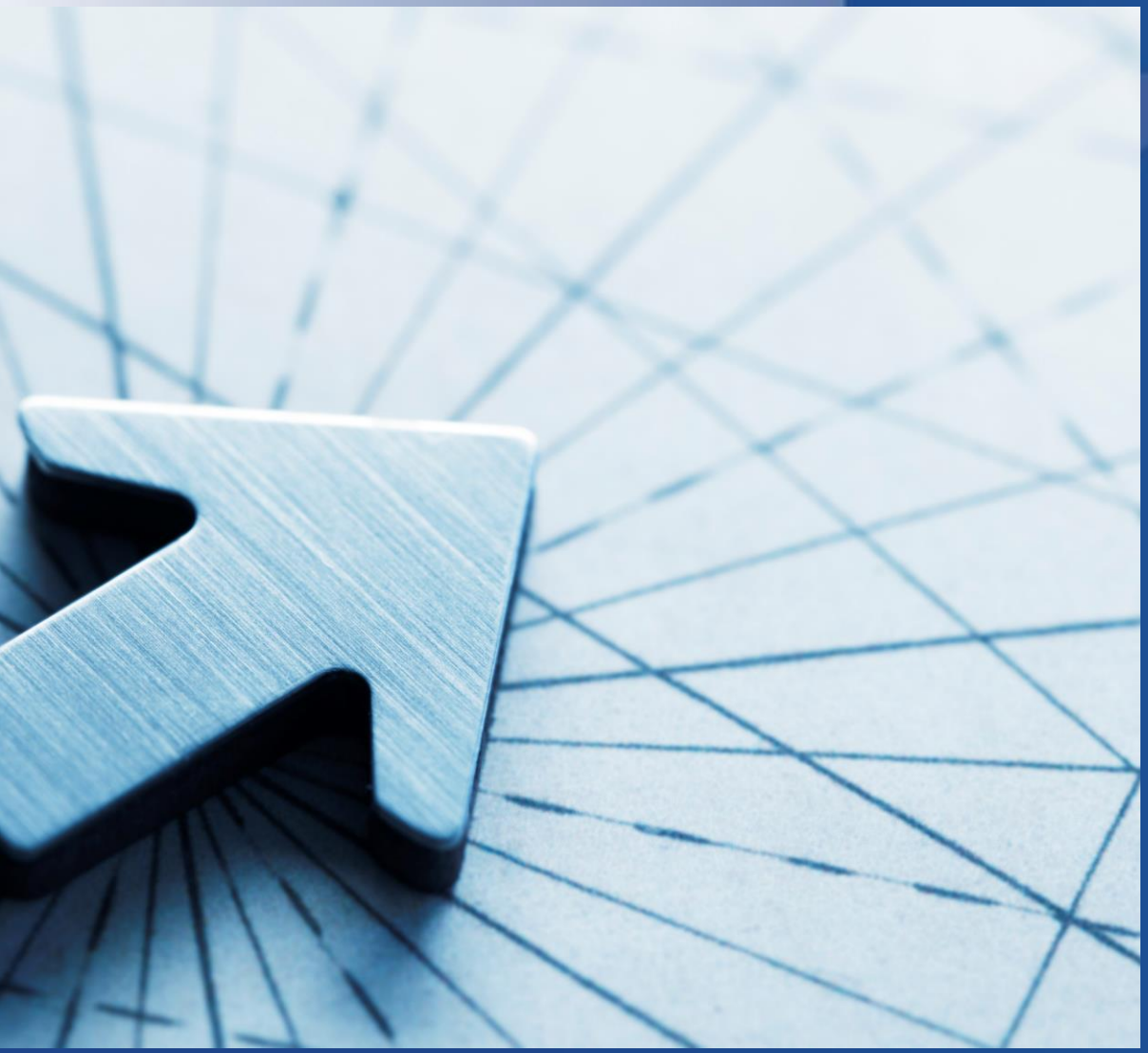
Example Questions:

- How do we improve cardboard recycling?
- Do we have a vendor who will recycle PPE and label backing paper?
- What are the sources of the damaged product waste?

3. Determine Areas of Focus

Continue with site or company-specific needs

- Ask critical questions regarding waste diversion
  - Is waste segregated enough to maximize diversion?
  - What are critical barriers limiting the ability to divert the waste streams?
  - What kinds of outlets exist for the waste materials generated?
  - Which processes or buildings result in the most waste?
  - Is there enough space or infrastructure to improve to the extent desired?



4. Establish Policies and Procedures

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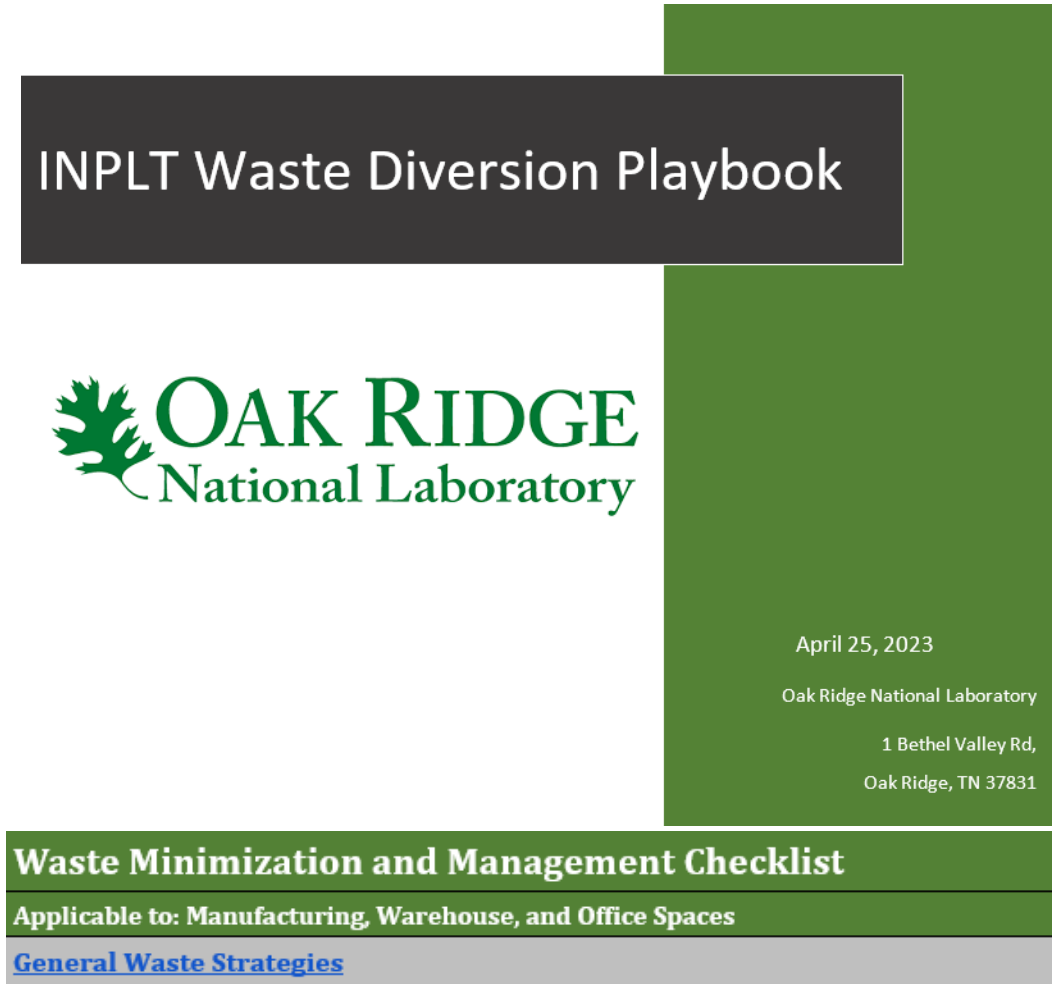
4. Establish Policies and Procedures

- Create standard processes and procedures including:
  - Establishment of roles and responsibilities
  - Waste tracking and verification procedure
    - Identify which metrics are important
  - How to handle key waste streams
  - Methods for evaluating processes to identify opportunities for improvement
  - Strategies for waste minimization onsite
  - **Standardize waste business case calculation process**

4. Establish Policies and Procedures



- Consider generating a waste diversion and minimization playbook
  - A document which would be made available to all assets of the company
  - Living document that would change over time
  - Include strategies and best practices for various areas
    - Research and Development
    - Procurement
    - Manufacturing
    - EH&S
    - Warehouses
    - Offices

4. Example: People Proofing

- Establish consistency onsite through clear:
  - Containers
    - Size, color, labeling, liner or no liner, and location
  - Signage
    - Are bilingual signs necessary?
    - Ensure signs are at eye level
  - Centralized waste collection areas
- Continually train and remind employees of waste handling procedures and expectations

4. Example: Building Business Case

- Establish a procedure for considering waste in project evaluations
  - If evaluating a non-waste-focused project, ensure its included
  - If evaluating a waste-specific project, how will the changes influence other areas?
    - Material and packaging savings
    - Reduction in personnel material handling
- Make waste considerations a part of the project funding process

Category	Data	Additional Information
Material Usage (Unit)		
Material Cost		
Material Savings (Unit)		
Material Cost Savings		
Current Waste Disposition		
Proposed Waste Disposition		
Waste Total (Unit)		
Current Waste Cost		
Waste Savings (Unit)		
Waste Cost Savings		
Additional Cost Savings		*Example: The reduction of this waste will allow one person to be dedicated to a more pertinent need onsite.*
Additional Benefit		*Example: Current handling of material is a safety risk, and the proposed change would eliminate this risk.*

5. Prioritize Opportunities

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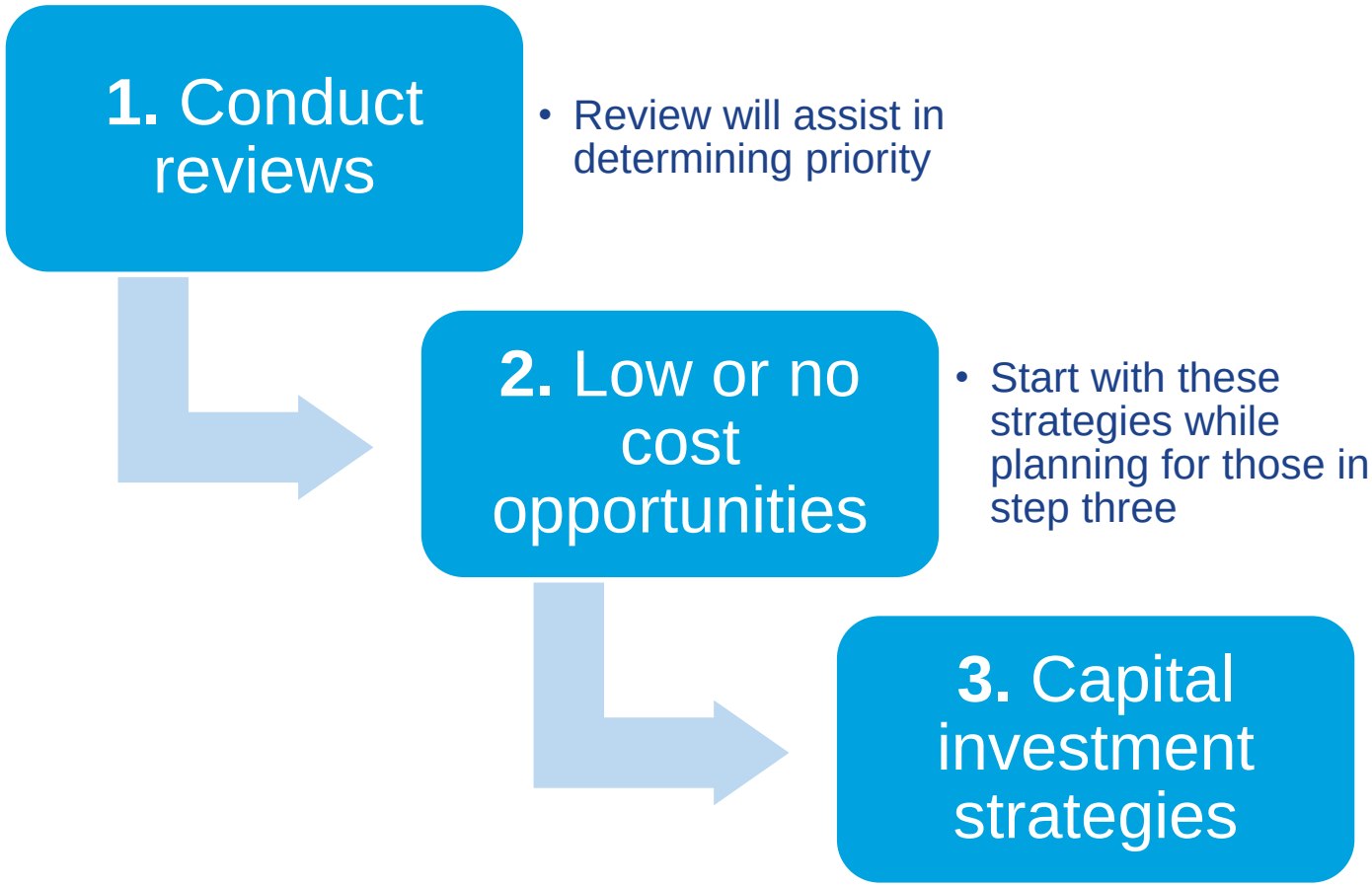
Question: What are some things that could influence the priority of waste reduction opportunities onsite?

Please type your responses in the chat

5. Prioritize Opportunities

In general, completion of step one establishes prioritization for steps two and three:



5. Prioritize Opportunities

- Priority of waste reduction and minimization opportunities will vary site to site, company to company, and industry to industry
- Influences on these priorities could be
  - Company sustainability goals and their timeline
  - Corporate or stakeholder pressure
  - Legislation
  - Buy-in from company or personnel
  - Availability of
    - Personnel
    - Space at facility
    - Capital
    - Regional waste outlets

5. Prioritize Opportunities

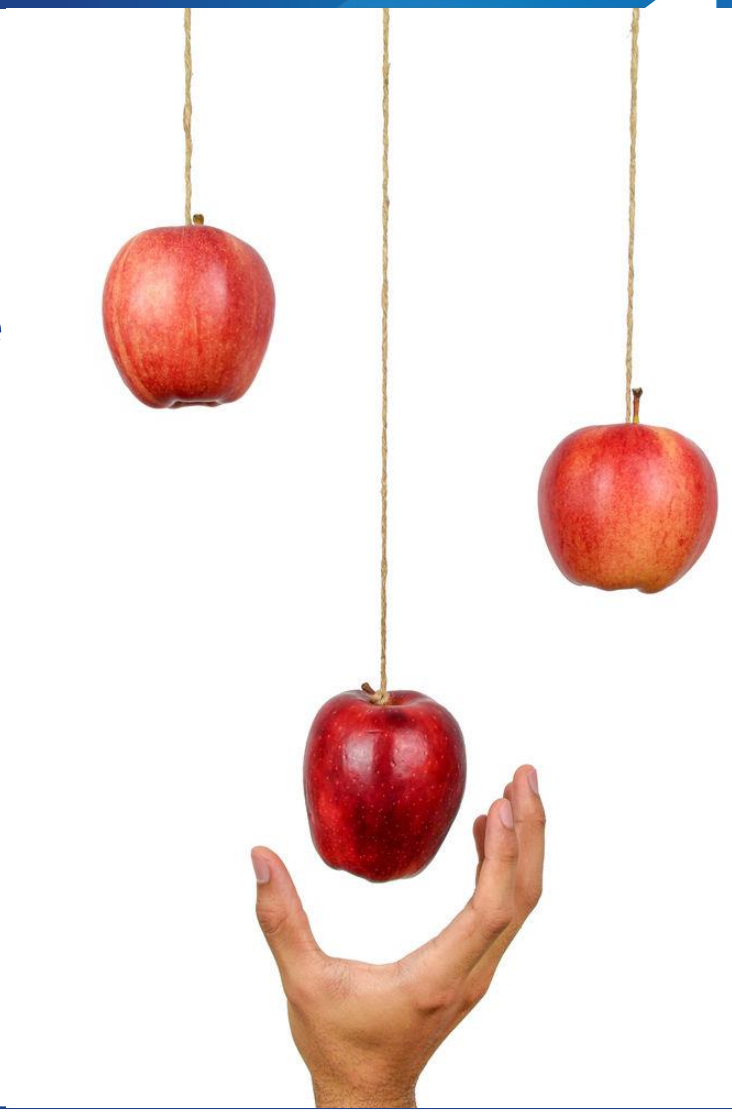
How to prioritize reduction opportunities?

- Begin with a review of:
  - Relevant data
    - Waste, raw materials and packaging volumes, frequency, and costs
  - Waste handling and segregation onsite
  - Manufacturing processes and waste generation points
  - Relevant policies or procedures
  - Stakeholder interest
  - Competitor commitments or progress
  - Applicable regulations
- Utilize review to identify opportunities

5. Prioritize Opportunities

How to prioritize reduction opportunities?

- Begin with low or no cost opportunities
  - Review procedures and processes onsite and work to improve
    - Improving data collection, tracking, and review
    - Conducting employee trainings
    - Improving housekeeping and inventory control
  - Increasing segregation onsite
    - Implement signage
    - Reorganize bin locations
  - Identification of waste outlets to better divert waste streams
    - Establishing takeback programs with suppliers
    - Baling or compacting waste streams
  - Simple strategies for implementation
    - Purchasing a raw material in bulk



5. Prioritize Opportunities

How to prioritize reduction opportunities?

- Continue with opportunities which may take longer time, effort, or capital to design, plan, and implement
  - Redesigning a product to incorporate recycled materials
  - Optimizing product or packaging size
  - Upgrading equipment to reduce waste generated

6. Developing a Roadmap

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6. Developing a Roadmap

- Your Zero Waste to Landfill roadmap is your plan for achieving your zero waste goals
  - Organizes your strategies by priority
  - Sets a timeline for implementation
- It can be a graphic with steps, a detailed document, or both

6. Developing a Roadmap

How do you put together your waste reduction opportunities?

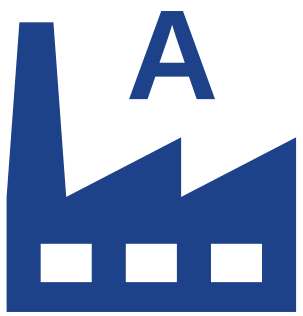
- Organize steps to achieve a waste minimization and diversion goal
  - Steps may be based on logical priority, time and effort, number of personnel needing involved, capital, and more
    - For example, you may not be able to divert a waste stream until you segregate it from other waste streams
    - The order of key steps will vary from site-to-site or company-to-company

Poll: In general, for a roadmap to achieve zero-waste to landfill, at what point is it recommended to send residual waste to waste-to-energy?

Please respond to the Zoom poll

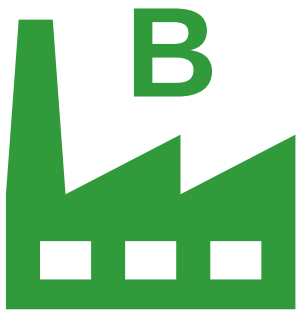
Answer: Last

6. Developing a Roadmap: Example



Company A

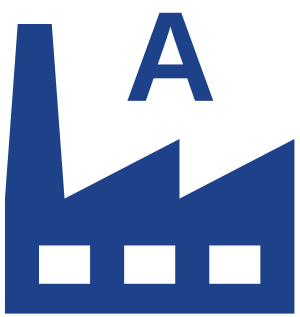
- Inconsistent waste handling and segregation
- Minimal data availability and review
- No Green Team
- 40% waste diversion from landfill
- Poor material segregation
- Company goal to achieve zero waste to landfill by 2030



Company B

- Consistent implementation of key waste procedures
- Has a Green Team
- 80% diversion from landfill
- Challenges with resource efficiency
- Company goal to reduce waste intensity by 20% by 2030

6. Developing a Roadmap: Example



Ongoing

Track Waste Data and Material Efficiency

☑ Improve waste tracking
- Increase consistency and detail
- Improve verification process

Create a Green Team

☑ Empower employees to participate in waste diversion efforts

☑ Create clear organizational chart with defined responsibilities

Onsite Waste Diversion Evaluation

☑ Conduct an onsite review of current waste handling, sorting, and diversion

☑ Determine key areas of improvement

July 2025

Process Evaluation

☑ Evaluate processes to determine improvements to reduce waste generated

☑ Install new equipment to reduce waste, where feasible

December 2025

Waste Collection

☑ Evaluate buildings individually for divertible streams

☑ Establish collection for divertible materials

☑ Ensure appropriate bins are available for streams generated in an area

Waste Segregation

☑ Utilize contestant bin colors and sizes for waste streams

☑ Ensure clear labeling on waste containers

☑ Place bins in consistent locations

Recycling Program

☑ Contract with a waste hauler

☑ Segregate recyclable materials

☑ Purchase compactor for cardboard

Source Reduction

☑ Encourage employees to bring reusable containers

☑ Implement reusable/recyclable materials in lieu of single-use materials

☑ Purchase materials in bulk

January 2026

Employee Training

☑ Communicate onsite changes with employees

☑ Establish expectations

☑ Be transparent with company goals and progress

March 2026

Contractor Training

☑ Include waste diversion best practices and expectations

☑ Implement visuals of waste collections signage, bins, and collection areas

☑ Have contractors provide a list of anticipated waste streams ahead of arrival onsite

December 2026

Waste to Energy

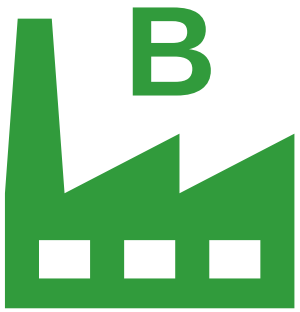
☑ Divert all remaining landfill waste through waste to energy

July 2027

Certify as

ZERO WASTE TO LANDFILL!

6. Developing a Roadmap: Example



May 2025

Evaluate Waste Data and Material Efficiency

☑ Determine which areas generate the most production waste

☑ Evaluate highest cost waste streams

Onsite Waste Minimization Evaluation

☑ Conduct an onsite review of current waste generation

☑ Determine key areas of improvement

June 2025

Process Evaluation

☑ Evaluate processes to determine improvements to reduce waste generated

☑ Install new equipment to reduce waste, where feasible

Collaboration Between Business Groups

☑ Where product design is a source of waste, collaborate with R&D, Quality, and Product Design teams on waste minimization projects

August 2025

Waste Vendor Identification

☑ Contract with waste vendors for hard-to-manage waste streams

Production Scrap

☑ Implement new conveyor with trays and higher guards along with segregated bins to capture production waste

☑ Implement a regrind/remelt system

☑ Send production scrap to another company for use in their product

December 2025

Raw Material Reduction

☑ Implement measurable standard for use

☑ Utilize feed material for line restarts

☑ Increase quality checks to reduce reworking

Source Reduction

☑ Encourage employees to bring reusable containers

☑ Implement reusable/recyclable materials in lieu of single-use materials

☑ Purchase materials in bulk

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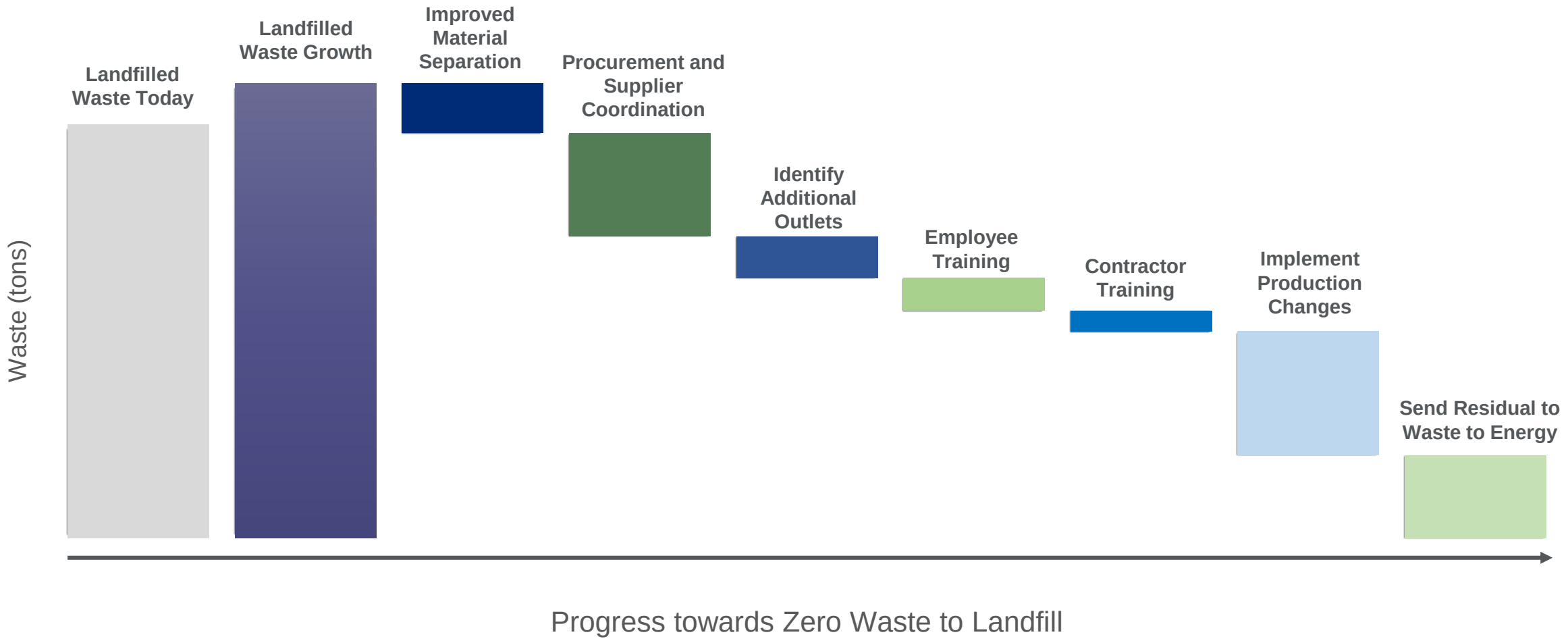
July 2027

Certify as

ZERO WASTE TO LANDFILL!

Quantify WASTE INTENSITY reduction!

6. Developing a Roadmap: Example



Question: What are some steps that would need to be included in your roadmap to zero-waste to landfill?

Please type your responses in the chat

6. Review Program Regularly

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5. Review Program

Engage in regular program review, including considerations such as:

- Which personnel were not involved that are needed?
- What data is not available but is necessary?
- What is the progress towards our goals?
  - Are there issues? What are they?
- What is the plan after the current project is complete?
- Will next year's focus be the same as this year?
- What has been the response to the changes?
  - Is production flow being interrupted?
  - Are employees disgruntled with the changes?
  - Are the results as good as anticipated?

Image Source

Greenwashing

Question: What does greenwashing mean to you or your company?

Please type your answer in the chat

What is Greenwashing?

When talking about your waste diversion achievements, it's important to avoid **greenwashing**.

- **Greenwashing:** a form of misinformation often used to entice a green consumer
- Types of greenwashing
  - Misleading labeling which lacks specific information
  - Use of general, non-specific terms such as "sustainable" which are not verifiable
  - Picking data to highlight green practices while hiding harmful ones
  - Unsubstantiated claims
    - Example: labeling a trash bag as recyclable

Identifying and Avoiding Greenwashing

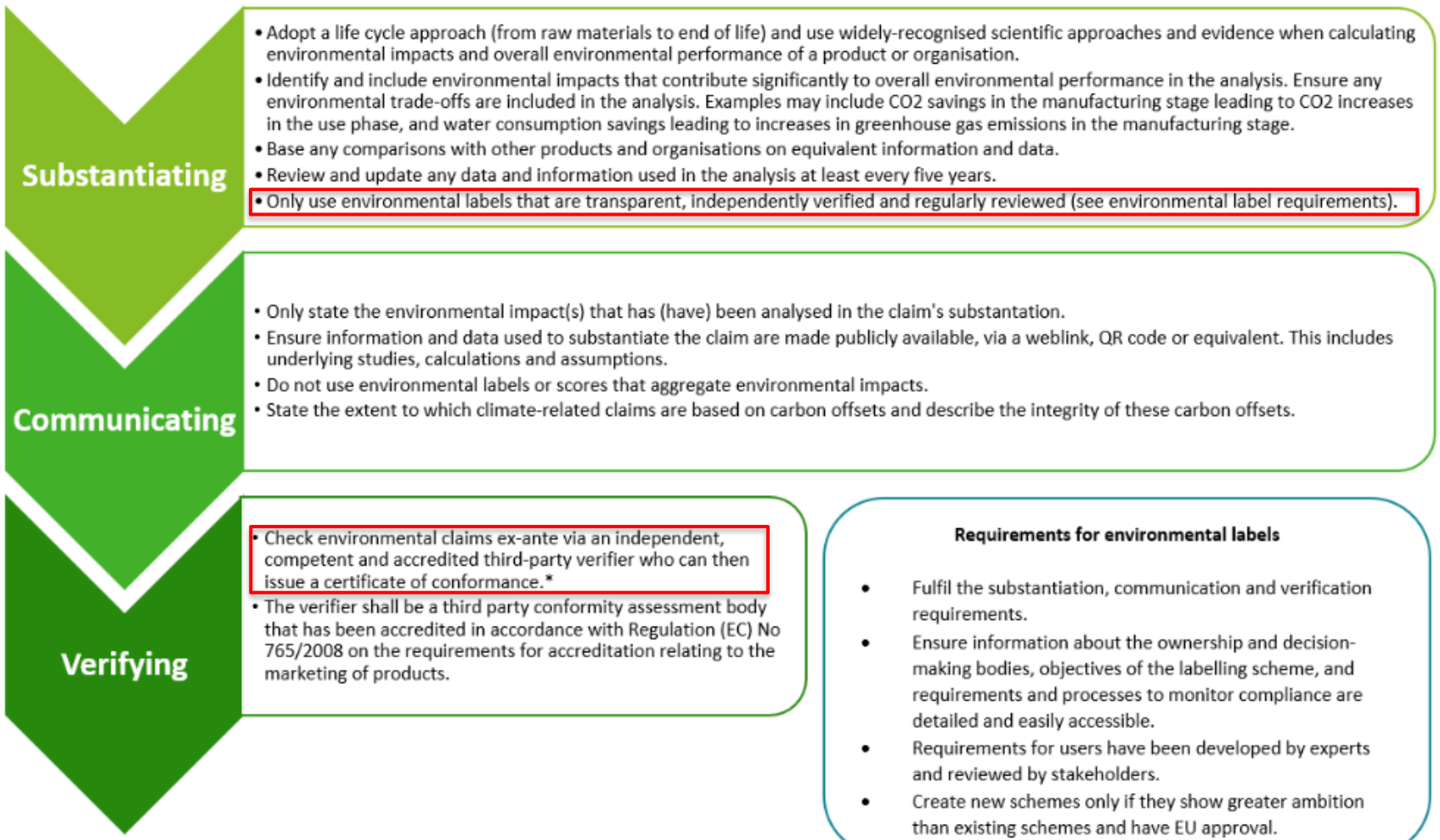
- Marketers of green products typically offer specific and detailed information
- The Federal Trade Commission (FTC) offers guidelines to differentiate green from greenwashed products
  - Claims should specify what part of the product they pertain to; whether it be the product, packaging, or a portion of either
  - Claims should not overstate an environmental benefit intentionally or by implication
  - If a claim is made in reference to a competitor, the claim should be verified
- California
  - Since 2012 has restricted the use of certain ESG terms on plastic products

Legislation Addressing Greenwashing

- EU Green Claims Directive
  - Proposed set of detailed rules regarding the marketing of company's environmental impacts and performance
    - Not yet in effect, estimated to take effect in the next few years
  - Rules would focus on voluntary claims and not mandatory
    - Mandatory claims would fall under already existing regulation
  - Directive is expected to apply to most companies including small and medium enterprises
    - Companies with less than ten employees or under €2 million in annual revenue would be exempt
  - Key notes:
    - Assessments regarding environmental claims need to consider life-cycle impacts of the product
    - Sustainability labels without third-party verification are prohibited

Legislation Addressing Greenwashing

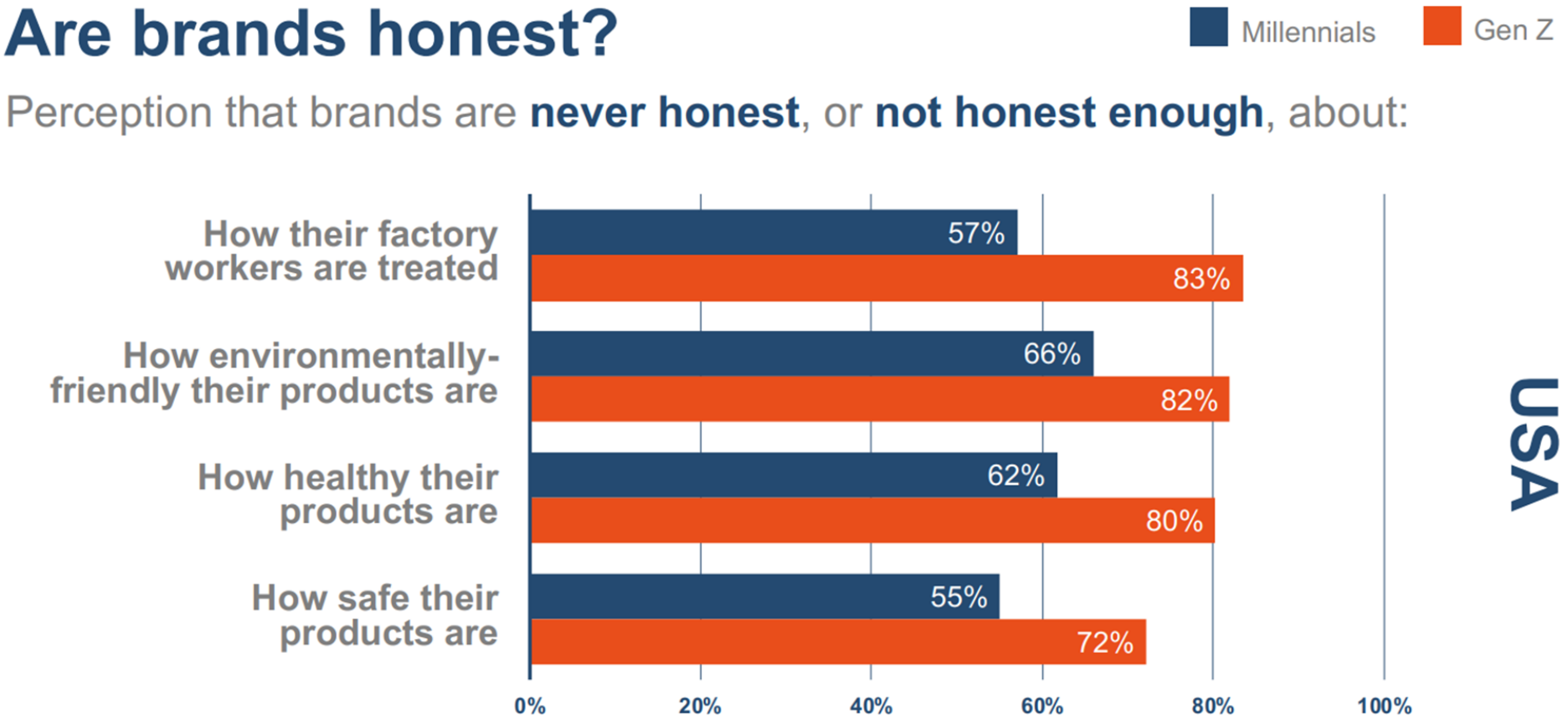
Complying with EU Green Claims Directive



Deloitte Source

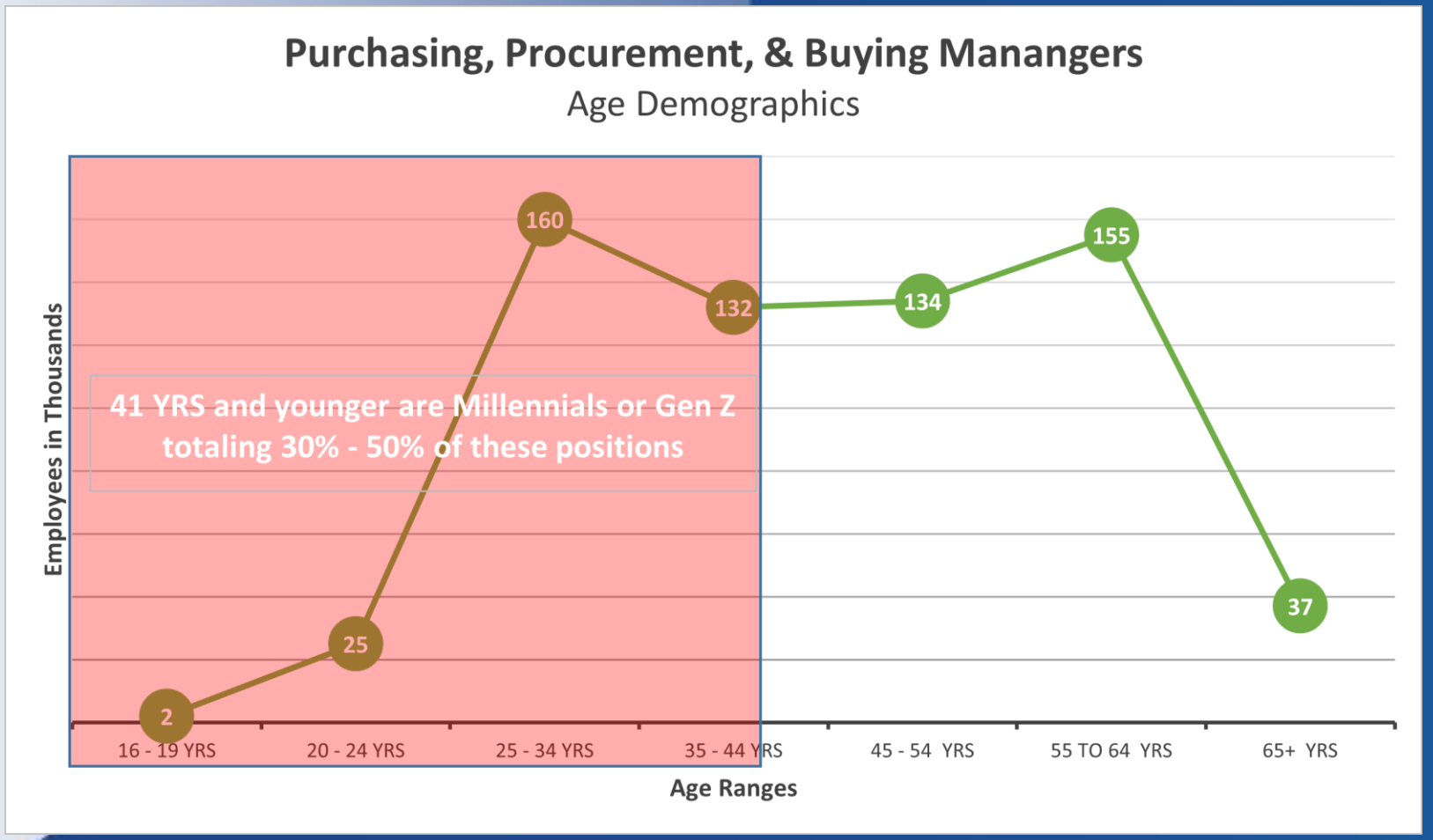
Greenwashing makes the marketplace hard to navigate, and makes consumers question brand integrity

Are brands honest?



Source

Source: Futerra consumer research, June 2019. Respondents: 615 consumers in US.



Age Demographics in Purchasing

- *2021*
- *U.S. Bureau of Labor Statistics*

www.bls.gov/cps/cpsaat11b.htm

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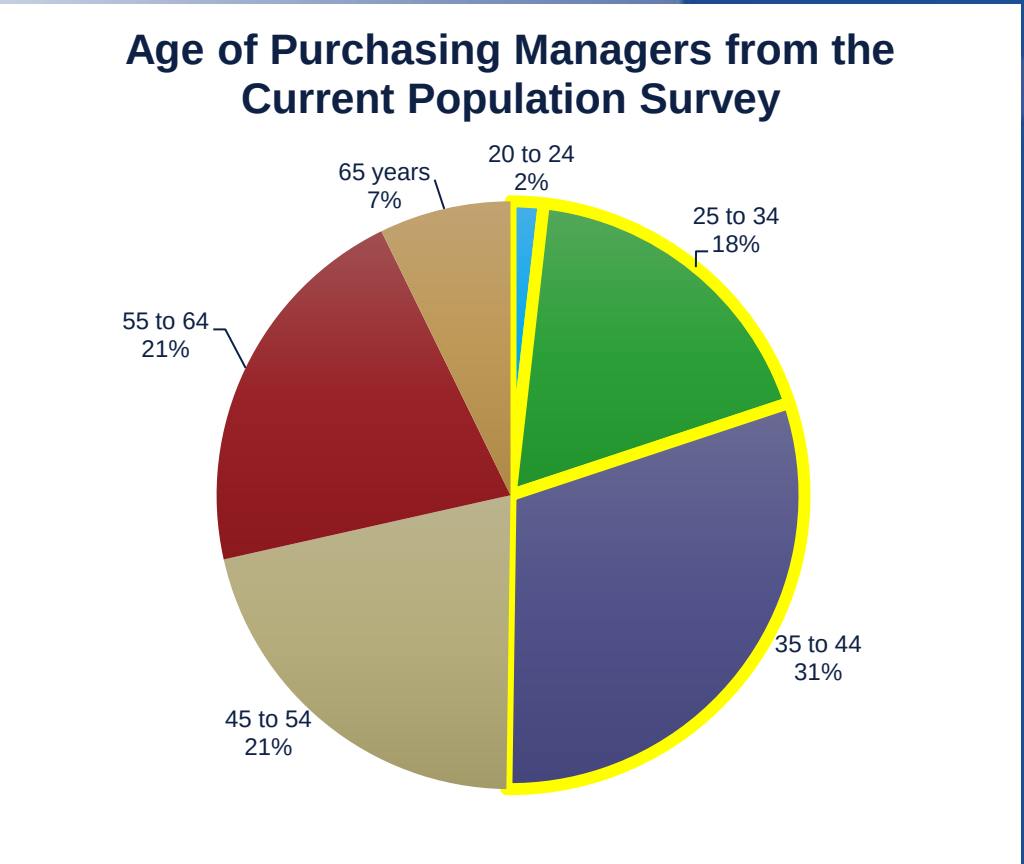

44 years and younger are Millennials or Gen Z, **totaling 50% of these positions**

Labor Force Statistics from the Current Population Survey

- *2024*
- *U.S. Bureau of Labor Statistics*

https://www.bls.gov/cps/cpsaat11b.htm

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Question: What do you think brands can do to avoid greenwashing?

Please type your answer in the chat

Answer: Third-party verification

Third-Party Verification

Shelton Group Report

- September 30, 2020

- *Certifications matter more than ever, and brands should be promoting them*

- About **a quarter of Americans**, in fact, can name a brand – unaided – that **they've purchased or not purchased because of the environmental record of the manufacturer**. Which begs the question: how do they know a product is green?
  - **Eighty-seven percent of Americans say green certifications are important** when purchasing a product. So, certifications should be used as a way to validate a brand's green claims.
  - But it's not just about influencing purchases; **certifications build trust.**
    - Certifications on packaging/labels engender **more trust than a brand's advertising or press.**
- The moral of the story for brands is that you should **use third-party certifications** and once you're using them, you **should promote them and leverage their trustworthiness** to communicate your green product story. This starts on pack. Don't just put the third-party certification logo on your package, **tell the story of why it's there.**

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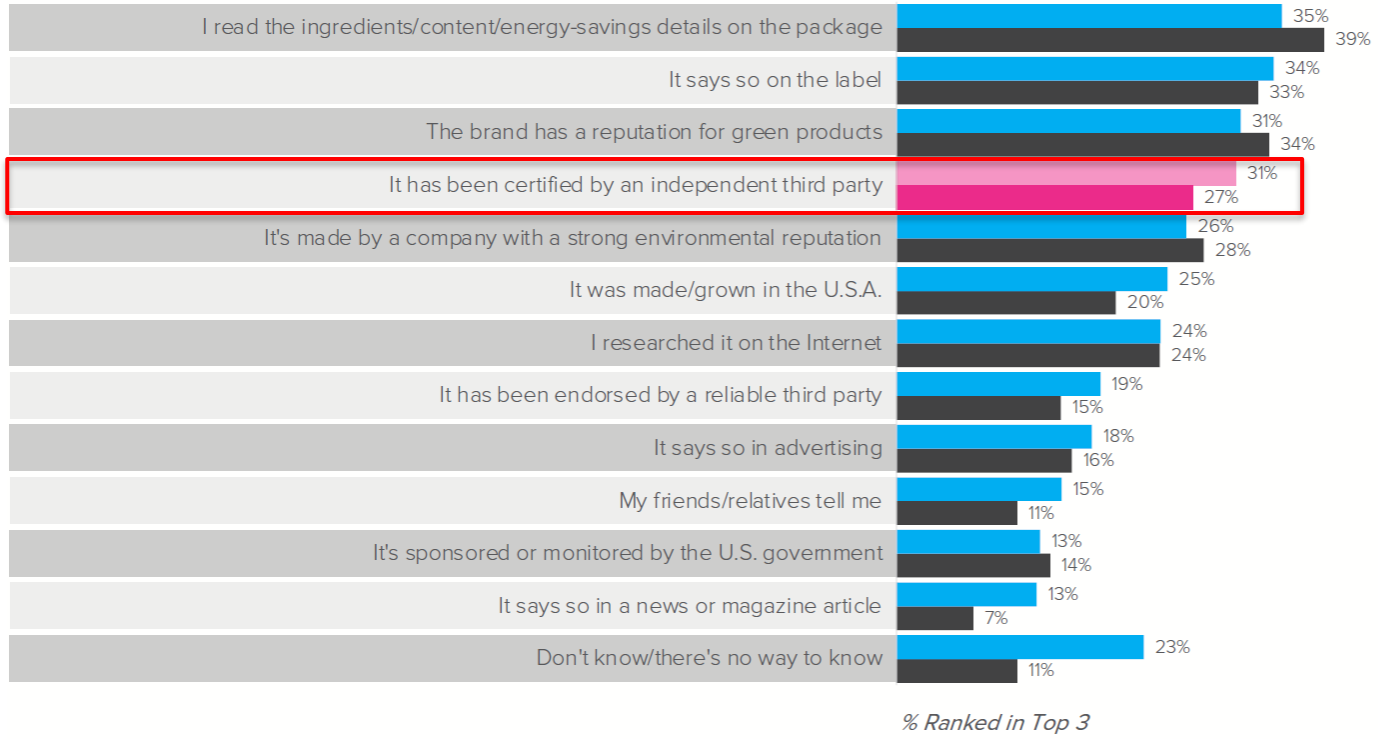
Importance of Third-Party Verification to Consumers

Third-party certifications are rising in importance as a top way consumers discover if a brand is green.



Source: Eco Pulse® Wave 12 2020 and Eco Pulse® 2014
How do you know that a product is green? % Ranked in Top Three
2020 n=1,007; 2014 n=2,015

Source

Why Verify?

- Verification has several benefits including but not limited to:
  - Competitive advantage for marketing and sales efforts
  - Attractiveness to customers through transparency about sustainability efforts
  - Assisting to identify areas of improvement
  - Mitigation of risk towards greenwashing sanctions

Value of Certification


To achieve a recycling rate of 99.9% for the domestic sites' waste by 2030, Samsung Electronics' DS Division conducts various activities such as recycling waste, developing recycling technologies, and minimizing the use of disposable products. We aim to achieve the Platinum-grade Zero Waste to Landfill validation for all manufacturing sites by 2025.

Zero Waste to Landfill

Validated across all global facilities by 2025


MEDIA RELEASE – THURSDAY, APRIL 21, 2022

Alcon is the First Healthcare Company to Achieve GreenCircle Certification for Zero Waste to Landfill Manufacturing Facilities


Certified Sustainability Facts™

Company: CURRIES, an ASSA ABLOY Group brand
Product: CURRIES 747 Series Hollow Metal Door Fiberglass Flush
Facility Location: Mason City, IA
Manufacturing Specific[4]**:**

Carbon Emissions Reduction[5]	12%
Energy Usage Reduction	6%
Water Usage Reduction	34%
Waste to Landfill Reduction	57%
Total Waste Reduction	13%
Waste Diversion from Landfill[6]	98%

Company-level

Once zero waste to landfill across operations, confidently publicize this achievement with third-party backing.

[Samsung]

Site-level

Highlight the impact of a site's waste minimization efforts through publication online or in corporate sustainability reporting.

[Alcon]

Product-level

Speak to consumers directly by publicizing zero-waste to landfill on a product or brand level.

[ASSA ABLOY CURRIES]

Sustainable Procurement

- Companies are putting certain criteria into their procurement evaluation process, and this could include
  - Third-party certifications
  - Sustainability initiatives onsite

Sustainable Procurement

LEED V5

	Optimized Product Impact Areas (Multi-Attribute Score)				
A	B	C	D	E	F
Eligible Product Documentation	Climate Health	Human Health	Ecosystem Health	Social Health & Equity	Circular Economy
GreenCircle Closed-Loop certified					2
TRUE Zero Waste manufacturer					1

amazon

Discover products with sustainability certifications

Climate Pledge Friendly helps you discover and shop for more sustainable products. We partnered with trusted third-party certifications and created our own certification, Compact by Design, to highlight products that meet sustainability standards.

Waste Diversion Claims

- When stating a waste diversion claim, it is important to state what is included in the claim along with the verifying body.
- Example:
  - Company name verifies that Oak Ridge National Laboratory has diverted 75% of non-hazardous from landfill. This diversion rate does not account for hazardous materials which require specific treatment per federal regulations. Hazardous materials falling under this stipulation represent less than 2% of total waste handled onsite.
    - Note that certifications themselves may not disclose this amount of detail, but a company or site should consider disclosing relevant information

Third-Party Verifiers

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Third-Party Verifiers – Certification Comparison

UL Solutions

Landfill Waste Diversion and Zero Waste to Landfill Environmental Claim Validation

TRUE

TRUE Certification

GreenCircle CERTIFIED – A SUSTAINABLE SOLUTION – ZERO WASTE TO LANDFILL®

Waste Diversion from Landfill, Zero Waste to Landfill Certification, and Waste System Audit

SCSglobal SERVICES – Setting the standard for sustainability

SCS Zero Waste Certification

About UL Solutions

Empowers businesses to transform their environmental stewardship into true market leadership.

UL Solutions

- Services include testing, inspection, certification, and advising
- Offers certification of facilities, personnel, processes, products, and systems to applicable standards

UL Solutions Waste Diversion Certification

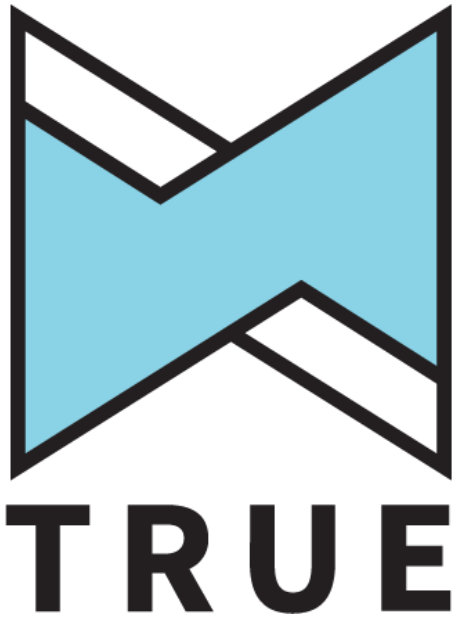
Landfill Waste Diversion Validation

- Four claim validations:
  - Energy production via incineration
  - Reuse
  - Recycling
  - Composting

Zero Waste to Landfill Environmental Claim Validation

- Certification level determined by percent diversion from landfill by methods other than waste to energy
  - **Silver** (90-94%)
  - **Gold** (95-99%)
  - **Platinum** (100%)
- Listed in UL's SPOT Sustainable Product Database

About TRUE



Used by facilities to define, pursue and achieve their zero waste goals, cutting their carbon footprint and supporting public health.

TRUE

- Administered by Green Business Certification Inc. (GBCI)
- **T**otal **R**esource **U**se and **E**fficiency zero-waste certification program
- Applies to physical facilities and operations

TRUE Certification

Certification Levels

Certified: 31-37 points **Silver:** 38-45 points **Gold:** 46-63 points **Platinum:** 64-81 points

Overview of Categories & Points

Redesign	4	Leadership	6
Reduce	7	Training	8
Reuse	7	Zero Waste Analysis	5
Compost (Re-earth)	7	Upstream Management	4
Recycle	3	Hazardous Waste Prevention	5
Zero Waste Reporting	4	Closed Loop System	4
Diversion (Min 90%)	5	Innovation	3
Zero Waste Purchasing	9	**Total Points**	**81**

August 2021 TRUE Guide to Certification

- Certification level determined by rating system
- Requires 90% diversion from landfill for minimum certification
- Valid for three years

About GreenCircle Certified (GCC)

Established to be a credible, scientifically based third-party certification body.

GreenCircleCertified

- Created after repeatedly finding products labeled with false and misleading environmental claims
- Certifications of products and operations
- Offers marketing and education support

GCC Waste Diversion Certifications

- Waste Diversion from Landfill, Zero Waste to Landfill Certifications, and Waste System Audit
- Only up to 2% of total waste can be residual that is sent to landfill or incineration
  - 98% diversion required for zero-waste to landfill certification
- Process requirements include:
  - Site visit to facility and local waste management organizations
  - Communication with every waste outlet

About SCS Global

Strives to advance sustainable development goals through independent assessment, the application of sound science, and innovative solutions.

SCS Global Services

- Services include certification, training, and consulting
- Industries include natural resources, built environment, food and agriculture, consumer products and climate

SCS Zero Waste Program

- 50% diversion to be qualified for Zero Waste program
- Must meet 99% diversion to be certified as Zero Waste
  - Review of company program documents such as a zero-waste plan, trainings, invoices, etc.
  - Conducts onsite/virtual audit
- Offers additional certifications for projects and events

Comparison of Zero-Waste Certifications

	UL Solutions	TRUE	GCC	SCS Global
Certification Levels	Silver, Gold, Platinum	Certified, Silver, Gold, Platinum	Zero Waste	Zero Waste
Determined By	Percent diversion	Rating system	Percent diversion	Percent diversion
Percent Diversion for Minimum Zero Waste Certification	90%	90%	98%	99%
Waste Exclusions	None	Hazardous and liquid waste	None	None
Common Industries	Primarily technology, followed by general manufacturing	Buildings such as offices, retail stores, etc.	Manufacturing – building products, pharmaceutical, and consumer products	Building products, still growing as a service

Closing Remarks

Closing Remarks

- Summary
  - Overview of the necessary steps for implementing a waste diversion program
  - How to prioritize waste reduction opportunities
  - How to develop a zero-waste to landfill program
  - Why third-party verification is important
- Homework!
- Next training:
  - Conclusions, Summaries, and Wrap up Presentations
  - April 8, 2025

Homework Review

Assignment

1. After learning about developing a roadmap to zero waste to landfill, are there any steps that stand out as areas of necessary improvement for your site and/or company? If so, what are they?
2. What kinds of actions items need to take place to achieve the steps identified in Question 1?
3. For the action items identified in Question 2, what parties need to be involved to fulfill them? Align necessary parties with action items and steps to zero waste to landfill.
4. Does your company have a Green Team or similar? If not, what individuals would likely need to be included to make one? If there already is a team, what facility roles are included on the team?

Goal

- For a participant to identify future steps for improving waste minimization and diversion.
- To have a participant begin to think about which individuals or groups will need to be involved in future efforts.

Homework Overview

- Homework will:
  - Engage participants in the topics to be discussed in the following session
  - Serve as a guide for waste diversion and minimization
- If a homework is completed, please send to presenter, Nick, at nick@sustainablesolutionscorporation.com
  - Please use the subject “Better Plants Session # Homework: Complete – Company Name”
  - Participants will be asked to share their learnings and experiences in session 8, and if you would like to participate in this, please reach out to Nick

Kahoot!

Q&A