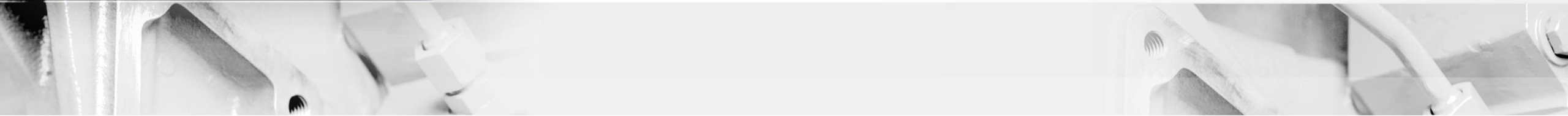


CUMMINS

Cummins Circular Economy



Rafa Spear

Director ReCon[®] Core Operations

September 2024

Cummins Public

#ZEROWASTE

This is Cummins



ELECTRIFIED
POWER



Engine



Power
Systems



Components



Distribution



Accelera™ by
Cummins



FUEL CELL &
HYDROGEN
TECHNOLOGIES

190 Countries and territories*

75,500 Global employees

105 Years of industry leadership

19,000 Cummins certified dealer locations

\$1.4B Invested in research and development in 2023

Consistent commitment throughout history



“...we believe that our survival in **the very long run** is as dependent upon responsible citizenship in our communities and in the society as it is in responsible technological, financial and production performance.”

— **J. Irwin Miller**
Former Chairman and Chief Executive Officer, 1972



“Together, we will leverage our expertise to develop sustainable solutions that enable our customers’ success, positively impact our communities and protect our planet for future generations.”

— **Jennifer Rumsey**
Chair and Chief Executive Officer

The trends are compelling.. It is time to Act!

More than 90% of the world's children breathe toxic air every day.

Extreme weather events have increased more than 5x over same number of decades. Cost of extreme events have increased 8x.

About 4 billion people (two-thirds of the world's population) experience severe water scarcity during at least one month of the year.

1.4 billion pounds of trash wind up in the world's oceans. Plastic expected to outweigh fish in oceans by 2050.

Material consumption has **TRIPLED** since 1970 and is predicted to increase by 55% in the next decade and **DOUBLE** by 2050.

Making people's lives better by powering a more prosperous world *requires a healthier planet.*



focuses on 5 risks that will impact our business and our stakeholders in the future.

- 1) Air pollution
- 2) Climate change
- 3) Water scarcity
- 4) Waste management
- 5) Unsustainable material consumption

CUMMINS' 2050 ASPIRATIONAL TARGETS

DOING OUR PART TO ADDRESS CLIMATE CHANGE AND AIR EMISSIONS

2050 TARGETS:

- Customer success is powered by carbon neutral technologies that address air quality.
- Carbon neutrality and near zero pollution in Cummins' facilities and operations.

COMMUNITIES ARE BETTER BECAUSE WE ARE THERE

2050 TARGETS:

- Net positive impact in every community where Cummins operates.
- Near zero local site environmental footprint.
- Reuse water and return clean to the community.

USING NATURAL RESOURCES IN THE MOST SUSTAINABLE WAY

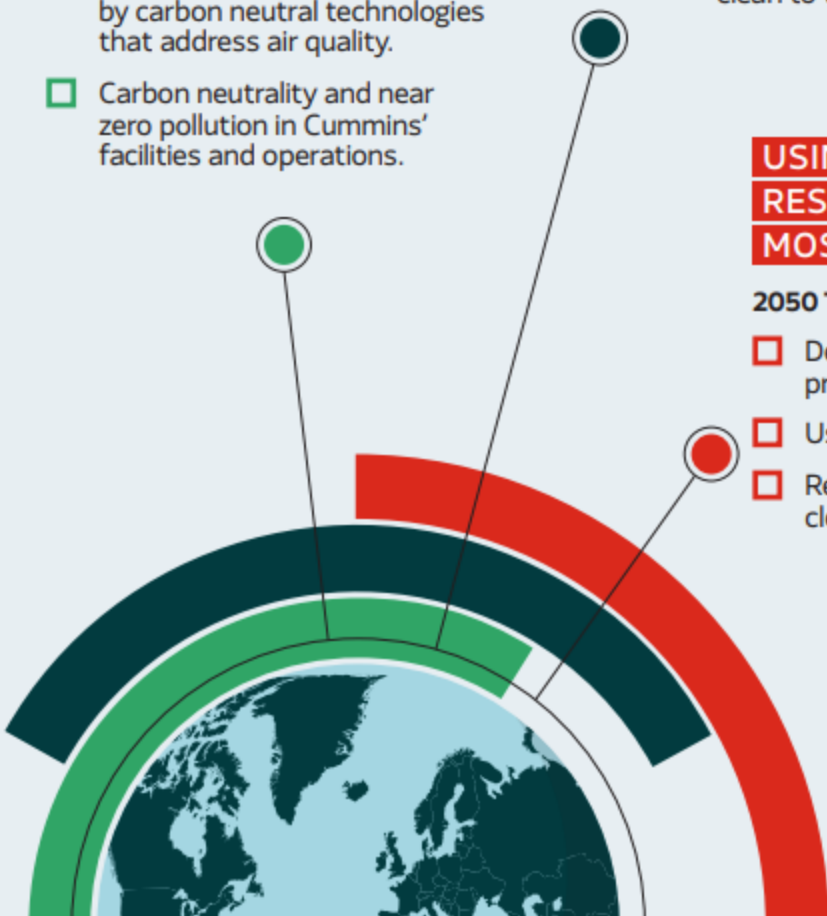
2050 TARGETS:

- Design out waste in products and processes.
- Use materials again for next life.
- Reuse water and return clean to the community.

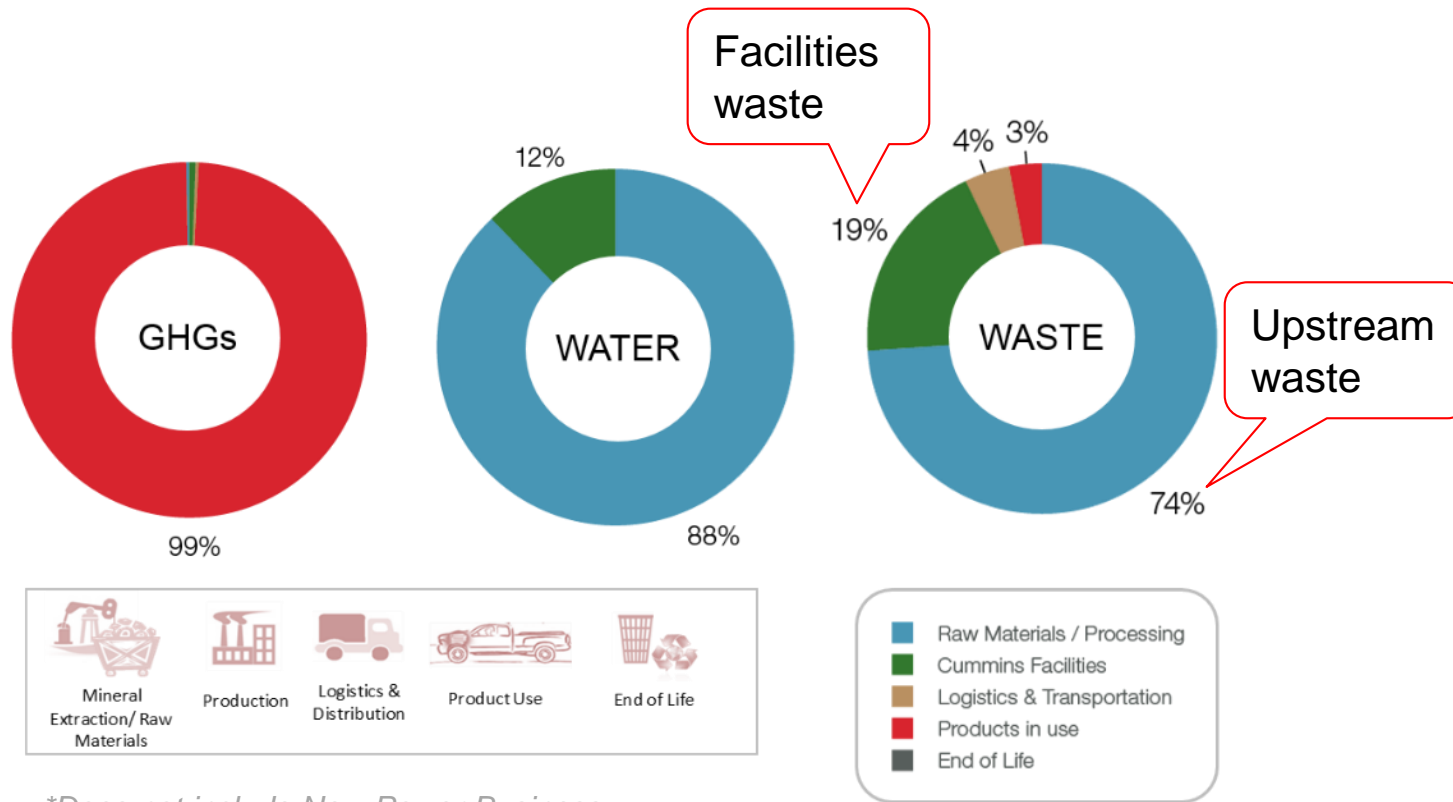
NOTE: Company facilities include all consolidated operations and joint ventures that are part of the Cummins Enterprise Environmental Management System.

NINE 2030 GOALS

SCIENCE-BASED TARGETS	1	Reduce absolute greenhouse gas (GHG) emissions from facilities and operations by 50%.
	2	Reduce Scope 3 absolute lifetime GHG emissions from newly sold products by 25%.
	3	Partner with customers to reduce Scope 3 GHG emissions from products in the field by 55 million metric tons.
	4	Reduce emissions of volatile organic compounds from paint and coating operations by 50%.
CIRCULAR ECONOMY	5	Create a circular lifecycle plan for every part to use less, use better, use again.
	6	Generate 25% less waste in facilities and operations as a percent of revenue.
	7	Reuse or responsibly recycle 100% of packaging plastics and eliminate single-use plastics in dining facilities, at employee events and as amenities.
	8	Reduce absolute water consumption in facilities and operations by 30%.
	9	Produce net water benefits that exceed Cummins' annual water use in all Cummins regions.



Basis of Cummins Environmental Strategy



**Does not include New Power Business*



Life Cycle Assessment & Hot Spot Analysis to understand Cummins Environmental Footprint

Knowing our impacts for informed strategy

Diesel engine footprint



70%

of the **ENVIRONMENTAL IMPACTS** of a product are determined in the design phase



88%

of Cummins **WATER USE** is from raw material extraction and processing



74%

of Cummins **WASTE** comes from raw material extraction and processing



99%

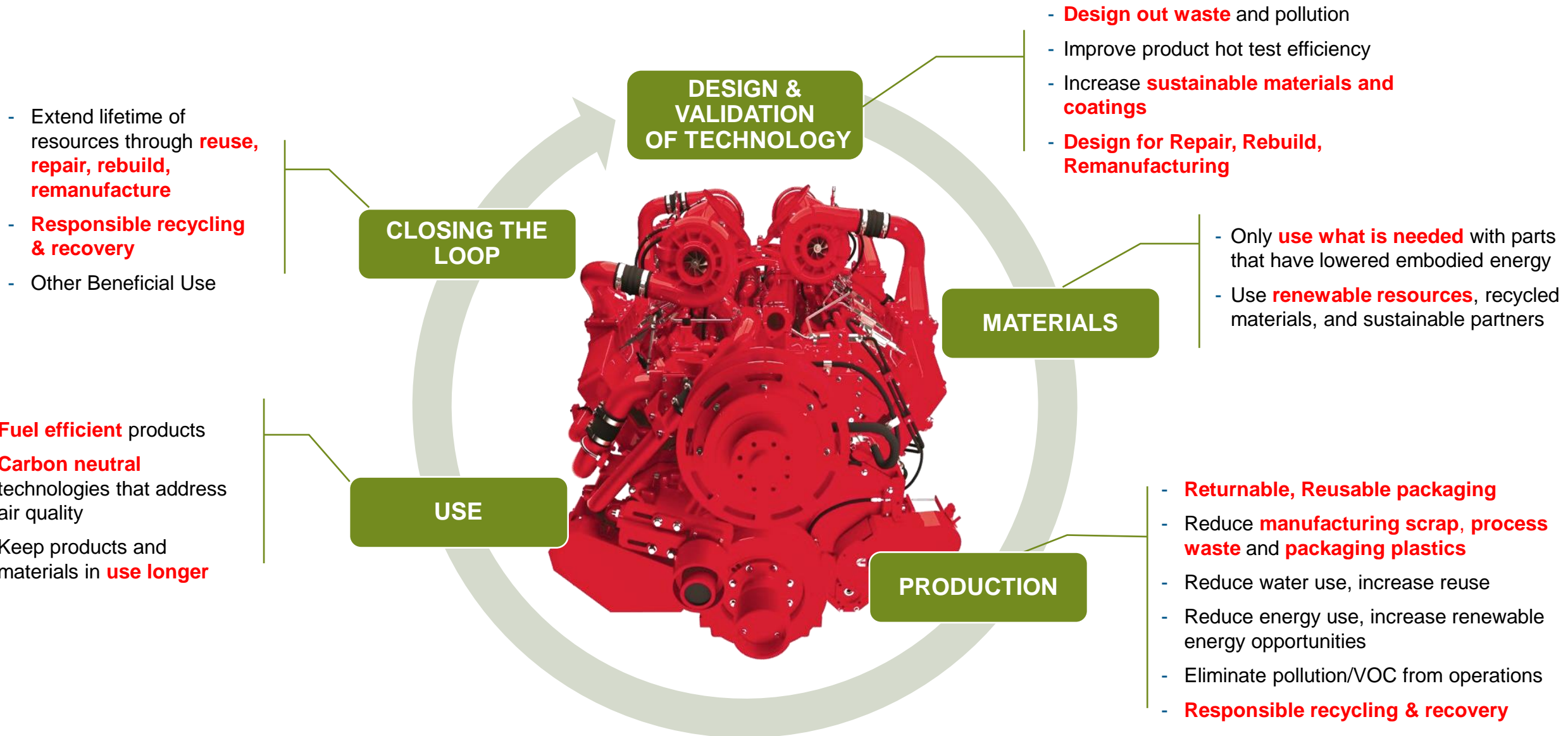
of Cummins **GHG FOOTPRINT** from products in use



We must change the products we offer, how they are used, and how they are made

Use less, Use better, Use again

Cummins Circular Economy Approach



Investing in and advancing lower- and zero-emission technologies



Destination Zero
no-carbon
technologies ready
now and for the future



"Xeroscaping"
reduces water use
at the Distribution
business
headquarters

50+ global sites w/solar arrays



1,000+ facility energy efficiency projects



Returnable Packaging
is expected to
reduce packaging-
related waste an
estimated 84 million
pounds annually

PLANET 2050 aims at “No Material Wasted”

What are we trying to achieve?

2030 Goal



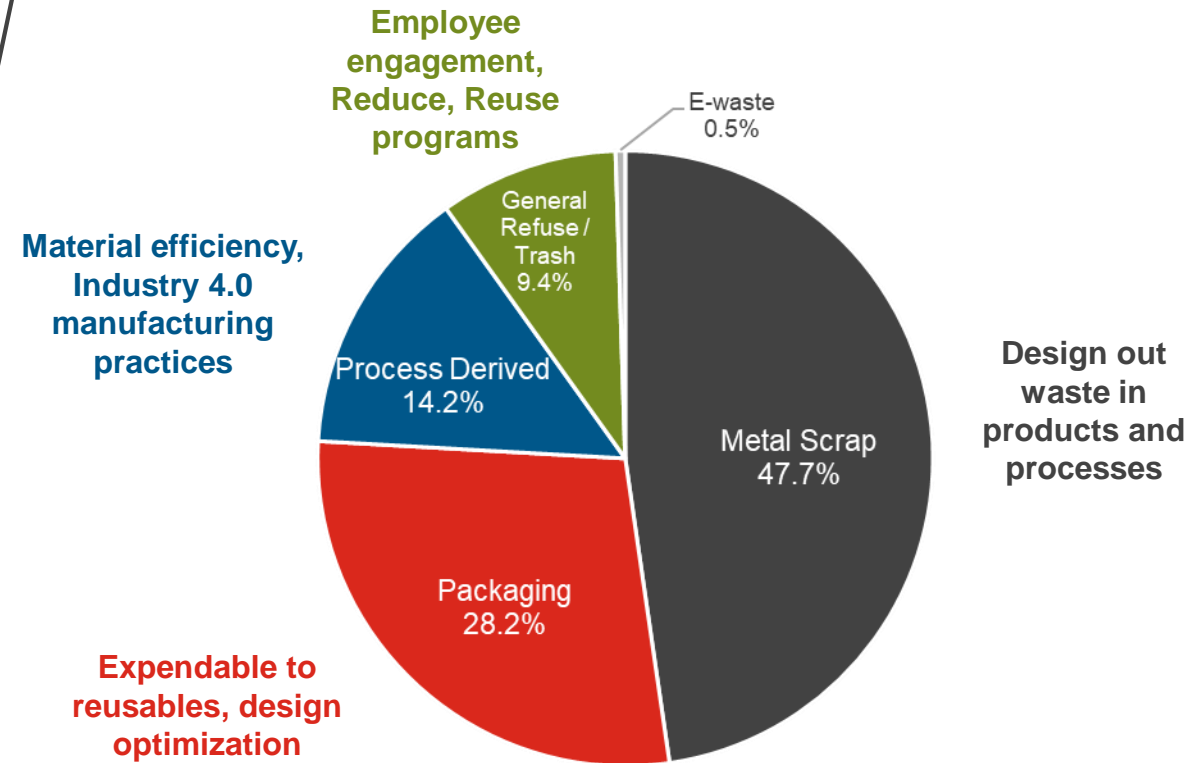
25% WASTE reduction (tons/\$)

2050 Goal



ZEROWASTE

How we plan to achieve it?



Packaging



Key Work Streams:

- 1 Returnable / Reusable Packaging:** Expendable to reusable implementation
- 2 Waste Reduction:** Packaging designs that minimize waste, optimize storage & transport
- 3 Supply Chain Optimization:** Global portfolio approach to prioritize biggest opportunities

Foundational Work / Wins

- Packaging Data Management System (PDMS) implemented
- Global Packaging Standards
- Strengthening packaging repair / reuse, expanding reusables
- Packaging waste assessment at priority sites in progress
- North America returnable packaging portfolio in development



Manufacturing & Service

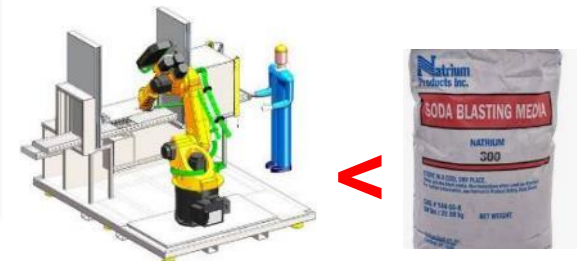


Key Work Streams:

- 1 | Process Improvements
- 2 | Technology Improvements
- 3 | Utilization of Administrative Controls
- 4 | Parts Design: improved salvageability

Foundational Work / Wins

- Ownership of the goals: Manufacturing engineering leadership
- Identifying and prioritizing waste from all manufacturing (new, remanufacturing, rebuild, upfit)
- 3 years process waste reduction plans in development



General Refuse & Single Use Plastics



Key Work Streams:

- 1 Engagement:** A goal for all employees to reduce the everyday trash
- 2 Material Content Selection:** Partner with suppliers on design and material selection
- 3 Single Use Plastic free cafes and amenities**

Foundational Work / Wins

- Foundational recycling programs at many facilities – Kick the Can (KTC), Zero Disposal, Standardized recycling stations, signage
- Dumpster Dives to identify opportunities
- Canteen pilot for no-single use plastics at Seymour Engine Plant
- LCA developed comparing different materials and disposition methods



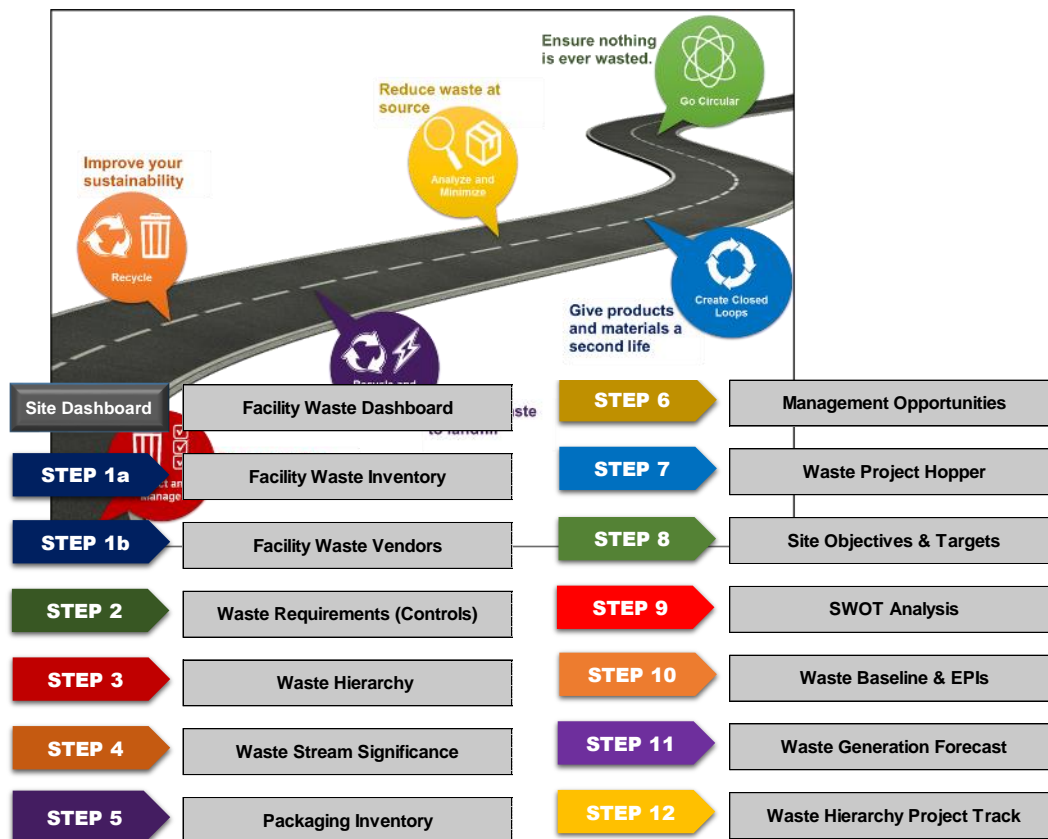
Keys to success

People



Environmental Champions

Tools and Processes



Programs & Initiatives



Globally **Env**olved
Cummins Environmental News

June **Env**ironment Month



Innovation Gateway

Waste Review Tool Overview



Waste Inventory					

Waste Recycled - Further Analysis

Waste Streams	Annual Waste Generated	% of Waste Generated	Can you Influence this Waste Stream to move it up the Waste Management Hierarchy? (Reduce, Reuse).	Take Waste Stream Through to Significance Rating
Cast Iron Solids	200,000	40.4%	Yes	Yes
Corrugated Fiberboard	50,000	10.1%	Yes	Yes

Complete detailed waste inventory
 Include details like area of generation, disposition method, residual management, etc.

Prioritization:		Revision Date:			02-01-17				
Please rate the parameters >>		7	5	10	8	9			
Significance No.	Significant Waste Stream	% of Total Waste Generated	Current Management Method:	Waste Stream Quantity	Associated Waste Cost	Environmental Impact / Hazardous Nature	Ability to Influence - Waste Hierarchy	Regulatory Requirements	Total:
1	General Waste	15.2%	Landfilled	9	9	9	9	3	297
2	Wood	30.3%	Burned for Energy	9	9	3	3	9	243

Identify top streams in waste hierarchy and take them through to score and identify the most significant waste streams

Packaging Waste Reduction Prioritization														
SI No	Part Number	Part Description	Supplier	Source Country	Estimated Annual Packaging Lb	Estimated Annual Packaging Cost \$	Waste Reduction Potential	Supplier historical willingness to work	Savings opportunity	Safety/Ergonomics	Ease of Implementation	Quality	Environment of Waste Regulatory impacts	Total
1														
2														
3														
4														
5														
6														
7														
8														

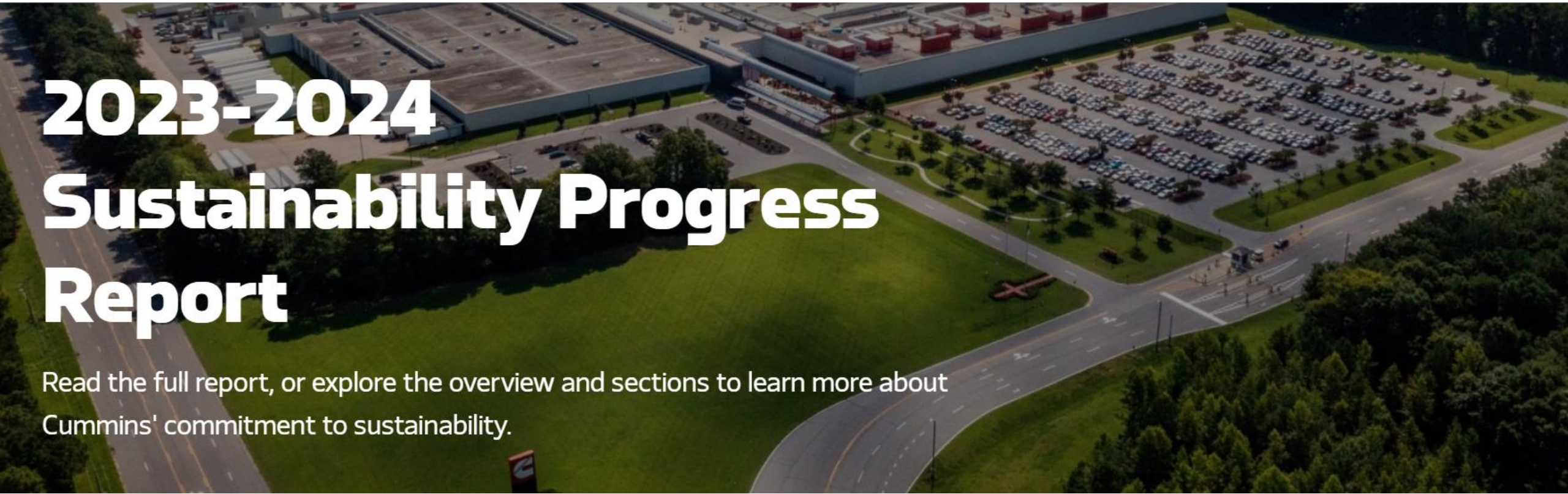
Complete detailed packaging waste assessment at packaging priority sites

Environmental Theme	Project Leader	Project Description	Project Status
Machinery and Equipment		Chip Compactor	5. Implementing
Machinery and Equipment		Paint System "Paint Changeover" reduction	4. RFA Approved
Waste Reduction (Non-packaging)		Filter press improvements for sludge elimination	6. Completed
Recycling Program Improvement (Non-packaging)		Standardised waste segregation infrastructure	6. Completed

Evaluate management opportunities to move waste up the hierarchy and launch projects

2030 Goals at a glance

GOAL 1	GOAL 2	GOAL 3	GOAL 4	GOAL 5	GOAL 6	GOAL 7	GOAL 8	GOAL 9
Reduce absolute greenhouse gas (GHG) emissions from facilities and operations by 50%.	Reduce Scope 3 absolute lifetime GHG emissions from newly sold products by 25%.	Partner with customers to reduce Scope 3 GHG emissions from products in the field by 55 million metric tons.	Reduce emissions of volatile organic compounds from paint and coating operations by 50%.	Create a circular lifecycle plan for every part to use less, use better, use again.	Generate 25% less waste in facilities and operations as a percentage of revenue.	Reuse or responsibly recycle 100% of packaging plastics and eliminate single-use plastics in dining facilities, at employee events and as amenities.	Reduce absolute water consumption in facilities and operations by 30%.	Produce net water benefits that exceed Cummins' annual water use in all Cummins regions.
2023 STATUS	2023 STATUS	2023 STATUS	2023 STATUS	2023 STATUS	2023 STATUS	2023 STATUS	2023 STATUS	2023 STATUS
31%	See narrative	34.4 million metric tons	35%	Phase 1	11.2%	Phase 1	14.7%	3 of 7 regions
PROGRESS	PROGRESS	PROGRESS	PROGRESS	PROGRESS	PROGRESS	PROGRESS	PROGRESS	PROGRESS
<ul style="list-style-type: none"> 24 onsite projects to increase the use of renewable energy 89 facility efficiency projects 55 projects in manufacturing and compressed air improvement projects 	<ul style="list-style-type: none"> Product efficiency and development of new low-carbon products Anticipated energy infrastructure and policy to drive market change lagging 	<ul style="list-style-type: none"> Customized engine parameters Optimized calibration settings Parts upgrades Insights through Cummins' digital platforms to improve fuel economy 	<ul style="list-style-type: none"> Transition to a low VOC water-borne paint Continued process controls and optimization 	<ul style="list-style-type: none"> Introduction of the digital design standard to guide lifecycle planning Implementation plan to establish lifecycle intent when a new part is created 	<ul style="list-style-type: none"> 154 facilities completed waste reduction projects Expansion of the Returnable Packaging Program 	<ul style="list-style-type: none"> Single-use plastic elimination roadmap for dining facilities launched Introduction of new packaging data management system Increased packaging material data collection efforts 	<ul style="list-style-type: none"> 66 facilities implemented water reduction projects Aggressive preventative maintenance programs Tap alternative water sources and re-use water Xeriscape landscape Fire protection system recirculation 	<ul style="list-style-type: none"> 6.9 billion gallons of water in annual water benefits Active in 15 different countries



2023-2024 Sustainability Progress Report

Read the full report, or explore the overview and sections to learn more about Cummins' commitment to sustainability.



