When Goal Setting Gets Tough…

Powering Business Worldwide

Agenda

- Eaton Overview
  - Sustainability Strategy
  - 2030 Sustainability Strategy and Eaton’s performance
- Discuss plant specific strategies
  - Annual Strategic Session
  - Monthly Ops Review (track)
  - Power BI Tracker
  - Energy Audits (ERM, Duke) etc
  - Environmental Ops Review
- Raleigh Areas Achievement
  - Performance, Energy Audits
- Open Discussion to seek feedback from audiences (15-20 min)

Powering Business Worldwide

Welcome!

Ichaya Dhungel KC

EHS Business Regional Manager, Electrical Sector Americas, Asheville NC

Jessica Keith

EHS Manager, Electrical Sector Americas Raleigh NC

Powering Business Worldwide

Who is Eaton?

We are an **intelligent power management** company doing business in more than **170 countries** with annual sales of over **$20.8 billion USD**.

We make what matters work.*

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We make delivering your best work.*

ELECTRICAL

- Power distribution and circuit protection
- Power quality, backup power and energy storage
- Life safety and security
- Structural solutions
- Control and automation
- Harsh and hazardous environments solutions

INDUSTRIAL

- Aerospace
- Filtration
- Vehicle
- eMobility

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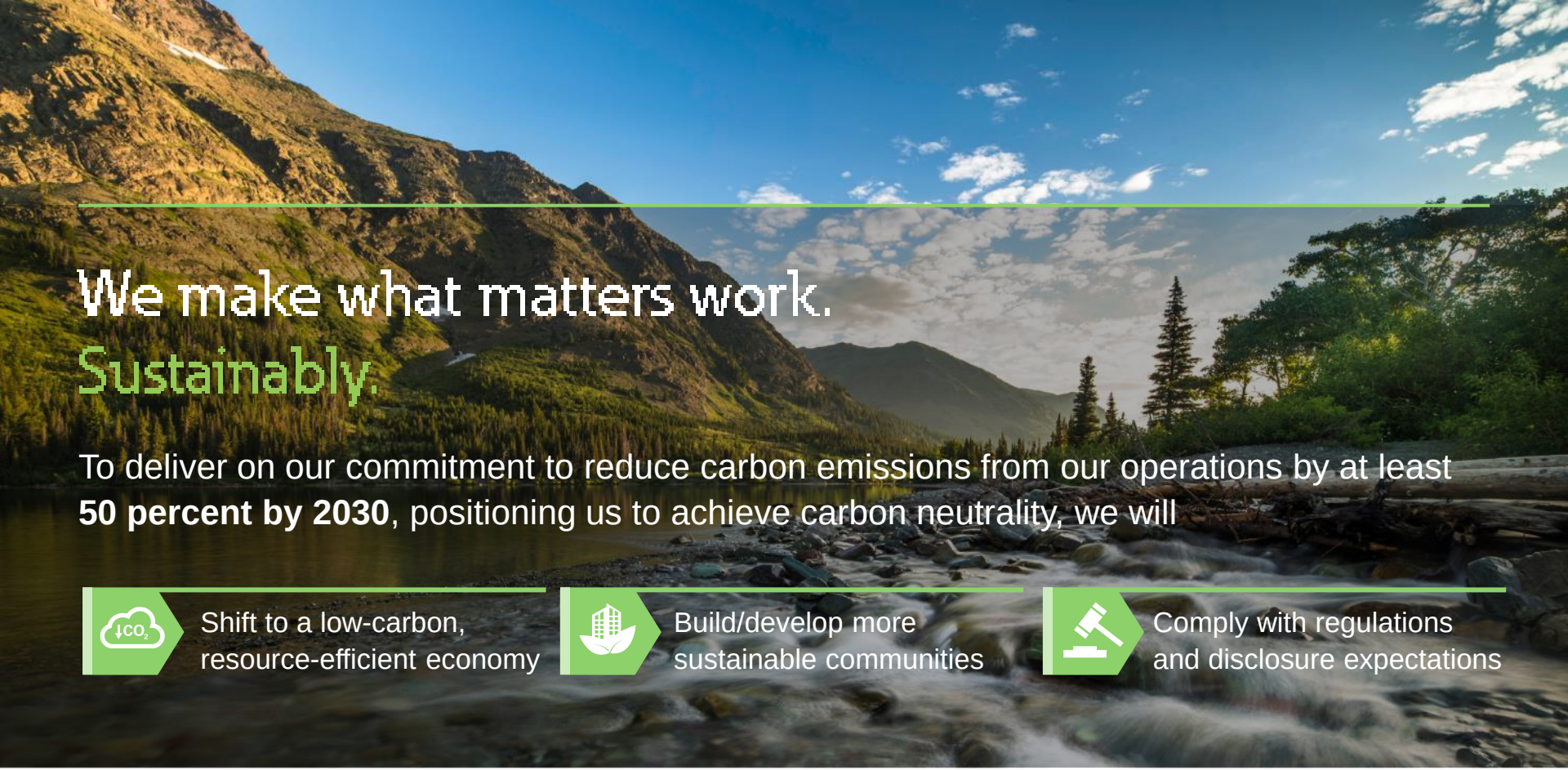

We make what matters work.
Sustainably.

To deliver on our commitment to reduce carbon emissions from our operations by at least **50 percent by 2030**, positioning us to achieve carbon neutrality, we will

- Shift to a low-carbon, resource-efficient economy
- Build/develop more sustainable communities
- Comply with regulations and disclosure expectations

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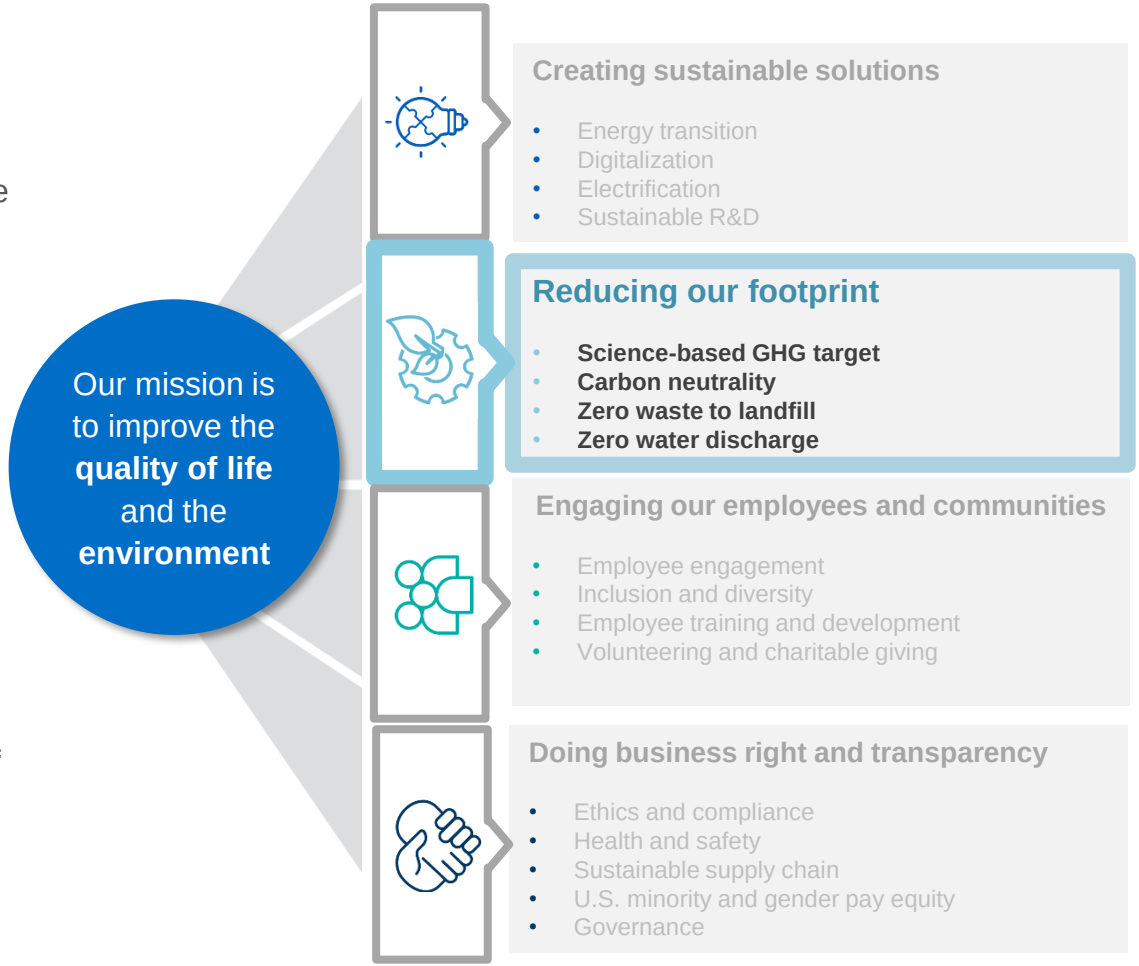
Our sustainability strategy

- The world is experiencing some of the most important secular growth trends that we will see in our lifetime:
  - the explosive rise of **digitalization**
  - the **energy transition** from fossil fuels to renewables
  - unprecedented growth in **electrification**

- **We're responding by deploying our four-part sustainability strategy**, which addresses environmental, social and governance issues.

- It also allows us to **meet today's changing power management needs**, while making good on our mission to **improve the quality of life and the environment.**



Our 2030 sustainability targets

- We're stepping up our commitment to improve the quality of life and the environment.
- Our 2030 targets include reducing the carbon emissions from our operations by half, lowering product and supply chain emissions, certifying all manufacturing sites as zero waste to landfill, and achieving carbon neutral operations.
- We have also set targets to further enhance employee safety, development and engagement, and to provide more transparency into the progress we're making toward achieving our ESG goals.

Reducing our footprint

- At our sites around the globe, we are focused on reducing energy consumption and greening our energy supply. At the same time, we have defined targets to reduce waste and water use.
- We have identified several innovative ways to promote resource use reduction that not only limit emissions and our consumption of resources, but also lower our cost of production.

Our goal is to reduce Scope 1 and 2 emissions by

50%

by 2030 and become carbon neutral

In 2022, we reduced our greenhouse gas emissions by

27%

since 2018

We have reduced our energy consumption by

11%

since 2018

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Creating sustainable solutions

- At Eaton, we power solutions for global change in a world that needs smarter, more efficient and more sustainable power management solutions.
- Companies and communities alike depend on Eaton to solve some of the planet's toughest power management challenges.
- That's a responsibility we take seriously—because we owe it to future generations to leave the world a safer and more sustainable place to live.
- We use our award sinning Positive Impact Framework to drive sustainable innovation.

Our goal is to reduce Scope 3 emissions by

15%

by 2030

Since 2018, we've reduced our Scope 3 greenhouse gas emissions by

23%

In 2022, we reduced the use phase and embodied carbon in new Electrical Sector product designs by

3.9%

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Reducing our footprint:
Emissions and energy use

- In 2022, Eaton **completed ASHRAE Level 2 Energy Audits at 40 major manufacturing locations** to create an updated strategic capital investment program focused on energy efficiency.
- Eaton implemented **103 energy efficiency related capital projects at our manufacturing sites** to reduce energy consumption and greenhouse gas emissions.
- Eaton also **installed new on-site renewable energy at three additional sites in 2022**, bringing Eaton's total number of solar installations to 22 with an annual on-site renewable energy production capacity of 11,170 MWh.
- This represents about **a 7,773 MT reduction in Eaton's Scope 2** greenhouse gas emissions.

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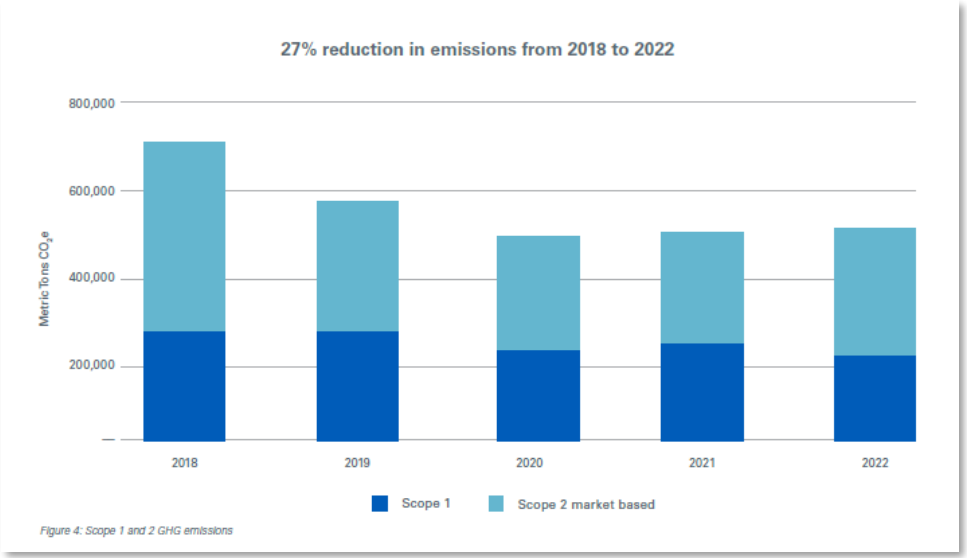

Figure 4: Scope 1 and 2 GHG emissions

Reducing our footprint:
Waste and water

- We continue to make progress on our waste reduction target to reduce total waste bound for landfill by 2% each year—far exceeding this goal, **reducing waste going to landfill by 55% since 2018.**
- In 2022, 95% of our manufacturing waste was diverted from landfills or traditional incineration without energy recovery.
- We have reduced water use in manufacturing by 15% since 2018.
- In 2022, Eaton continued to focus on water reduction and recycling, especially at our sites in regions ranked as high baseline water stress by World Resources Institute's Aqueduct Water Risk Atlas. **This year, Eaton certified nine sites zero water discharge including sites in India, China, Mexico and Morocco.**

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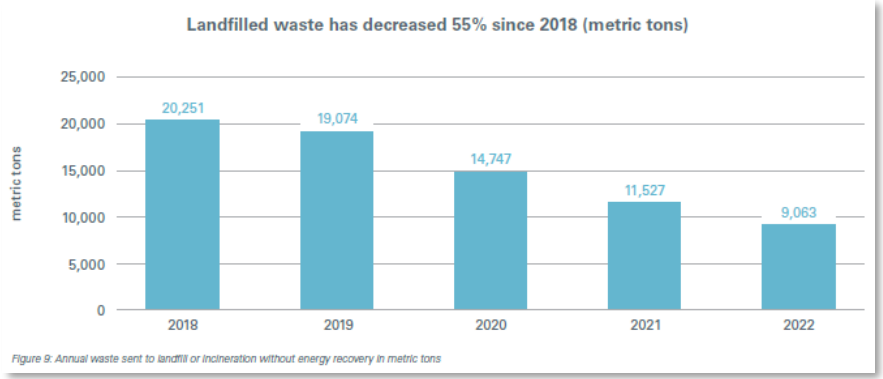

Figure 9: Annual waste sent to landfill or incineration without energy recovery in metric tons

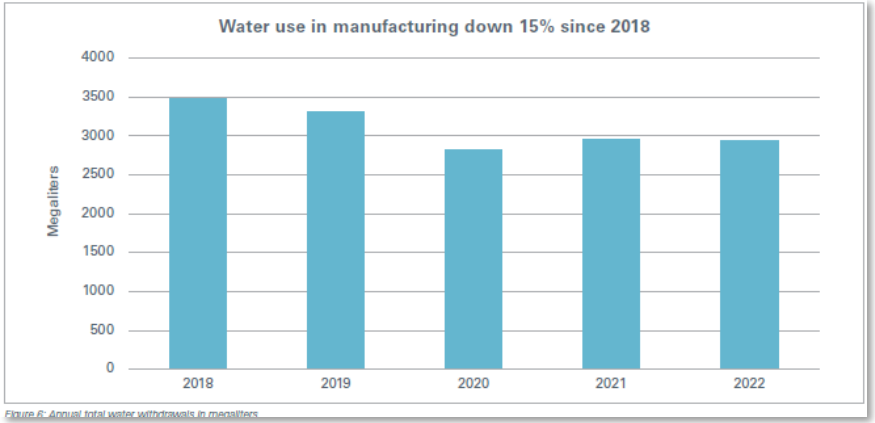

Figure 6: Annual total water withdrawals in megaliters

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EHS Planning:
Inputs to EBS Pull and Profit Planning

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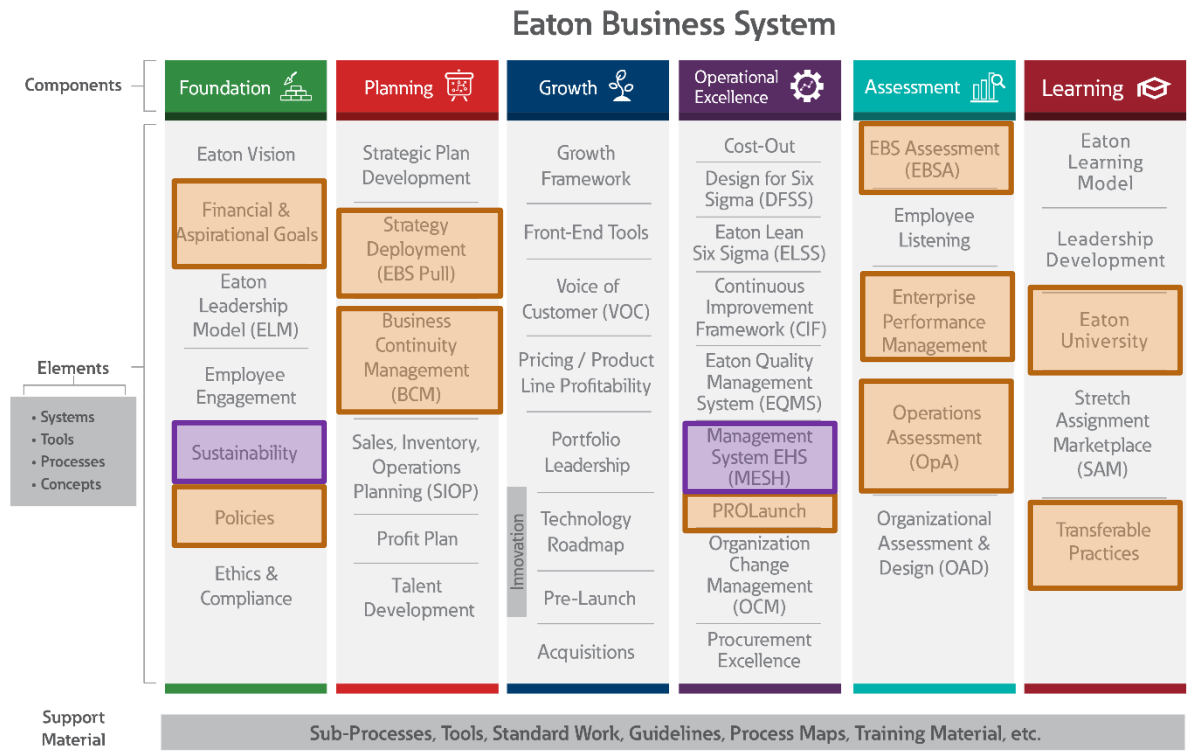
MESH Management System - Planning
Leadership and Commitment



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MESH Management System - Planning
EHS Objectives

The organization must establish a systematic process to define its key EHS Objectives, Action Plans and KPIs. This process must consider the KSI identified through various EHS and business-related inputs.

- Context & Business Objectives
- Risk Assessment
- MESH, ISO, OpA Assessments
- Conpliance Obligations
- Incidents Investigation and CAPA analysis
- Upcoming changes

Key Inputs*

KEY STRATEGIC ISSUES

KEY STRATEGIC OBJECTIVES

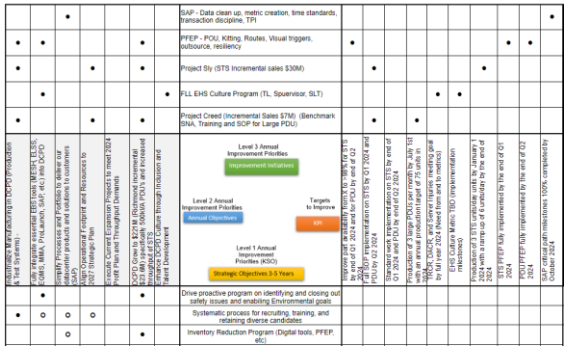
- Action Plan
- KPI – Leading & Lagging
- Training & Comunication

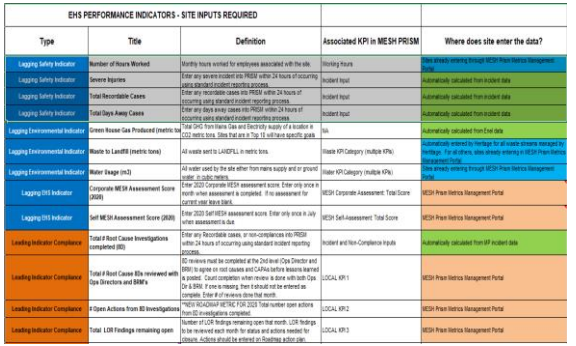
EBS Pull - Structured prioritization analysis to evaluate each project and identify the **critical few projects that will create the greatest impact**

*To see all required inputs to the Management Review, refer to the Management System Element Summary in JOE

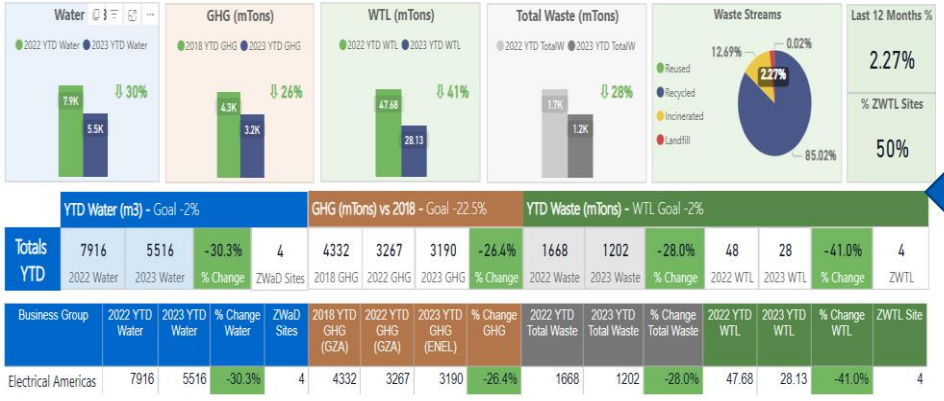
EHS Strategy Deployment

Plan Do Check Act





EHS PERFORMANCE INDICATORS - SITE INPUTS REQUIRED				
Type	Title	Definition	Associated KPI in MESH PRISM	Where does site enter the data?
Lagging Safety Indicator	Number of Hours Worked	Monthly hours worked for employees associated with the site.	Working Hours	Sites already entering through MESH Prism Metrics Management Portal
Lagging Safety Indicator	Severe Injuries	Enter any severe incident into PRISM within 24 hours of occurring using standard incident reporting process.	Incident Input	Automatically calculated from incident data
Lagging Safety Indicator	Total Recordable Cases	Enter any recordable cases into PRISM within 24 hours of occurring using standard incident reporting process.	Incident Input	Automatically calculated from incident data
Lagging Safety Indicator	Total Days Away Cases	Enter any days away cases into PRISM within 24 hours of occurring using standard incident reporting process.	Incident Input	Automatically calculated from incident data
Lagging Environmental Indicator	Green House Gas Produced (metric tons)	Total GHG from Maine Gas and Electricity supply of a location in CO2 metric tons. Sites that are in Top 15 will have specific goals.	N/A	Automatically calculated from Enel data
Lagging Environmental Indicator	Waste to Landfill (metric tons)	All waste sent to LANDFILL in metric tons.	Waste KPI Category (multiple KPIs)	Automatically entered by Heritage for all waste streams managed by Heritage. For all others, sites already entering in MESH Prism Metrics Management Portal
Lagging Environmental Indicator	Water Usage (m3)	All water used by the site either from mains supply and or ground water, or public meters.	Water KPI Category (multiple KPIs)	Sites already entering through MESH Prism Metrics Management Portal
Lagging EHS Indicator	Corporate MESH Assessment Score (2020)	Enter 2020 Corporate MESH assessment score. Enter only once in month when assessment is completed. If no assessment for current year leave blank.	MESH Corporate Assessment: Total Score	MESH Prism Metrics Management Portal
Lagging EHS Indicator	Self MESH Assessment Score (2020)	Enter 2020 Self MESH assessment score. Enter only once in July when assessment is due.	MESH Self-Assessment: Total Score	MESH Prism Metrics Management Portal
Leading Indicator Compliance	Total # Root Cause Investigations completed (60)	Enter any Recordable cases, or non-compliances into PRISM within 24 hours of occurring using standard incident reporting process.	Incident and Non-Compliance Inputs	Automatically calculated from KP incident data
Leading Indicator Compliance	Total # Root Cause IIDs reviewed with Ops Directors and BRM's	IID reviews must be completed at the 2nd level (Ops Director and BRM) to agree on root causes and CAPAs before lessons learned is posted. Count completion when review is done with both Ops Dir & BRM. If one is missing, then it should not be entered as complete. Enter # of reviews done that month.	LOCAL KPI 1	MESH Prism Metrics Management Portal
Leading Indicator Compliance	# Open Actions from IID Investigations	*NEW ROADMAP METRIC FOR 2023 Total number open actions from IID investigations completed.	LOCAL KPI 2	MESH Prism Metrics Management Portal
Leading Indicator Compliance	Total LOR Findings remaining open	Number of LOR findings remaining open that month. LOR findings to be reviewed each month for status and actions needed for closure. Actions should be entered on Readiness action plan.	LOCAL KPI 3	MESH Prism Metrics Management Portal



	YTD Water (m3) - Goal -2%				GHG (mTons) vs 2018 - Goal -22.5%				YTD Waste (mTons) - WTL Goal -2%							
Totals YTD	7916	5516	-30.3%	4	4332	3267	3190	-26.4%	1668	1202	-28.0%	48	28	-41.0%	4	
	2022 Water	2023 Water	% Change	ZWaD Sites	2018 GHG	2022 GHG	2023 GHG	% Change	2022 Waste	2023 Waste	% Change	2022 WTL	2023 WTL	% Change	ZWTL	

Business Group	2022 YTD Water	2023 YTD Water	% Change Water	ZWaD Sites	2018 YTD GHG (GZA)	2022 YTD GHG (GZA)	2023 YTD GHG (ENEL)	% Change GHG	2022 YTD Total Waste	2023 YTD Total Waste	% Change Total Waste	2022 YTD WTL	2023 YTD WTL	% Change WTL	ZWTL Site
Electrical Americas	7916	5516	-30.3%	4	4332	3267	3190	-26.4%	1668	1202	-28.0%	47.68	28.13	-41.0%	4

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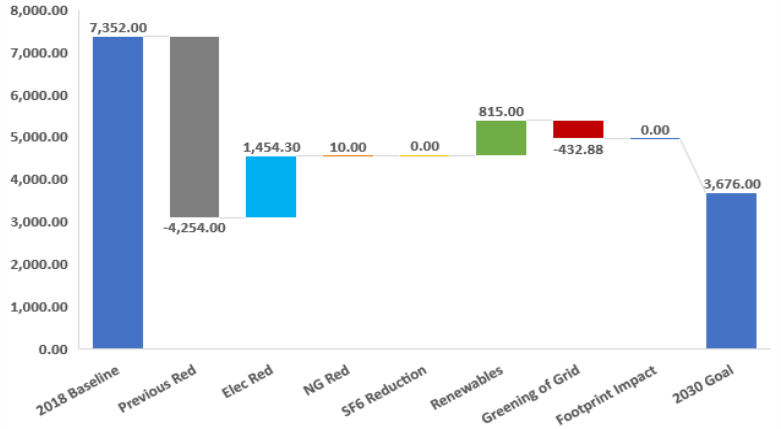
Operations Sustainability Footprint

GHG Reduction, Emissions & Trends

Goals by 2030:
- 50% Reduction in GHG emissions from 2018 baseline
- Carbon Neutral



Recent Successes

- Building Automation System at Woodridge IL (2022)
- **Energy Audit**: Completed for all Raleigh Area Plants, Worcester
- **Richmond VA**: LED lights upgrade project (on-going)
- Worcester: Laser Shear Machine

Key Ideas to Achieve 50% GHG Reduction/Carbon Neutral

- Continue upgrading LED lights (DCPD Sites)
- Regenerative grind simulator project (RPO)
- Solar Panel Installation (RPO/CPO)
- Project related to efficiency gains including HVAC replacement, equipment enhancements

Key Projects

- LED upgrades at Richmond (Oakley, Santa Ana)
- Laser Shear Machine (Worcester)
- HVAC replacement to gain efficiency (Several Sites)
- Install destratifications fans to reduce heating demand (YPO)

Challenges/Resource Needs

- Lack of viable projects to reduce overall GHG (electricity and natural gas)
- More collaboration from facility/OPEX to identify improvement projects (sustainability)
- 3rd party energy audit (DCPD) sites to identify projects
- Worcester Renewable Energy Contract (National Grid) expires on December 2024

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Measure your performance

Site Specific, Business Reviews

Operations Sustainability Footprint

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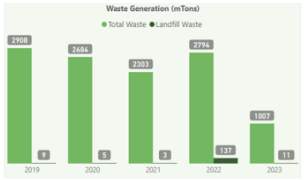
- Worcester Renewable Energy Contra

Operations Sustainability Footprint

Waste – Total Waste & Waste to Landfill (WTL)

2023 Goals
- 2% absolute reduction from 2022
- 10 ZWTL certified sites
- Business specific total waste goals



86.34% Recycled | 0.09% Reused | 12.30% WTE | 1.27% WTL

Recent Successes
- Worcester completed ZWTL validation (2023)

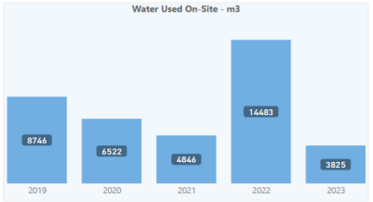
Key Ideas to drive total waste reduction & ZWTL Initiatives
- Improved waste segregation opportunity (All Sites)
- Significant cost out opportunity
- Foam Waste- Reduce the usag
- Pallet recycling- Issues with fir
- Maximize Heritage partnership and cost savings

Ke
- Woodridge TL- ZWTL validati
- DCPD sites- Waste Minimizat
- Cost out opportunity around V division)

Operations Sustainability Footprint

Water Usage Reduction

2023 Goals
- 2% absolute reduction from 2022
- 3 ZWaD certified sites



Recent Successes
- 4 sites achieved Zero Water Discharge (ZWaD) certification: RPO, CPO, YPO and Worcester

Key Ideas to Achieve Zero Water Discharge
- Eliminate Water Jet Process from Santa Ana

Key Projects
- Discontinue Water Jet Machine (Santa Ana, CA) to eliminate process water
- Youngsville, NC: Increased water usage in 2022 due to maintenance issues with colling tower, which is now resolved
- Santa Ana, CA usage is significantly high

2030 Sustainability Targets:
- 50% reduction in carbon emission
- Carbon neutral by 2030
- 100% manufacturing sites ZWTL certified
- 10% manufacturing sites zero water discharge certified

- Site Specific Reviews
- Business Reviews
- Sector Reviews

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Tier 1 Energy Users

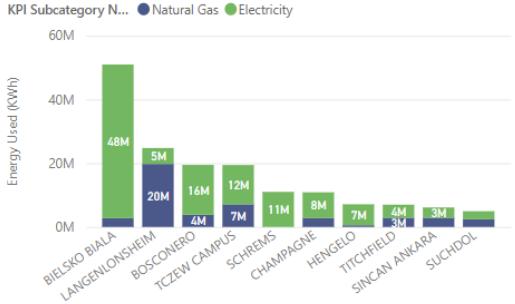
Third Party Energy Audit

Calendar Year

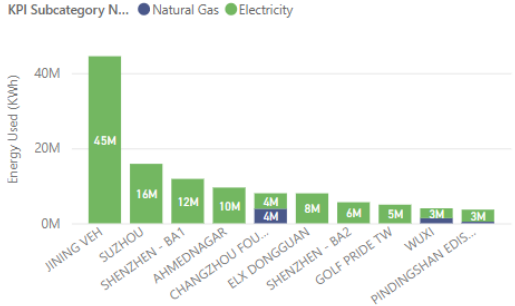
2018 | 2019 | 2020 | 2021 | 2022

Tier 1 Energy Users

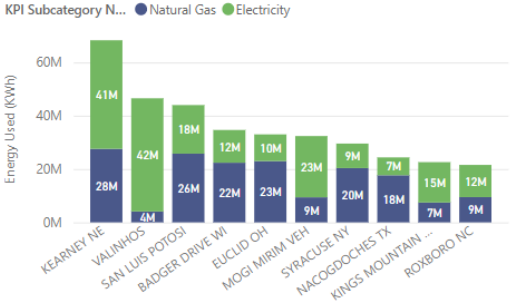
Top sites - EMEA



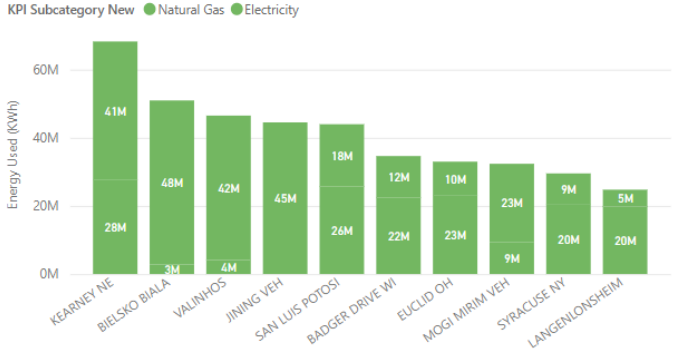
Top sites - APAC



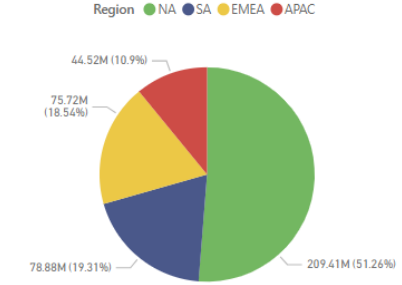
Top sites - NA & SA



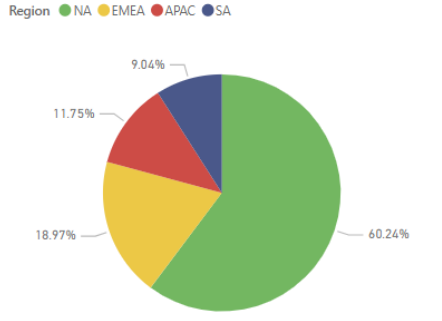
Top sites



Overall % of Top 10 sites by Region



Overall % by Region



GHG Project Ideas


Lighting Systems …production, warehouse, office and exterior security, etc.


Heating and Cooling systems (HVAC) …boilers, roof-top units and PTAC's


Motors & Drives ….pumps, fans, applications for VFD's


Compressed Air – Leaks & Systems …Demand & Supply considerations


Chillers and/or Process Cooling ..refrigeration. etc.


Process / Process Heating ….autoclaves, plating, IR curing, heat treat ovens


Building Management Systems (BMS) / Controls

Building Infrastructure …insulation, windows, air curtains, etc.

Go through the list

- Are you 100% complete in these categories?
- What are your opportunities?
- Estimate costs (quotes, prior experience)
- Estimate Reduction
- Must a fully scoped project with narrative for approval
- Have shovel ready projects available

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Provide tools and process…

Projects Status Overview

Total	Approved	Rejected	Completed
1161	62	37	322

Pipeline	On Going	Missing Details
450	249	41

Projects Savings

	Approved	Rejected	Completed	Pipeline	On Going
KWh	8.60M	1.29M	25.15M	1.60bn	2.37M
GHG (Tons)	1.77K	313.49	37.44K	1.25M	1.72M

Plant Name	Implementation Year	Project Title	Status Of Project	Funding	Project Cost	Project
JINING VEH	2023	ERM-Solar PV	On Going	No	$0	
HODGES SC	2030	Geothermal HVAC	Pipeline	No	$1,000,000	
FONTANA DC CA	2024	LED Lights in Building	Pipeline		$160,000	
JACKSON MS	2023	Solar HVAC Power Unit	Pipeline	No	$400,000	
CIXI NATURE CPS	2022	Compressed air pipeline improvement	Completed		$44,977	
SINCAN ANKARA	2022	SF6 Collection System	Completed	Yes	$6,000	
ARECIBO, PR	2023	Arecibo Solar Grid	On Going	Yes	$0	
LINCOLN IL	2027	Window Replacement	Pipeline	No	$1,600,000	
SHENZHEN - BA2	2027	Solar PV	Pipeline	Yes	$1,291,428.571	
SUMTER SC	2023	Remove Emergency NG Generator with LED lighting	On Going	No	$10,000	
LAS PIEDRAS	2025	ERM - Solar Panel and Microgrid	Pipeline	No		
BIELSKO BIALA	2022	Trigeneration	On Going	Yes	$2,500,000	

Increase the likelihood of your project being funded with well-written narrative. Be specific and quantify the numbers!

200 Ton Vari-speed Water Cooled Chiller – Assembly and Molding EXAMPLE

Current Status

The chilled water system is critical to our operations by providing cooling for injection molding machines and air conditioning for the entire Assembly area.

The existing Trane chiller has been in service for 9 years and has suffered many costly failures over the last year. At this time, it is only operational to 50% capacity and will cost $48K to repair. The unit is air cooled and not nearly as energy efficient as a new variable speed water cooled chiller. Furthermore, the coils of air cooled units give way to corrosion from the salt in the air here in Arecibo.

Positive Impact

- The efficiency of the proposed water-cooled chiller is 11% more efficient than the existing air-cooled chiller
  - Old - annual energy consumption: 6,121,011 kWh's
  - New - annual energy consumption: 5,508,909 kWh's
  - Difference: 612,102 kWh's
  - $0.20 (AEE charge/kWh)
  - Annual energy cost savings $122,420
- The new chiller has a serviceable life of greater than 20 years
- Compliance with MESH and EPA - Ozone Depleting Substances (ODS) regulations

Challenge and Potential Risk 2019 KOF

Repairing this obsolete unit repeatedly wastes valuable resources and does not deliver a financial benefit. Several pounds of R-410 refrigerant is released into the atmosphere.

Total repair costs for Trane chiller #2 for 12 months		$ 70,420
Date	Repair	Cost
Pending	Replace condenser coils	$ 48,000
Feb-19	Repair coils	$ 3,000
Dec-18	Replace oil controller	$ 3,640
Dec-18	Repair coils	$ 3,000
Dec-18	Motor Winding - Fans 1 and 2.	$ 1,540
May-18	Temp Sensor	$ 735
18-Jan	Replace compressor	$ 10,500

Financial Impact

Equipment and Installation Cost: **$183K**
Total Annual Energy Cost Savings: **$122K**
ROI: **<2 years**

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Raleigh Specific Information

How to Keep Driving Forward

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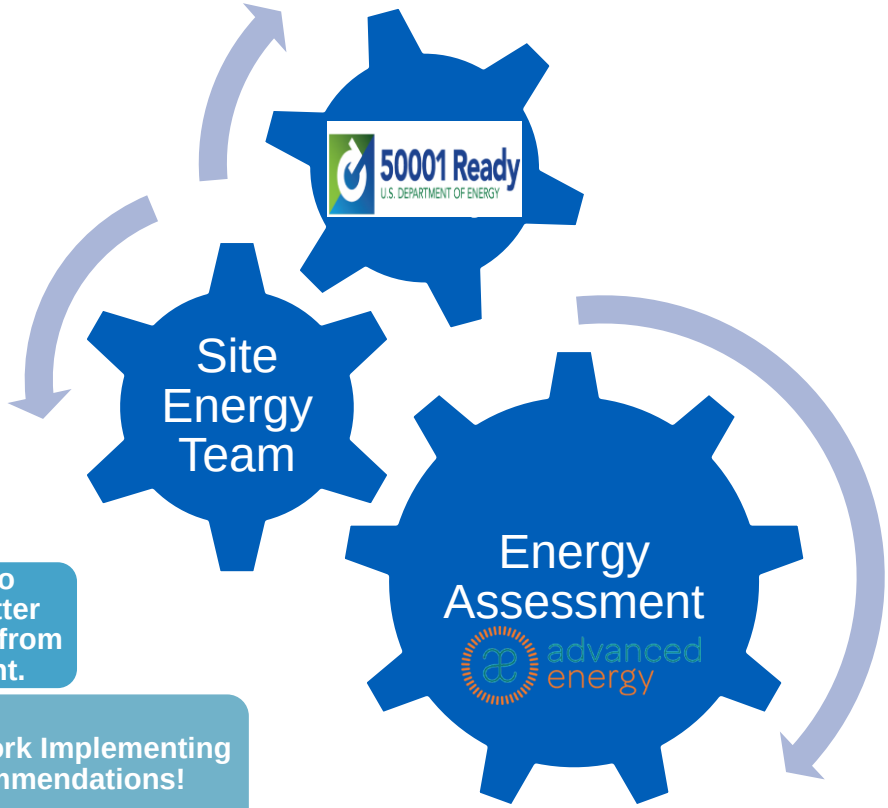
Provide Resources…

Utilize Expertise

- Create site Energy Team
- Join Cohort for Networking and Learning
- Discuss energy usage with utility account managers.
- Request assistance with energy assessment.
- Provide training to Energy Team to better understand findings from energy assessment.
- Get to Work Implementing Recommendations!



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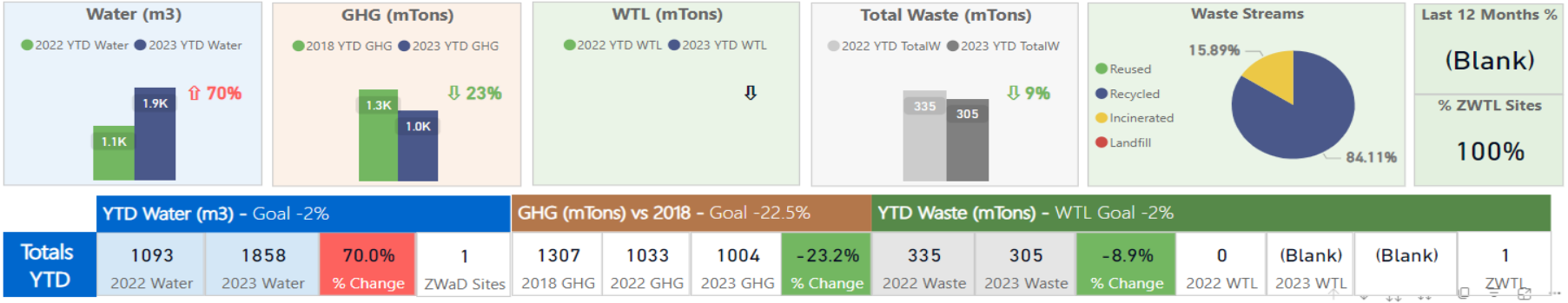
Provide Tools…

PowerBi Reporting



	YTD Water (m3) - Goal -2%				GHG (mTons) vs 2018 - Goal -22.5%				YTD Waste (mTons) - WTL Goal -2%						
Totals YTD	1093	1858	70.0%	1	1307	1033	1004	-23.2%	335	305	-8.9%	0	(Blank)	(Blank)	1
	2022 Water	2023 Water	% Change	ZWaD Sites	2018 GHG	2022 GHG	2023 GHG	% Change	2022 Waste	2023 Waste	% Change	2022 WTL	2023 WTL		ZWTL

Recent Successes/Challenges

Waste

- Foam waste disposal process in review. Need dock space to finalize.

Water

- 23% increase YTD in headcount from 2022 to 2023

GHG

- Awaiting estimate on GHG reduction due to roof replacement

Needle Moving Projects

*Environmental results are delayed one month

Project Title; Site Name	Footprint Covered	Description/Key Issues	Reduction (Act or Pot)	Project Cost	Project Approved?	Share Point Y/N
HVAC Replacement	Energy Efficiency	Replacement of 3 HVAC units	99,855 kW	$30k	Yes	Yes
Roof Replacement	Energy Efficiency	Replacement of roof zone B		$670k	Yes	Yes
Pallet Project	Waste Reduction	Partnering with pallet company for pallet program	100 tons/$100k		No	Yes

Provide Processes…
Annual Planning

Water (m3)	
YTD 2023	1008
Goal	-2%
YTD vs 2022	61.86%

ZWaD Sites	
YTD 2023	(Blank)
% ZWaD Sites	(Blank)

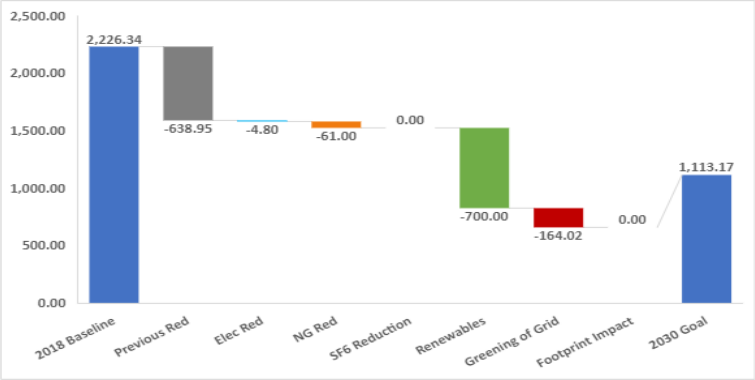
GHG (mTons)	
YTD 2023	494
Goal	-4.5%
YTD vs 2022	-6.00%

Total Waste (mTons)	
YTD 2023	181
Goal	-2%
YTD vs 2021	-12.04%

Waste to Landfill (mTons)	
YTD 2023	(Blank)
Goal	-2%
YTD vs 2022	(Blank)

ZWTL Sites	
YTD 2023	1
% ZWTL Sites	100%
% 12 MR	(Blank)

GHG Progress to 2030 Goals



Status Questions	Yes / No
All lighting (interior/exterior) upgraded to LED?	YES
Occupancy controls for lighting/HVAC?	YES
HVAC R-22 upgrade or replacement (VFD unit preferred)?	NO
Do you have a PM program for you HVAC units?	YES
Routine PM approach for Air Leak Detection and Repair Program?	YES
Do you have green sourcing?	NO

Proposed 2024 Environmental Projects (GHG, Water, Waste)

Location	Project Type	Project	Reduction (tons/year)	Project Cost	CAR-Quote Ready?
RPO	Waste	Returnable pallets	15	Awaiting quote	No
RPO	GHG	Grid simulators	700	$1M	No
RPO	Waste	Foam recycling	10	$40k	NA

Key Information / Challenges / Discussion Points

Give Recognition…

Celebrate the Wins

- NC **DOL Gold Safety Award** Recognition (RPO, KWO)
- NCDEQ **Environmental Steward Initiative (ESI)** Award (RPO)
- **Zero Water Discharge Certification (3 Raleigh sites)**
- Employee **engagement** across division to drive improvements

Sustainability Champion

Leads the way in environmental, health, safety or community-focused programs

Winner: The Raleigh Area Plants (CPO, RPO and YPO)

- All three Raleigh Area Plants achieved Zero Water Discharge Certification (ZWaD) during the quarter.
- The sites were able to reduce fresh-water demand and industrial wastewater discharge which directly supports Eaton's 2030 Sustainability goals.
- Now, all three locations are both Zero Waste to Landfill **and** Zero Water Discharge aligned with the divisional goal for all our locations to be ZWTL and ZWaD by 2026!

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