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GHG Emission Reduction Strategies

The Waste and Recycling Industry Has Shifted

The Change is Here....

Scope 3 Waste and Emissions Management Program

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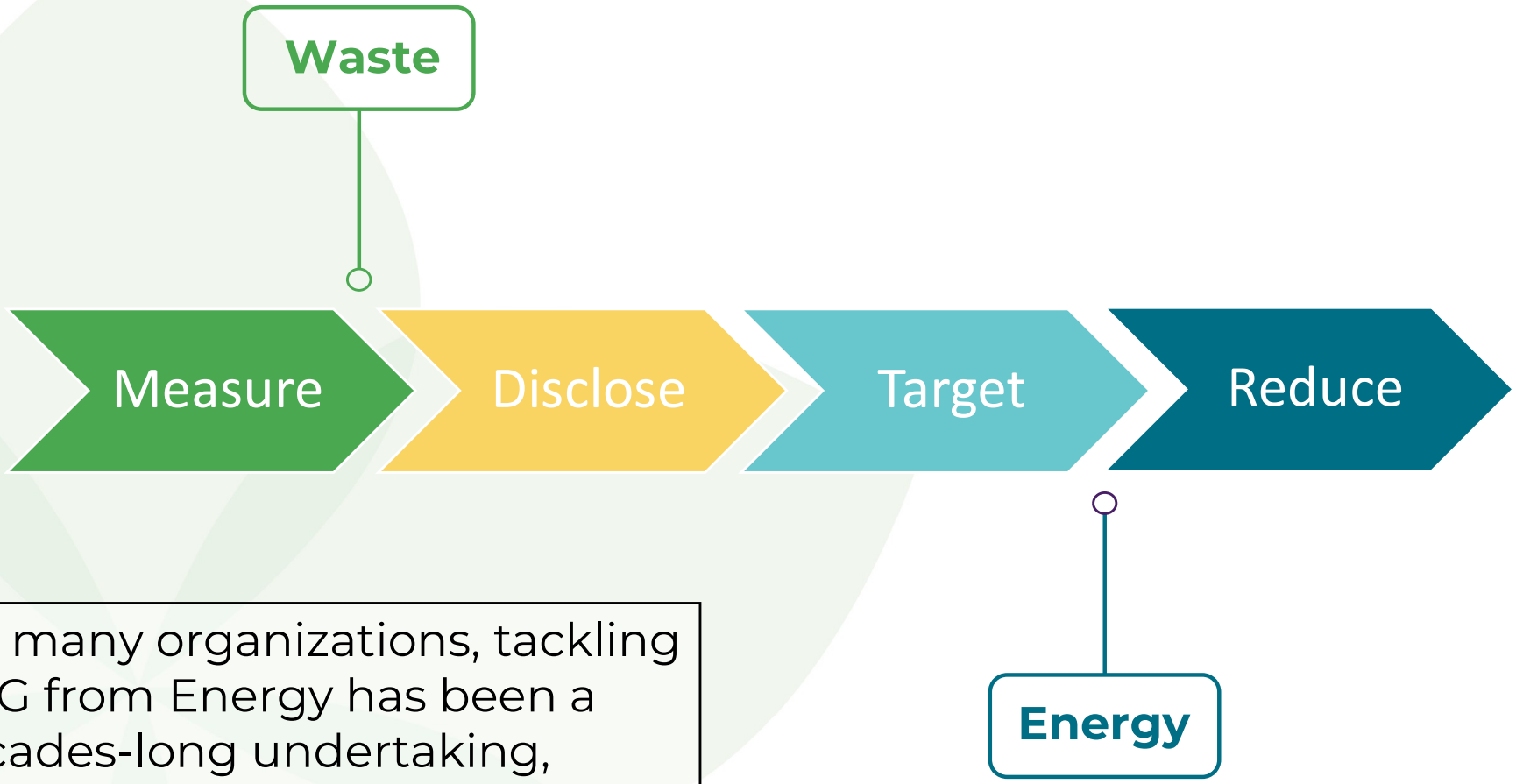
Current State | Waste and Greenhouse Gas



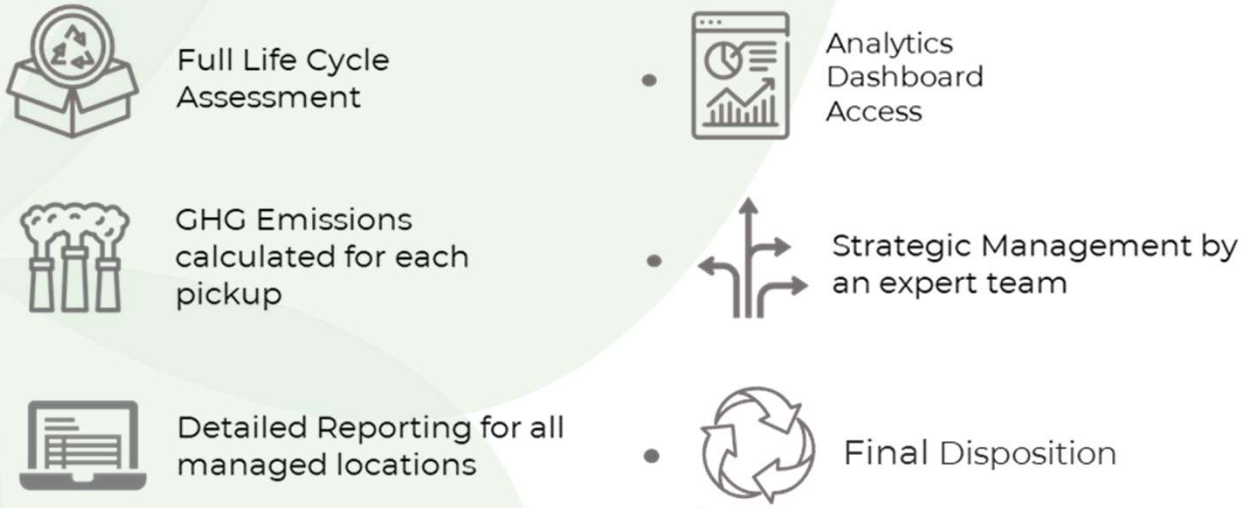
For many organizations, tackling GHG from Energy has been a decades-long undertaking, while tackling GHG from waste is just starting

Current State of Waste and Greenhouse Gas

- Despite the momentum around Sustainability, GHG related to Waste and Recycling has been historically overlooked.
- Many organizations are still using spend, estimates, and industry averages to calculate emissions. Their results vary widely.
- Waste invoices typically contain partial information and quality enterprise data has been difficult to obtain.
- Overall, organizations lack the information needed to manage the type of waste program that prioritizes GHG reduction.
- Waste is low hanging fruit for emission reductions and reporting.

Major Disruptor in the Waste and Recycling Industry

- The SEC's proposed climate rule mandates Scope 3 disclosure by April 2024.
- For many organizations waste is a material emissions category which can comprise 15% of their Scope 3 greenhouse gas
- Scope 3 Reporting is bringing a focus on centralization and a drive towards decision making informed by data.



Reduction of Greenhouse Gas Emissions

Waste is not typically thought of as a Scope 3 priority, but it can be a quick win on an organization's de-carbonization journey.

Many GHG reduction opportunities lie within day-to-day waste operations:

- ✓ **Recycling:** Waste Diversion has been the primary focus for the industry for decades
- ✓ **Operational Efficiencies**: Reducing transportation
- ✓ **Circular Economy**: More recently, organizations are pursuing closed-loop scenarios to ensure the highest value is obtained from discarded product.

This is all achievable – you just need a plan.

Drivers For Waste and Recycling Decision Making

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Emissions Management | Emissions Reporting Example

For illustrative purposes only

GHG Calculated per container →

Container Type	# of Loads	Sum of kg CO2e Transportation	Sum of kg CO2e By Material Type
ABC SITE - 30yd OT MSW - DD #283 (on call)	15	1428	8262.8
ABC SITE - 30yd OT MSW (2)	12	1142.4	5605.6
ABC SITE - 30yd OT MSW (3) - DD #139-140	11	1047.2	5720
ABC SITE - 30yd OT MSW Door #284 -Temp	13	1237.6	9084.4
ABC SITE - 30yd OT MSW Door #35 - Temp	8	761.6	4888
ABC SITE - 30yd OT OCC - Temp	7	509.6	125.8
ABC SITE - 42yd Comp MSW - North Box	2	190.4	4102.8
ABC SITE - 42yd Comp MSW - North Wall	23	2189.6	20217.6
ABC SITE - 8yd FL SSR	1	72.8	0
ABC SITE - OT Scrap Metal #1	1	28	0.042
ABC SITE - OT Scrap Metal #2	1	28	0.025
Grand Total	**94**	**8635.20**	**58007.07**

Carbon Impact for February for ABC SITE is 66642 kg CO2e

← GHG Calculated by Transport and Material

Carbon Impact of Efficiencies →

Container Type	# of Loads	Sum of kg CO2e Transportation	Sum of kg CO2e By Material Type
ABC SITE - 30yd OT MSW - DD #283 (on call) (convert to Compactor)	5	476	8262.8
ABC SITE - 30yd OT MSW (2) (convert to Compactor)	4	380.8	5605.6
ABC SITE - 30yd OT MSW (3) - DD #139-140 (convert to Compactor)	4	380.8	5720
ABC SITE - 30yd OT MSW Door #284 -Temp	13	1237.6	9084.4
ABC SITE - 30yd OT MSW Door #35 - Temp	8	761.6	4888
ABC SITE - 30yd OT OCC - Temp	7	509.6	125.8
ABC SITE - 42yd Comp MSW - North Box	2	190.4	4102.8
ABC SITE - 42yd Comp MSW - North Wall (Install Monitoring)	17	1621.925926	20217.6
ABC SITE - 8yd FL SSR	1	72.8	0
ABC SITE - OT Scrap Metal #1	1	28	0.042
ABC SITE - OT Scrap Metal #2	1	28	0.025
Grand Total	**73**	**5687.53**	**58007.07**

Carbon Impact Reduction is 2948.30 kg CO2e

Thank You

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