



Carbon Footprint Report 2023



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We process

64,932

tonnes of waste yearly



Of all the waste processed, we recycle

74.2%



We diverted

48,201

tonnes of waste to recyclables from landfill





26,302

tonnes of carbon emission saved

Our Reduced Carbon Emission is equivalent to:



Power **15,345** units of 4-Room HDB for a year



7,100 flights from Singapore to London



Planting **12 millions** matured trees in a year



Taking **12,000** cars off the road

Beyond the Bin:

Our Comprehensive Business Services

At our company, we offer a range of services through our different business arms. From general waste disposal and recycling to plastic waste recycling, we're committed to finding sustainable solutions for all types of materials.

	PROCESS	RECYCLE	RECYCLE RATE
GROUP TOTAL	64931 Tonnes	48201 Tonnes	74.2%
General Waste Disposal & Recycling Facility	47593 Tonnes	31644 Tonnes	66%
Metal & Plastics Containers Recycling Facility	11940 Tonnes	11353 Tonnes	95%
Plastic Waste Recycling Facility	2778 Tonnes	2603 Tonnes	94%
Pallets Recycling Facility and Packaging Solutions and Warehousing	1317 Tonnes	1306 Tonnes	99%
Chemical Solvent Recovery Facility	1303 Tonnes	1295 Tonnes	99%

General Waste Disposal & Recycling Facility









Plastic Waste Recycling Facility





Pallets Recycling Facility and Packaging Solutions & Warehousing





Chemical Solvent Recovery Facility





Breaking Down Our Impact:

Overview of Tidy Group's Business Arms

We believe in being transparent about our environmental impact. We assess our Scope 1 to 3 emissions to understand our current carbon footprint and identify areas for improvement. This enables us to take targeted actions towards reducing our environmental impact.

Scope 1

Direct emissions from company-owned or controlled sources, such as onsite fuel combustion and company-owned vehicles

Scope 2

Indirect emissions from purchased electricity consumed by the company

Scope 3

Indirect emissions from activities outside the company's direct control, including employee commuting, procurement, and waste disposal





TIDY GROUP	General Waste Disposal & Recycling Facility	Chemical Solvent Recovery Facility	Pallets Recycling Facility and Packaging Solutions & Warehousing	Plastic Waste Recycling Facility	Metal & Plastics Containers Recycling Facility	Group Total
Scope 1-3 Personal Operational Carbon Footprint	42,350,584.84	1,076,247.00	1,130,481.61	4,358,820.07	17,484,504.05	66,398,617.56
Scope 1 Direct, Company P&M	1,782,960.00	166,231.00	68,555.00	31,576.00	2,570,048.00	2,570,048.00
Scope 2 Indirect, Company Electrical Usage	47,239.00	22,770.00	5,054.00	84,227.00	392,687.00	392,687.00
Scope 3 Indirect, Company Upstream and downstream activities	40,520,385.84	887,246.00	1,056,872.61	4,241,017.07	16,730,381.05	63,435,882.58

Exploring the environmental footprint of our individual business arms within Scope 1 to 3 emissions, we gain a comprehensive overview of their contributions to our overall sustainability goals.

From Scope To Success:

Tidy Group's Progress Across Different Emission Categories

Diving into the data, we analyze the individual emission categories of our group, including carbon emissions per employee, waste emissions, electricity emissions, and more, to identify areas for improvement and enhance our overall environmental performance

Туре	General Waste Disposal & Recycling Facility	Metal & Plastics Containers Recycling Facility	Plastic Waste Recycling Facility	Pallets Recycling Facility and Packaging Solutions & Warehousing	Chemical Solvent Recovery Facility
Waste Emission	54.7%	9.23%	6.52%	1.44%	2.26%
Electricity Emission	O.11%	1.33%	1.93%	0.45%	2.12%
Company Plant Machineries emission	0%	1.20%	0%	0%	14.67%
Company Mobility Emission	4.43%	2.23%	0.73%	6.25%	4.66%
Sales of New Products (non-recyclable services)	0%	13.77%	0%	0%	0.13%
Recyclable Emission	40.45%	61.80%	89.83%	88.04%	67.69%
Purchased Good and Services from Supplier/ Vendor	0.44%	10.44%	0.99%	3.83%	8.47%

General Waste Disposal & Recycling Facility





Company Plant Machineries

4.43% Company Mobility

Sales of New Products

40.45% Recyclable

0.44% Purchased Goods and Services



Metal & Plastic Containers Recycling Facility





1.20% Company Plant Machineries

2.23% Company Mobility

13.77% Sales of New Products

61.80% Recyclable

10.44% Purchased Goods and Services



Plastic Waste Recycling Facility



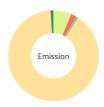


Company Plant Machineries

0.73% Company Mobility

Sales of New Products

89.83% Recyclable 0.99% Purchased Goods and Services



Emission

Pallets Recycling Facility and Packaging Solutions & Warehousing



Company Plant Machineries

6.25% Company Mobility

0% Sales of New Products

88.04% Recyclable

3.83% Purchased Goods and Services



Chemical Solvent Recovery Facility



- 2.26% Waste
 - 2.12% Electricity

14.67% Company Plant Machineries

4.66% Company Mobility

0.13% Sales of New Products

67.69% Recyclable

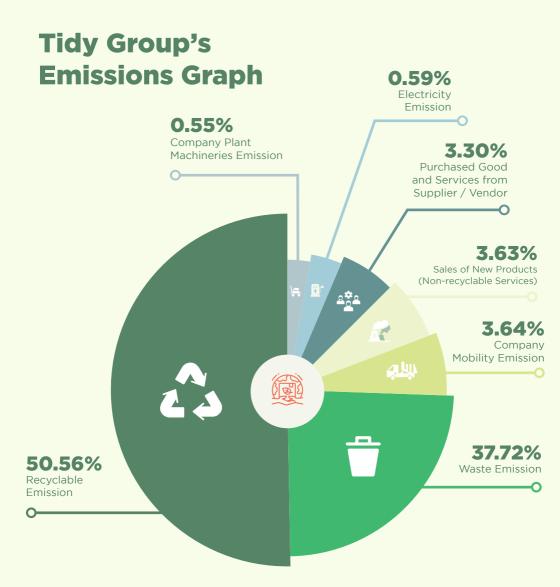
8.47% Purchased Goods and Services





The Percentage of Emissions from Each Area

Our commitment entails increasing the proportion of recyclable emissions by expanding the availability of recyclable materials, while concurrently reducing waste disposal emissions through effective waste management strategies. These strategies encompass waste reduction, segregation, and the implementation of proper disposal method.





Emission analysis shows recyclable materials and waste contribute significantly. We aim to reduce waste and increase recyclables, aligning with responsible waste management and sustainability goals.

Metal

Transforming Our Carbon Footprint:

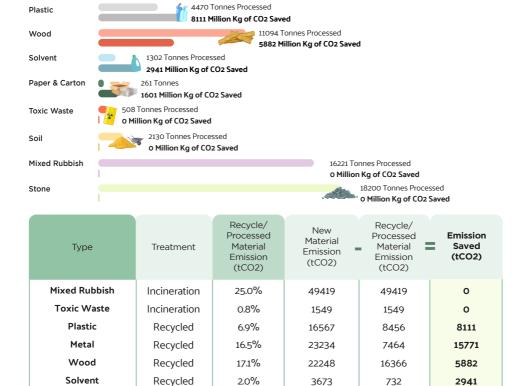
Volumes (Tonnes) We Processed:

How Recycling Is Making a Difference

Revealing the Magnitude of Waste Management Efforts. Delve into the data as we present the sheer volume of waste we process annually, along with a breakdown of the various methods employed, including incineration, recycling, and reclamation. Gain insight into our comprehensive approach to transform the carbon footprint landscape.

10745 Tonnes Processed

15771 Million Kg of CO2 Saved



0.4%

28.0%

3.3%

2233

 \cap

0

632

0

 \cap

1601

0

Paper & Carton

Stone

Soil

Recycled

Reclamation

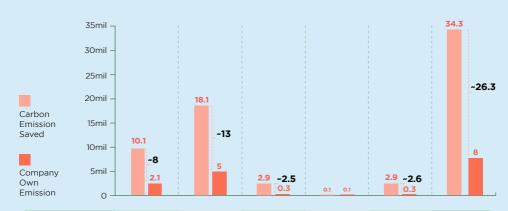
Reclamation

^{*} The emission saved results from recycled materials back into the economy instead of new production of virgin/new materials. No carbon emissions are reduced through incineration or reclamation since these materials are not being reused back into the economy.

From Virgin to Recycled:

Unveiling the Carbon Emission Impact

Explore the environmental significance of recycling as we compare carbon emissions from virgin materials to recycled ones. Witness the substantial carbon emission savings achieved through our recycling initiatives, showcasing the tangible benefits of embracing a circular economy.



Tidy Group	General Waste Disposal & Recycling Facility	Metal & Plastics Containers Recycling Facility	Plastic Waste Recycling Facility	Pallets Recycling Facility and Packaging Solutions & Warehousing	Chemical Solvent Recovery Facility	Group Total
Carbon Footprint We Save By Recycling Waste Materials (Difference Between Using Virgin vs Recycle Materials)	10,181,780.05	18,112,420.98	2,919,531.67	164,904.12	2,927,039.00	34,305,675.81
Company Own Operational Emission	2,110,993.90	5,065,019.24	384,987.05	118,957.04	323,352.00	8,003,309.24
Carbon Emission We Save A Year By Existence	8,070,786.14	13,047,401.73	2,534,544.61	45,947.07	2,603,687.00	26,302,366.57
Carbon Emission Saved Per Tonne of Waste Processed	170 kg	1093 kg	912 kg	35 kg	1998 kg	4208 kg



Company Footprint vs. Carbon Savings:

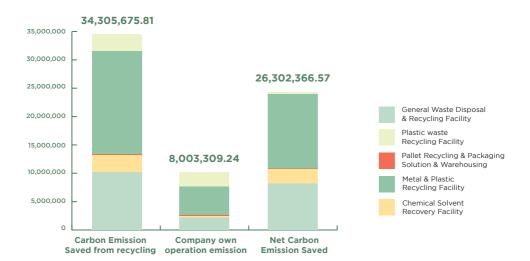
Unveiling Our Carbon-Negative Presence

Our company's carbon footprint reveals the amount of carbon emissions generated through our operations and existence. However, the real story lies in the remarkable carbon emissions we save through our recycling efforts. By subtracting the emissions saved from the emissions generated, we proudly stand as a **carbon-negative entity**. This means that our actions result in an overall reduction of carbon emissions, making a positive contribution to the environment.



Our company stand as a carbon-negative entity, reducing overall carbon emissions by at least 26 millions tonnes through recycling.

Net Carbon Emission Saved = 26 Millions (34 Millions - 8 Millions)





Driving Change:

Our Plan To Reduce Carbon Footprint

Discover our proactive approach and ambitious targets for minimizing carbon emissions. Explore the concrete actions we're taking to create a greener future and make a positive impact on the environment.

Installation of Solar Panels

Installing solar panels allows our companies to generate clean energy on-site, reducing reliance on fossil fuels and demonstrating a commitment to renewable energy.

This sustainable and cost-effective solution helps lower carbon emissions.

Copper Cable Recycling Machine

Installing a copper cable recycling machine reduces carbon emissions by promoting resource efficiency and minimizing the need for new copper extraction, thereby conserving natural resources and reducing energy consumption.

Dry Method Processing for Copper Recycling

Switching from wet-processing to a dry method in copper recycling reduces the environmental impact by eliminating water usage and wastewater generation. This approach lowers carbon emissions, preserves water resources, and promotes a more environmentally friendly process.

Wood Shredder Machine for Contaminant Removal

Installing a wood shredder machine improves wood recycling efficiency, reduces carbon footprint, and ensures higher-quality recycled wood by removing contaminants. It reduces the need for additional processing, contributing to a more eco-friendly waste management system.



Methodology

The methodology used for carbon accounting provides an overview of a company's greenhouse gas emissions, measured in CO2-equivalents. This analysis is based on reported data from both internal and external systems and helps identify potential measures to reduce energy consumption and overall carbon footprint. Carbon indicators are utilized to monitor company activities, highlighting areas for improvement and potential concerns. The carbon accounting process follows best practice standards, such as the Greenhouse Gas Protocol, and employs established emissions factors from reliable references for each emissions source.

The Greenhouse Gas Protocol

The Greenhouse Gas Protocol Initiative (GHG-protocol) is an internationally recognized accounting tool for managing greenhouse gas emissions. It is widely used by hundreds of companies and organizations worldwide. The GHG Protocol was developed through a partnership between the World Resources Institute and the World Business Council for Sustainable Development. In 2006, it served as the basis for the ISO standard 14064-I, which provides guidance for quantifying and reporting greenhouse gas emissions and removals at the organizational level.

Relevance and Inventory Boundaries

The carbon accounting report provides valuable information for decision making

in both internal and external operations. It is crucial to select an appropriate inventory boundary that reflects the substance and economic reality of the company's business relationships. The report follows the operational control approach, determining what should be included in the carbon inventory and how emissions are categorized as direct and indirect.

Carbon Footprint Accounting

The carbon footprint accounting is divided into three scopes according to the GHG Protocol.

Methodology

Scope 1 Direct emissions (mandatory reporting)

This scope includes all direct emissions from company-controlled sources, such as company transport vehicles and machinery energy usage. For Tidy Group, scope 1 encompasses fuel consumption, specifically petrol and diesel usage from the operational fleet of vehicles and machinery.

Scope 2: Indirect emissions (mandatory reporting)

Scope 2 includes emissions from purchased energy, primarily electricity.

Scope 3: Indirect emissions

Scope 3 covers other indirect emissions from company activities originating from sources not controlled by the company. Examples include employee travels. emissions from sub-suppliers, consumption of products or services, and waste management. Scope 3 emissions are reported using the Life Cycle Assessment (LCA) methodology. Employee commuting is calculated based on average distance traveled and converted to liters of diesel using real data from the existing operation truck fleet.

Methodology & References

Item	Unit	KG of Co2/ Unit	Citation & Reference Link		
25L Carboy (1.5kg) (Brand New)	No. of HDPE Carboys	3.68091			
25L Carboy (1.5kg) (Recycle)	No. of HDPE Carboys	3.36792			
Plastic Pallets (15kg) (Brand New)	No of Plastic Pallets	3.36792			
Plastic Pallets (15kg) (Recycle)	No of Plastic Pallets	33.6792			
IBC (Inner Botttle 15kg) (Brand New)	No. of IBC	134.1726			
IBC (Inner Botttle 15kg) (Recycle)	No. of IBC	41.2769	Life cycle assessment of newly manufac- tured and reusable packaging. (n.d.). Retrieved April 25, 2023, from https://		
200L HDPE Drums (10kg) (Brand New)	No. of HDPE Drums	24.5394	www.reusablepackaging.org/wp-con- tent/uploads/Life-Cycle-Analysis-Fi- nal-Oct-2015.pdf		
200L HDPE Drums (10kg) (Recycle)	No. of HDPE Drums	22.4528			
HDPE Plastic (Brand New)	KG of HDPE	2.45394			
HDPE Plastic (Recycle)	KG of HDPE	2.24528			
200L Metal Drum (16kg) (Brand New)	No. of Metal Drums	34.246			
200L Metal Drum (16kg) (Recycle)	No. of Metal Drums	12.3377			
LDPE Plastic (Brand New)	KG of LDPE	7.53	Choi, B., Yoo, S., & Park, Sil. (2018, July 8). Carbon footprint of packaging films made from LDPE, pla, and PLA/		
LDPE Plastic (Recycle)	KG of LDPE	4.1084	PBAT blends in South Korea. MDPI. Re- trieved April 25, 2023, from https://www. mdpi.com/2071-1050/10/7/2369		
PP Plastic (Brand New)	KG of PP	1.444	Life cycle assessment of a plastic part		
PP Plastic (Recycle)	KG of PP	0.824	injected with recycled (n.d.). Retrieved April 25, 2023, from https://www. researchgate.net/publication/352005741_ Life_Cycle_Assessment_of_a_Plastic_ Part_Injected_with_Recycled_Polypropyl- ene_A_Comparison_with_Alternative_Vir- gin_Materials		
Flexibag 24000L (Brand New)	No. of Flexi Bags	6061	Hillebrand's flexitanks as a green solution Hillebrand. (n.d.). Retrieved April 25, 2023, from https://www.hillebrandgori.com/ media/publication/hillebrand's-flexi- tanks-as-a-green-solution-for-bulk-liq- uid-transportation		

Item	Unit	KG of Co2/ Unit	Citation & Reference Link	
PVC Pipe (Brand New)	KG of PVC	2.82	Author links open overlay panelLiping Ye, (PVC), A. P. chloride, Zhang, Y., Vahidi, E., Stichnothe, H., Siracusa, V., Sadat-Shojai, M., Gross, M., Yearbook, C. P. I., Ecoinventcentre, Frischknecht, R., Garcia, D., Gironi, F., Goedkoop, M., Guinée, J. B., & Hopewell, J. (2016, October 29). Life cycle assessment of polyvinyl chloride production and its recyclability in China. Journal of Cleaner	
PVC Pipe (Recycle)	KG of PVC	0.6468	Production. Retrieved April 25, 2023, from https://www.sciencedirect.com/science/ article/abs/pii/S0959652616318029	
Scrap Paper (Brand New)	Kg of Paper	8.98		
Scrap Paper (Recycle)	Kg of Paper	3.805		
Scrap Carton (Brand New)	Kg of Carton	8.482	Calculate your impact. Paper Calculator	
Scrap Paper (Recycle)	Kg of Carton	2.154	4.0 Environmental Paper Network. (n.d.). Retrieved April 25, 2023, from https://c.	
Scrap Carton (Brand New)	Kg of Carton	0.659	environmentalpaper.org/	
Scrap Carton (Recycle	Kg of Carton	22.4528		
New Paints (New)	Litres of Paints	2.45394		
Solvent (Brand New)	Litres of Solvents	2.8225	Carbon footprint of recycled solvents solvent recycling ESRG. (n.d.). Retrieved April 25,	
Solvent (Recycle)	Litres of Solvents	0.5625	2023, from https://esrg.de/media/PDF/ ESRG-ChemSpec_Present-Budapest-Azapag- ic-Crowther_2014.pdf	
wood pallet (20kg) (Brand New)	No. of Wood pallets	4.009	Avoided impact quantification from recycling of wood waste in Singapore (n.d.).	
wood pallet (20kg) (Recycle)	No. of Wood pallets	3.547	Retrieved April 25, 2023, from https://www.researchgate.net/publication/260031433_ Avoided_impact_quantification_from_recy- cling_of_wood_waste_in_Singapore_An_as sessment_of_pallet_made_from_techni- cal_wood_versus_virgin_softwood	
Scrap Steel (Brand New)	KG of Steel	1.85	Climate change and the production of iron and steel. (n.d.). Retrieved April 25, 2023, fro	
Scrap Steel (Recycle)	KG of Steel	0.35	https://www.worldsteel.org/wp-content/up- loads/Climate-change-and-the-production- of-iron-and-steel.pdf?x94390	
stainless steel (Brand New)	KG of Stainless Steel	5.3	The energy benefit of stainless steel recycling. (n.d.). Retrieved April 25, 2023, from https://www.mgq-recycling.com/wp-con-	
stainless steel (Recycle)	KG of Stainless Steel	1.6	tent/uploads/2013/06/The-Energy-Bene- fit-of-Stainless-Steel-Recycling.pdf	
aluminium (Brand New)	KG of Aluminium	20	Carbon footprint of recycled aluminium. Cli- mate Action. (n.d.). Retrieved April 25, 2023,	
aluminium (Recycle)	KG of Aluminium	0.5	from https://www.climateaction.org/news/ carbon-footprint-of-recycled-aluminium	

Methodology & References

ltem	Unit	KG of Co2/ Unit	Citation & Reference Link	
Copper (Brand New)	KG of Copper	1.25	Müller-Guttenbrunn gruppe. (n.d.). Retrieved April 25, 2023, from https://www.mgg-recy-	
Copper (Recycle)	KG of Copper	0.44	cling.com/wp-content/uploads/2013/06/ BIR_CO2_report.pdf	
Tyre (17.5 Inch) (Brand New)	No. of Tyre	86.9	New study looks at carbon footprints of tires, retreads. (n.d.). Retrieved April 25,	
Tyre (17.5 Inch) (Recycle)	No. of Tyre	60.5	2023, from https://www.vehicleservicepros. com/shop-operations/collision-repair/ business-and-finance/article/21171888/ new-study-looks-at-carbon-footprints-of- tires-retreads	
Diesel	Litres of Diesel	3.196749		
Lubricant (Engine,Hydraulic Oil & Grease)	Litres of Lubricant	2.9563686	Greenhouse gas (GHG) emissions measurement and reporting guidelines. (n.d.). Retrieved April 25, 2023, from https://www.	
Rubbish	KG of Rubbish	1.449	nea.gov.sg/docs/default-source/our-ser- vices/climate-change/ghg-mr-guidelines-	
Waste Wood Incineration	KG of Waste Wood	1.77684	part-1b_v3.pdf	
Petrol	Litres of Petrol	3.0894377	Calculation tools: GHG protocol. Calculation Tools I GHG Protocol. (n.d.). Retrieved April 25, 2023, from https://ghgprotocol.org/ calculation-tools#cross_sector_tools_id	
Electricity	KWH	0.408	Energy transformation. EMA. (2022, October 21). Retrieved April 25, 2023, from https://www.ema.gov.sg/singapore-energy-statistics/Cho2/index2#:text=Singapore's%20BM%20emission%20factor%20 trends,CO2%2FkWh%20in%202020.	
Toxic Waste	KG of Toxic Waste	3.0466	Study on C arbon E mission from S ludge D rying and scitepress. (n.d.). Retrieved April 25, 2023, from https://www.scitepress.org/Papers/2018/81888/81888.pdf	
Recycle Wood as Fuel	KG of Recycled Wood	1.632	Zheng, Y., Liu, C., Zhu, J., Sang, Y., Wang, J., Zhao, W., & Zhuang, M. (2022, August 3). Carbon footprint analysis for biomass-fu- eled combined heat and power station: A case study. MDPI. Retrieved April 25, 2023, from https://www.mdpi.com/2077- 0472/12/8/1146	
Conversion Data				
Diesel per KM	0.38 Litres 1 litre diesel generate 3.196749 KG CO2 1km = 0.38 * 3.196749 = 1.21476462 KG CO2	Tidy 1 year truck records Diesel on KM		
CO2 per Electricity KWH	0.408	Energy transformation. EMA. (2022, October 21). Retrieved April 25, 2023, from https://www.ema.gov.sg/singapore-energy-statistics/Ch02/index2#:-text=Singapore's%20BM%20emission%20 factor%20trends,C02%2FkWh%20in%202020.		
Recycle Wood as Fuel	1 KG Wood generate 1.09463 KWH Electricity	Zheng, Y., Liu, C., Zhu, J., Sang, Y., Wang, J., Zhao, W., & Samp; Zhuang, M. (2022, August 3). Carbon footprint analysis for biomass-fueled combined heat and power station: A case study. MDPI. Retrieved April 25, 2023, from https://www.mdpi.com/2077-0472/12/8/1146		

Carbon Footprint Report



E-way Plastic | Global Barrels Industries | JNS Solutions Tidy Maintenance & Engineering | Tidychem Recycling