WASTE DISPOSAL MEASUREMENT AND DIVERSION POLICY

ISO 21001:2018 EOMS and THE SDG 12 Responsible Consumption and Production

1. Policy Statement

Misamis University shall prevent and reduce waste, segregate waste at source, maximize reuse, recycling, composting, and other lawful recovery, and dispose of residual waste only through authorized collectors and permitted sanitary disposal facilities. The University shall measure waste generated across the whole institution and maintain verified data on the amounts recycled or recovered and sent to landfill.

Waste data shall be complete, traceable, consistent, and suitable for institutional decision-making, ISO 21001:2018 performance evaluation, legal compliance, public sustainability reporting, and Times Higher Education SDG 12 evidence. Waste shall not be reported as recycled merely because it was collected; downstream recycling, composting, recovery, treatment, or final disposal must be supported by documentary evidence.

2. Purpose

1. Establish an institution-wide system for measuring, recording, verifying, analyzing, and reporting waste flows.
2. Reduce waste generation and landfill disposal through prevention, reuse, recycling, composting, recovery, responsible purchasing, and stakeholder participation.
3. Ensure lawful handling, transport, recovery, treatment, and disposal of general, recyclable, biodegradable, special, hazardous, healthcare, laboratory, electronic, and construction waste.
4. Define controls for University units, canteens, concessionaires, contractors, event organizers, tenants, waste collectors, recyclers, and disposal facilities.
5. Generate credible evidence for THE SDG 12 indicators on landfill and recycling policy, whole-university waste tracking, and proportion of waste recycled.

3. Scope

This policy applies to all MU campuses, academic and administrative units, laboratories, clinics, libraries, dormitories, canteens, food stalls, grounds, construction and maintenance activities, official events, auxiliary services, tenants, concessionaires, contractors, and outsourced service providers. It covers waste generated through normal operations, projects, emergencies, renovations, and events.

Hazardous, infectious, pathological, sharps, chemical, radiological, pharmaceutical, and other regulated wastes remain subject to stricter University procedures and applicable laws. They shall be measured in the institutional waste inventory but shall never be combined with ordinary solid

waste or counted as recycled unless an authorized, legally recognized recovery process and supporting manifest establish otherwise.

4. References and Alignment

a. ISO 21001:2018 requirements on context and interested parties, risks and opportunities, documented information, operational planning and control, externally provided processes and services, monitoring and measurement, internal audit, management review, corrective action, and continual improvement.
b. THE Impact Rankings Methodology 2025, SDG 12 indicators 12.2.4 on a policy measuring waste sent to landfill and recycled, 12.3.1 on whole-university waste tracking, and 12.3.2 on the proportion of waste recycled.
c. Republic Act No. 9003, Ecological Solid Waste Management Act of 2000, and its implementing rules; Republic Act No. 11898, Extended Producer Responsibility Act of 2022, where applicable.
d. Republic Act No. 6969 and applicable DENR rules on hazardous wastes; Republic Act No. 8749, Philippine Clean Air Act; Republic Act No. 9275, Philippine Clean Water Act.
e. Republic Act No. 11058 and occupational safety and health rules; Presidential Decree No. 856, Code on Sanitation of the Philippines; Republic Act No. 4226 and applicable DOH rules for healthcare waste where relevant.
f. Applicable DENR, EMB, DOH, LGU, barangay, sanitary landfill, materials recovery facility, transport, fire-safety, and Ozamiz City requirements.

5. Definitions

Term	Operational Definition
Waste generated	Total measured waste leaving the point of generation for reuse, recycling, composting, other verified recovery, regulated treatment, or final disposal during the reporting period.
Waste recycled	Waste demonstrably reprocessed into new materials or products. Collection, sale, sorting, stockpiling, burning, or transfer alone does not prove recycling.
Waste recovered	Waste diverted from disposal through verified reuse, recycling, composting, anaerobic digestion, lawful co-processing, or another approved beneficial recovery route.
Residual waste	Non-hazardous waste remaining after feasible prevention, reuse, recycling, and recovery and requiring final disposal.
Waste sent to landfill	Residual waste delivered to a permitted sanitary landfill, supported by a collection record, weighbridge ticket, disposal receipt, hauler certificate, or another verifiable record.

Waste diversion rate	Percentage of total waste generated that is reused, recycled, composted, or otherwise verified as recovered rather than sent to final disposal.
Recycling rate	Waste recycled divided by total waste generated, multiplied by 100.
Materials Recovery Facility	A permitted or LGU-recognized facility for receiving, sorting, storing, composting, or processing segregated waste for recovery.
Data boundary	All locations, units, and activities included in the institution-wide waste total for the reporting period.
Chain of custody	Records connecting the generator, internal collection, hauler, recycler or treatment facility, and final destination.

6. Waste Hierarchy and Mandatory Controls

MU shall apply the following order of preference, except where safety or law requires a different route:

1. Prevent unnecessary purchasing, printing, packaging, food preparation, and material use.
2. Reduce consumption and choose durable, repairable, reusable, refillable, non-toxic, and minimally packaged alternatives.
3. Reuse, redistribute, repair, refurbish, donate, or return suitable items through authorized channels.
4. Segregate and recycle clean paper, cardboard, metal, glass, plastics accepted by verified recyclers, and other marketable materials.
5. Compost or otherwise recover suitable biodegradable and food waste through approved processes.
6. Use other lawful and environmentally sound recovery or treatment routes where recycling is not feasible.
7. Send only residual waste to a permitted sanitary landfill and regulated waste to the legally authorized treatment or disposal facility.
8. Open dumping, littering, mixing of segregated waste, unauthorized scavenging, discharge into drains or waterways, and open burning are prohibited.
9. Waste stations shall be clearly labeled and positioned to support segregation at source. At minimum, streams shall distinguish biodegradable or compostable, recyclable, residual, special, and hazardous or regulated waste.
10. Needles, sharps, laboratory cultures, animal specimens, contaminated glassware, chemical containers, lamps, batteries, e-waste, used oil, and similar wastes shall use dedicated containers and procedures appropriate to the hazard.
11. No person shall manually compact, open, or sort a container when doing so could expose the person to sharps, chemicals, biological agents, or other hazards.

7 Responsibilities

Responsible Office or Party	Responsibilities
University President and approving authority	Approve policy, targets, resources, major corrective actions, and public sustainability reporting.
Facilities and Environmental Management	Own the measurement system; consolidate records; coordinate collection, storage, MRF, haulers, recyclers, and disposal facilities.
Campus Sustainability or Environmental Committee	Set targets, review trends and material flows, validate improvement priorities, and report to Management Review.
Quality Assurance Office	Control the policy, include it in internal audits, verify corrective actions, and align evidence with ISO and THE requirements.
Procurement Office	Include waste prevention, packaging, take-back, reporting, and disposal clauses in specifications and contracts.
Finance Office	Retain invoices, official receipts, sales records, and payment evidence that support waste transactions and contracted services.
College, office, laboratory, clinic, canteen, dormitory, and event heads	Implement segregation, assign recordkeepers, submit complete data, prevent contamination, and correct local deficiencies.
Safety, biosafety, laboratory, and clinic personnel	Classify, contain, label, measure, store, and release regulated waste only under applicable procedures.
Waste collectors, recyclers, haulers, contractors, tenants, and concessionaires	Segregate, measure, document, and transport waste to authorized destinations; provide complete downstream evidence and permit verification.
Employees, learners, visitors, and event participants	Follow segregation and reduction rules and report spills, illegal disposal, mixed waste, or damaged containers.

8 Procedure

8.1 Establish the Measurement Boundary and Baseline

- Facilities and Environmental Management shall maintain a Waste Measurement Boundary Register listing all campuses, buildings, units, canteens, contractors, leased areas, events, and other included sources.
- Any exclusion shall be documented with the reason, estimated significance, responsible office, and plan and date for inclusion. Public claims of whole-university coverage may be made only when all material operations are included.
- A baseline year shall be established using at least twelve consecutive months of reliable data. When methods change, historical data shall be restated where practicable or the break in comparability shall be disclosed.

8.2 Segregation and Point-of-Generation Recording

a. Each unit shall place waste only in the designated stream and prevent contamination of recyclables and compostables.
b. High-volume generators, including canteens, grounds, dormitories, laboratories, clinics, events, and construction projects, shall maintain source-level logs at a frequency proportionate to volume and risk.
c. Internal transfers shall use uniquely numbered collection logs or electronic records showing date, source, stream, quantity, unit of measure, collector, and destination.

8.3 Measurement Methods

The preferred unit is kilograms, consolidated and reported in metric tonnes. The following hierarchy shall be used:

a. Calibrated scale or certified weighbridge reading.
b. Documented hauler, recycler, MRF, composting, treatment, or sanitary landfill weight record.
c. Count multiplied by a documented average unit weight based on representative sampling.
d. Container volume multiplied by a documented density factor based on a University or recognized technical study.

Estimates shall be identified as estimates and recorded separately from directly weighed values. The method, conversion factor, sampling date, equipment identification, and person responsible shall be retained. Scales shall be checked or calibrated at planned intervals, and anomalous values shall be investigated before reporting.

8.4 Chain of Custody and Final Destination Verification

a. Every external movement shall identify the University source, date, waste stream, quantity, hauler, vehicle or receipt reference where available, receiving facility, and intended treatment or destination.
b. Authorized personnel shall verify the current permits, accreditation, licenses, or LGU recognition of collectors, transporters, recyclers, treatment facilities, MRFs, composting facilities, and sanitary landfills as applicable.
c. Recycling and recovery shall be supported by an acknowledgment receipt, certificate of recycling or recovery, weighbridge ticket, sales invoice, treatment certificate, disposal manifest, or equivalent evidence that identifies the receiving destination.
d. If downstream treatment cannot be verified, the material shall be classified conservatively as destination unverified and shall not be included in the recycled amount. It may be included in total waste generated if the quantity is reliable.
e. Waste transferred between MU units shall be counted once only at the final institutional exit or verified on-site recovery point.

8.5 Monthly Reconciliation and Data Quality

a. Each designated unit recordkeeper shall submit monthly logs and supporting documents within the period set by Facilities and Environmental Management.
b. The consolidator shall reconcile source logs, internal collection records, recycler or buyer receipts, hauler records, treatment manifests, and landfill documentation and resolve duplicates, missing destinations, inconsistent units, and material differences.
c. Data shall pass completeness, validity, accuracy, consistency, timeliness, and traceability checks. Corrections shall retain the original value, revised value, reason, date, and approving person.
d. The monthly mass balance should satisfy: total waste generated equals verified reuse plus recycled plus composted plus other recovery plus regulated treatment or disposal plus landfill plus measured inventory change, subject to documented rounding or estimation variance.

8.6 Calculations and Reporting

Measure	Required Calculation
Total waste generated	Sum of all non-duplicated measured waste streams within the institutional boundary.
Waste recycled	Sum of waste supported by verified downstream recycling evidence.
Waste sent to landfill	Sum of residual waste supported by verified sanitary landfill or hauler destination evidence.
Recycling rate	Waste recycled / total waste generated x 100.

Diversion rate	Verified reuse + recycling + composting + other approved recovery, divided by total waste generated x 100.
Landfill rate	Waste sent to landfill / total waste generated x 100.
Data coverage	Waste-generating locations with compliant data / all material waste-generating locations x 100.
Evidence completeness	Recorded outbound loads with acceptable destination evidence / total recorded outbound loads x 100.

The annual report shall present amounts in metric tonnes, the reporting period, organizational boundary, measurement methods, directly weighed versus estimated amounts, waste streams, destinations, data coverage, limitations, and year-on-year trends. Hazardous or regulated waste shall be disclosed separately and shall not be combined with ordinary landfill or recycling figures without clear classification.

8.7 Contractors and Outsourced Operations

a. Contracts for waste collection, recycling, canteens, cleaning, landscaping, construction, events, laboratories, clinics, and leased operations shall require segregation, measurement, record submission, lawful destinations, audit access, incident notification, and corrective action.
b. Contractors shall not appoint a subcontractor or change a downstream facility without required authorization and updated permit verification.
c. Failure to provide destination evidence, deliberate mixing, illegal dumping, burning, falsified weights, or use of an unauthorized facility may result in rejected service, withheld acceptance, corrective action, suspension, non-renewal, termination, recovery of losses, and referral to authorities, consistent with contract and due process.

8.8 Waste Reduction and Diversion Planning

a. Annual objectives and targets shall prioritize significant waste streams and consider prevention, green procurement, take-back, paper reduction, refill systems, repair, reuse, food-waste prevention, composting, recycling access, and stakeholder education.
b. Responsible units shall define a baseline, indicator, target, actions, resources, owner, timetable, and method of evaluation.
c. When performance falls below target or data are unreliable, the responsible unit shall determine causes, implement corrective action, and verify effectiveness.

8.9 Incident and Nonconformity Control

- Spills, mixed hazardous and general waste, sharps in ordinary bins, illegal dumping, open burning, missing manifests, damaged containers,

unauthorized transport, and significant data falsification shall be reported immediately.

- Affected waste shall be isolated when safe, access controlled, and competent safety or environmental personnel notified. Emergency and regulatory reporting shall follow applicable procedures.
- Nonconformities shall be documented, corrected, analyzed for cause when appropriate, and closed only after effectiveness is verified.

9. Records and Retention

a. Waste Measurement Boundary Register and source inventory.
b. Daily or event waste logs, collection logs, monthly summaries, scale checks or calibration records, sampling sheets, conversion factors, photographs, and data correction history.
c. Recycler, junkshop, composting, MRF, treatment, hauler, and landfill permits or verification records; contracts and service-level agreements.
d. Acknowledgment receipts, sales invoices, certificates of recycling or recovery, waste manifests, transport records, weighbridge tickets, landfill receipts, and certificates of treatment or disposal.
e. Waste characterization studies, audit reports, committee minutes, KPI dashboards, annual sustainability reports, Management Review records, corrective actions, and improvement plans.

Records shall be legible, protected from loss or unauthorized alteration, retrievable by reporting period and waste stream, and retained according to the University retention schedule and any longer period required by law, permit, contract, audit, or grant. Public reports shall exclude protected personal data and confidential commercial information.

10 Monitoring and Performance Evaluation

Indicator	Minimum Frequency	Responsible Office
Total waste generated, recycled, recovered, and sent to landfill	Monthly and annual	Facilities and Environmental Management
Recycling, diversion, and landfill rates	Quarterly and annual	Facilities and Sustainability Committee
Coverage of all material University locations	Quarterly	Facilities and Quality Assurance
Evidence completeness and reconciliation variance	Monthly	Facilities and Finance
Contamination rate by stream or location	Quarterly or by audit sample	Facilities and unit heads
Supplier and hauler compliance	Before engagement	Procurement and Facilities

	and at least annually	
Objectives, targets, corrective actions, and trend performance	At least annually	Sustainability Committee and Management Review

Internal audits shall sample records from generation point to final destination. Management Review shall consider performance trends, legal and stakeholder requirements, adequacy of resources, contractor performance, audit findings, risks, opportunities, and the need to revise objectives or controls.

11 Communication and Public Disclosure

The policy shall be communicated to employees, learners, tenants, contractors, and visitors through orientation, signage, contracts, digital channels, and relevant academic or sustainability activities. A current approved copy shall be publicly accessible on the University website. MU shall publish a concise annual waste summary showing the boundary, total generated, recycled, recovered, landfill amount, rates, progress, and material limitations to support transparent THE evidence.

12 Review and Continual Improvement

This policy shall be reviewed at least once every three years and earlier when laws, permits, ISO requirements, THE methodology, waste services, measurement methods, campus coverage, or material risks change. Facilities and Environmental Management, the Sustainability or Environmental Committee, and the Quality Assurance Office shall evaluate the effectiveness of implementation and recommend revisions to the approving authority.

APPROVED BY:

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Vice Chair, Board of Directors / University President

Annex A Waste Movement Log

Complete one line for each measured internal collection or external movement. Do not duplicate a transfer in the institutional total.

Date	Source	Waste stream	Qty kg	Method	Destination	Receipt or manifest	Recorder

Measurement method code: S = scale; W = weighbridge or third-party weight; C = count x verified unit weight; V = volume x verified density. Mark estimated values with E.

Annex B Monthly Waste Summary and Mass Balance

Waste stream	Generated kg	Reused kg	Recycled kg	Composted kg	Other recovery kg	Landfill kg	Regulated treatment kg	Unverified or stock change kg
Paper and cardboard								
Plastics								
Metal and glass								
Food and biodegradable								
Residual waste								
E waste and special waste								
Hazardous healthcare and laboratory								
Construction and								

bulky waste								
Other specify								
TOTAL								

Reporting month and year _____ Campus or boundary_____

Data coverage ____% Evidence completeness ____ % Reconciliation variance ____kg or _____ %

Recycling rate _____ % Diversion rate _____ % Landfill rate _____ %

Prepared by _____ Verified by _____Approval date _____

Annex C Waste Service Provider and Destination Verification

Verification Item	**Compliant**	**Evidence and Expiry**	**Finding or Action**
Business and relevant operating permits			
DENR EMB registration permit or accreditation where applicable			
Vehicle transport and driver requirements			
Recycler MRF treatment facility or sanitary landfill authorization			
Waste streams accepted and prohibited			
Weighing method and calibration evidence			
Receipts manifests certificates and reporting capability			
Subcontractors and downstream destinations disclosed			
Prior violations complaints spills dumping or burning checked			

Audit access incident notification and corrective action clauses			

Provider _____ Final destination _____

Risk Rating: Low / Medium / High Decision: Approved / Conditional / Not approved

Verified by _____ Date _____ Next review _____

Annex D Minimum Contract Clause

The Contractor shall comply with the Misamis University Waste Disposal Measurement and Diversion Policy; segregate and measure all covered waste; use only authorized personnel, vehicles, facilities, recyclers, treatment providers, and sanitary landfills; maintain an auditable chain of custody; provide accurate weight records, receipts, manifests, and certificates; prohibit unauthorized mixing, dumping, discharge, and burning; promptly disclose incidents or changes in downstream facilities; and permit proportionate verification by the University. Collection alone shall not be represented as recycling. Failure to comply may result in corrective action, suspension, non-renewal, termination, recovery of losses, disqualification, or referral to competent authorities, consistent with the contract, due process, and applicable law.