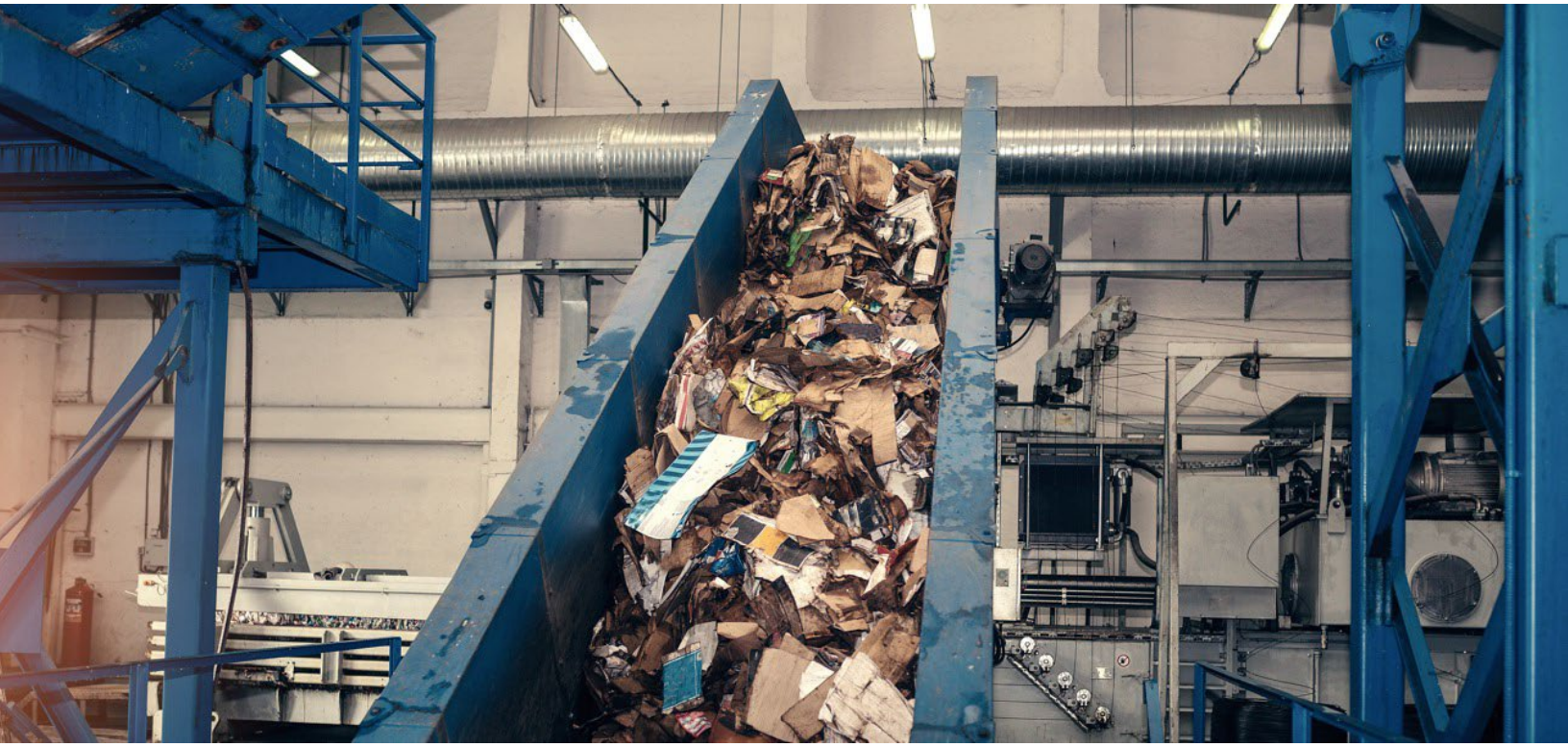
Certification Standard for Zero Waste

SCS-110



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SCS standards

SCS Standards serves as the catalyst to advance private and public sectors in achieving the United Nations Sustainable Development Goals, the blueprint for peace and prosperity for people and the planet.

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Table of Contents

Record of Revisions

Version	Release date	Remark/changes
V1.0	November 2020	Original Version
V1.1	January 2021	Introduction updated to include ethos of standard and clearly lay out accepted diversion methods.
V2.0	November 2021	▪ New formatting. ▪ Additional requirements for certificates. ▪ New definition of e-waste added. ▪ Caveat for 1st audits added: it is possible to start the audit upon collection of 4 months of data and finalize the audit after 12 months of data are available. ▪ Requirements for affidavits moved to separate section.
V3.0	March 2023	▪ Certification body requirements were moved into a separate standalone document that includes: ○ Criteria for determining eligibility for on-site or remote auditing, ○ On-site sampling requirements for external vendors, and ○ Updated CAP/RCA requirements. ▪ Default residual for waste-to-energy was updated from 20% to 25%. ▪ Unaccounted-for waste was added as a category to be included in the diversion Calculation and on the certificate. ▪ New claims and metrics were added. ▪ New template for affidavits was developed (available from approved certification body). ▪ Additional requirements for waste management documentation, including requirement for a plan to phase out waste-to-energy diversion methods known to produce high GHG emissions and toxins and toxins, were included.
V4.0	October 2024	▪ Overall restructure and update to consolidate the following standards: SCS-110 (Zero Waste Facilities), SCS-111-1 (Zero Waste Projects) and SCS-111-2 (Zero Waste Events). ▪ Specified intended users of the standard (1.2). ▪ Specified language usage and associated requirements (1.3). ▪ Specified standard limitations (2.2). ▪ Added general conformance requirements (3). ▪ Updated and added terms to standard definitions. ▪ Removed distinction between “Facility Type 1” and “Facility Type 2”. ▪ Addition of timeline for allowable use of waste to energy as a diversion method. ▪ Clarified allowed pathway claims for diversion facilities and optionality of internal waste diversion methods/pathways. ▪ Restructured and clarified requirements for Waste Management Program Manual. ▪ Added general requirements for claims and logo usage (8.1). ▪ Updated and added stipulations for acceptable claims on and off product (8.2).

1. Introduction

1.1 Purpose

1.1.1 The purpose of the SCS Certification Standard for Zero Waste (hereinafter "SCS-110" or "Standard") is to provide a basis for certifying the diversion of municipal solid waste from landfill and incineration (without energy recovery) at an Operator's facility, project, or event.

1.1.2 This Standard seeks to:

- Recognize facility, project, or event Operators for waste diversion practices and waste management efforts.
- Encourage an Operator's understanding of the fate of their waste material, including the destination of waste beyond the initial external vendor.
- Empower Operators to seek partnerships with external vendors practicing effective and transparent waste diversion.
- Increase public awareness of various waste disposal pathways, especially pathways for waste diversion from landfill and from incineration without energy recovery.

1.2 Intended Users

1.2.1 This Standard may be used by any organization that manages or owns a facility, project, or event whose operations generate waste and that wishes to demonstrate waste diversion from landfill.

1.3 Language

1.3.1 The verb "shall" is used in criteria to indicate a requirement of the standard. The verb "can" is used to express an ability to perform an action. The verb "may" is used to express permission to perform an action that is not a requirement but a voluntary disclosure. The verb "might" is used to express a condition that could potentially exist.

2. Scope and Limitations

2.1 Scope

2.1.1 This standard provides the methodology to calculate and report the amount of waste diverted from landfills as a percentage of total waste generated by tracking the following pathways for waste diversion:

- Reuse
- Reclamation
- Sale/donation
- Prevention through redesign
- Recycling
- Composting
- Energy recovery
- E-waste recovery

2.2 Limitations

2.2.1 The calculation of greenhouse gas emissions associated with a given facility, project, or event is not within the scope of this Standard.

2.2.2 This Standard does not address all safety, health, and performance concerns, if any, associated with its use.

2.2.3 This Standard does not address any environmental impact tradeoffs that may be associated with the waste diversion practices of the subject under assessment. Therefore, there may be environmental impact tradeoffs associated with a certified Operator and/or an Operator's diversion of waste from landfill.

3. Conformance

3.1 Conformance to the Standard

3.1.1 In order to be considered conformant to this Standard, the Operator shall meet all applicable requirements. Minimum thresholds for waste diversion within the Standard are as follows:

- Facility: The Operator shall demonstrate at least 50% waste diversion over a 12-month period.
- Project: The Operator shall demonstrate at least 50% waste diversion over a defined time period.
- Event: The Operator shall demonstrate at least 75% waste diversion over a defined time period.

3.1.2 The Operator shall undergo an audit against this Standard by an SCS Standards-approved certification body that follows the SCS-110 Certification Body Requirements.

3.1.3 To support conformance with SCS-110, the Operator can petition its certification body to consider data collected for other recognized third-party certification standards.[1] Recognized third-party certification standards include:

- ISO 14001

3.2 Complaints and Appeals

3.2.1 The Operator has the right to appeal a certification decision within 30 days of receiving the final report. Appeals shall be submitted to the certification body for evaluation and resolution.

3.2.2 Complaints shall be handled directly by the approved certification body. If a satisfactory resolution is not found, a complaint may be elevated to SCS Standards.

[1] An operator may propose additional third-party certification programs for SCS Standards' consideration by contacting standards@scsstandards.org and providing a rationale for the request.

4. References

4.1 Normative Documents

- SCS Standards Certification Body Approval Requirements
- SCS-110 Certification Body Requirements

4.2 Supporting Documents

The following documents are available upon request from the certification body:

- Affidavit Template
- Waste Diversion Calculator
- Zero Waste Checklist

5. Terms and Definitions

Ash: The material collected after incineration. This includes 'fly ash' which is airborne ash collected after incineration and 'incinerator bottom ash' which is heavy ash found in the bottom of an incinerator post burning. No ash sent to landfill is considered diverted.

Average Residual Percentages: Industry averages of residuals calculated in formal studies.[2] These can be applied to an Operator's outgoing waste if an affidavit with a specific percentage cannot be provided by the external vendor. See definition for "residuals".[3]

Composting: The process of allowing organic waste material to decay to form relatively homogeneous and stable humus-like substance that can then be added to soil as fertilizer [ISO 14021]. Composting can be either an internal or external diversion method.

Construction and Demolition (C&D) Debris: Waste materials resulting from the construction and demolition of buildings and other structures, including materials such as metals, wood, gypsum, asphalt shingles, roofing, concrete, rocks, rubble, soil, paper, plastics, and glass, but excluding putrescible wastes [SWANA Technical Policies, Attachment B].[4]

Critical Control Point: A physical point within/around the subject under assessment that is essential for the successful implementation of the waste diversion program, i.e., where a waste is generated, stored, and processed/internally diverted.

Diverted Waste: Waste that is either internally processed by a subject under assessment using reuse, reclamation, or prevention through redesign, or that is sent to an external vendor for recycling, composting, waste-to-energy or sale/donation (composting and waste-to-energy may also be internal diversion methods if these capabilities are available on-site), resulting in avoidance of sending waste to landfill or incineration without energy recovery.

E-Waste Recovery: The process of recovering valuable materials from consumer and business electronic equipment that is near or at the end of its useful life (such as computers, televisions, and cell phones)[5]. This process is undertaken by licensed facilities.

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[2] For example, in the state of California, the California Environmental Protection Agency (CEPA) conducted a study which showed that the residuals percentages for the year 2005 are: Single-Stream Materials Recovery Facility (MRF): 14%, Multi-Stream: 6%, Mixed Waste: 81%, Construction and Demolition (C&D) 23%.

[3] R.W. Beck, Inc., "Targeted Statewide Waste Characterization Study: Characterization and Quantification of Residuals from Materials Recovery Facilities," *Cascadia Consulting Group*, June, 2006, https://www2.calrecycle.ca.gov/WasteCharacterization/PubExtracts/34106005/ExecSummary.pdf.

[4] SWANA Technical Policy, "Definitions Of Terms Used in SWANA Technical Policies and Solid Waste Management: Attachment B," SWANA, October 8, 2004, https://swana.org/docs/default-source/advocacy-documents/technical-policies-library/t-0---definitions.pdf?sfvrsn=35f29acf_2.

[5] CalReycle, "What Is E-Waste?" CalRecycle, 2023, https://calrecycle.ca.gov/electronics/.

Event: An occasion or activity characterized by the gathering of people at a specific location, defined by a specific period of time.

External Diversion: The process of sending waste materials outside of the subject under assessment to be diverted from landfill through processing at an external facility. Typically, this includes recycling, composting, waste-to-energy, sale/donation, e-waste.

External Vendor: Any organization or facility outside of the subject under assessment, where waste is sent to be further processed. See the definition of 'facility' for a non-exhaustive list of potential external vendors. External vendors are used by Operators to achieve external diversion. Potential external vendors include, but are not limited to:

- Materials Recovery Facility (MRF) (single-stream and multi-stream)
- Mixed waste processing facility
- Composting facility
- Waste-to-energy facility (combustion, gasification, pyrolysis, and anaerobic digestion)
- Landfill
- Incinerator
- Facilities listed in the facility definition below

Facility: All or any portion of buildings, structures, sites, complexes, roads, or parking lots.[6] Any facility can qualify for assessment under this Standard. Conversely, any facility can qualify as an external vendor under this Standard, provided that the facility is not the primary subject of assessment. Examples of facilities include, but are not limited to:

- Commercial facilities (office buildings, hotels, restaurants)
- Institutional facilities (hospitals, laboratories, educational facilities)
- Industrial facilities (heavy manufacturing, light manufacturing, distribution warehouse, general warehouse, flex space, showroom buildings, research and development, data centers)
- External vendors that offer waste diversion services

Hazardous Waste: A waste listed as hazardous by governing authorities[7]; or a waste that is characterized by being ignitable, reactive, corrosive, or extraction procedure toxic.[8]

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[6] *Based on* Cornell Law School, "29 CFR § 38.4 – Definitions", Cornell Law School, February 9, 2023, https://www.law.cornell.edu/cfr/text/29/38.4

[7] United States Environmental Protection Agency, "Defining Hazardous Waste: Listed, Characteristic and Mixed Radiological Wastes," US EPA, June 15, 2022, https://www.epa.gov/hw/defining-hazardous-waste-listed-characteristic-and-mixed-radiological-wastes#listed.

[8] United States Department of Agriculture, "Hazardous Waste Management," USDA Agricultural Resource Service, August 12, 2016, https://www.ars.usda.gov/northeast-area/docs/safety-health-and-environmental-training/hazardous-waste-management/.

Internal Diversion: The process of diverting waste from landfills using processes available at/within the facility under assessment. Typically, this includes reuse, reclamation, and prevention through redesign, but may also include composting and waste-to-energy if these methods are available on-site. Internal diversion for projects and events is not expected but will be evaluated on a case-by-case basis.

Materials Recovery Facility (MRF): A building where commingled recyclables are separated and processed (including sorting, baling and crushing) or where source-separated recyclables are processed for sale to various markets. Different types of MRFs include multi-stream MRF, single-stream MRF, and mixed waste processing facilities.[9]

Mixed Waste Processing Facility: A facility where recyclable materials are separated from waste that is landfill-bound.

Multi-Stream Materials Recovery Facility: A facility at which source-separated recyclables (recyclables that are separated into categories by the initial user before being picked up) are processed for sale to various markets.

Municipal Solid Waste (MSW): Material commonly known as 'trash' or 'garbage' that consists of everyday items used and then thrown away, such as product packaging, grass clippings, furniture, clothing, bottles, food scraps, newspapers, appliances, paint, and batteries. Such material comes from homes, schools, hospitals, and businesses (EPA.gov). Municipal solid waste generally excludes wastewater or wasted energy, however, where wastewater sludge is sent off site to landfill or to be processed by an external vendor, it will be counted in the calculation.

Operator: An organization that owns or manages a facility, project, or event under assessment.

Prevention through Redesign: A diversion method in which waste that would have occurred under a former process has since been eliminated due to redesign of the product, packaging, or process.

Project: An activity that takes place at a facility but is not bound by management at that facility. For example, a construction project, landscaping project, interior design renovation project, cleanup project, or remodeling project.

Reasonable Distance: An area defined by the location of the subject under assessment, relative to the nearest recycling/composting/material recovery facility (MRF) and nearest waste-to-energy facility. In situations where the nearest MRF is more than twice the distance to the nearest waste-to-energy plant, diversion using waste-to-energy can be an accepted for 25-50% of total waste generated.

[9] SWANA Technical Policy, "Definitions Of Terms Used in SWANA Technical Policies and Solid Waste Management: Attachment B," SWANA, October 8, 2004, https://swana.org/docs/default-source/advocacy-documents/technical-policies-library/t-0---definitions.pdf?sfvrsn=35f29acf_2.

Reclamation: An internal (on-site) diversion pathway whereby waste material that would have otherwise been landfilled, incinerated, or sent for energy recovery, is collected and used as an input into a manufacturing process [definition based on ISO 14021]. Reclamation prevents the use of purchased or virgin materials by using materials generated on-site. Reclamation can lead to a value-added product. For example, a plywood manufacturer generates sawdust which can be collected and made into pellets. Pre-consumer waste could potentially fall under this category.

Recycling: The process of collecting qualifying waste material and sending it to a MRF to be shredded, pelletized, or chemically altered with the goal of selling this processed material to existing markets. Common materials recycled include glass, metal, cardboard, and plastics, but other materials may apply as well. Recycling is an external diversion method; material is considered recycled under this Standard when it is sent to an MRF.

Reuse: An internal (on-site) diversion pathway whereby waste material that would have otherwise been landfilled or sent for energy recovery is collected and used again for its *initial* purpose. For example, reuse would include foam that is recompacted at the end of an internal process and used again. Pre-consumer waste could potentially fall under this category.

Residuals: Waste material that remains after the diversion process has taken place. Residuals percentages are specific to the type of diversion method, external vendor, as well as to the state or city (depending on available data). For the diversion method of waste-to-energy, bottom ash is the residual. For recycling facilities, the residual may be materials that the facility is not capable of processing, while for composting, residuals could include bottles or cans that ended up in the organic food waste stream.

Sale/Donation: The process of identifying a beneficial use for a waste material and sending it directly to a (non-MRF) external vendor for it to be input into a process or otherwise consumed.[10]

Stored Waste Material: Waste that is stored on-site for longer than 12 months or waste that is stored on-site at the end of the assessment period.

Subject: In this Standard, a facility, project, or event.

Single-Stream Materials Recovery Facility: A recycling facility into which commingled recycling materials (recyclables that are mixed together by the initial user) are accepted and processed.

Unaccounted for Waste: Waste that has been sent externally but has not been quantified by the receiving external vendor and cannot be reliably estimated by the Operator and has therefore not been included in the Waste Diversion Calculator. For example, cardboard boxes in which e-waste is sent to an external vendor that are not quantified by the external vendor and for which no evidence can be provided that the material was diverted.

[10] Facilities receiving sold material are considered external vendors.

Waste: Any material that the Operator discards, intends to discard, or is required to discard as a byproduct of its operations.

Waste Diversion: Pathways of waste disposal using methods other than landfilling or incineration without energy recovery. Methods may include recycling, composting, re-use, reclaiming, prevention, and/or waste-to-energy (instead of sending it to the landfill).

Waste-to-Energy (WTE): The pathway of recovering energy from material that would have been sent to landfill but instead has been collected through managed processes [definition based on ISO 14021]. This method includes combustion, pyrolysis, and anaerobic digestion where the main purpose and output of the process is to create energy. WTE can be either an internal or external diversion method. Energy recovery and ash are common outputs of this diversion method.

Zero Waste: 99%+ of all waste material generated or prevented by the Operator, within the boundary of the subject under assessment.

6. Requirements for Waste Diversion Certification

6.1 General Requirements

6.1.1 Operators shall demonstrate a minimum level of waste diversion according to the following requirements:

- Facilities: at least 50% waste diversion per facility over a 12-month period.
- Projects: at least 50% waste diversion per project over a period defined by the Operator of the project.
- Events: at least 75% waste diversion per event over a period defined by the Operator of the event.

6.1.2 No more than 50% of total waste stream shall be sent to waste-to-energy facilities.

6.1.3 A minimum of 95% of all waste sent or intended to be sent to external vendors shall be accounted for and included in the calculator. Supporting documentation or estimation methodology for each material for this period shall be provided.

6.1.4 Operators shall resolve any regulatory violations related to waste handling and disposal.

6.1.5 All locations used by the Operator to store waste materials shall be clearly identified and labelled.

6.1.6 The Operator shall define and document metrics to measure and track production of waste, for example, waste per unit of production, waste per square footage, waste per head count.[11]

6.2 Waste Diversion Calculation

6.2.1 The following equation shall be used to calculate waste diversion:

$$Diversion = \frac{(diverted\ waste\ - residuals)\ +\ prevented\ waste}{total\ waste\ +\ prevented\ waste}$$

6.2.2 The following equation shall be used to calculate diversion of waste materials sent to external vendors, i.e., material sent to external facilities that apply the following diversion methods: composting, recycling, e-waste recovery, waste-to-energy, sale/donation, and qualifying hazardous waste:

$$Diverted\ amount = amount\ sent\ to\ external\ vendor - residuals$$

[11] These metrics allow verification that the amount of waste claimed matches the amount of waste that can be expected from the operation.

6.2.3 Residuals can be applied from the following sources[12]:

- Affidavit from external vendor
- Actual data from the external vendor that calculates residuals
- Industry study

6.2.4 If the facility undergoing certification offers waste diversion services, then the facility may not claim its own operations as a diversion pathway and must specify other external vendors and/or destinations for the waste materials.[13]

6.3 Optional: Prevention through Redesign

6.3.1 Prevention through redesign is applicable to facilities only. [14]

6.3.2 Prevented waste shall be calculated using the following equation:

$$Prevented\ waste = \frac{A}{B}\ x\ C$$

Where:

A = total waste generated over at least a 6-month period prior to the redesign (i.e., using previous process)

B = total number of units sold over the same period as A

C = total number of units sold over at least a 6-month period starting from the implementation of the redesign (i.e., using current process)

6.3.3 The Operator shall provide evidence of all data used (A, B, and C).

6.3.4 Prevented waste can be claimed for up to five years from the implementation of a redesign process. For every year through year five, A & B will be the same numbers as used in the initial calculation approved during year one certification. In the same period, C shall be adjusted to reflect actual units sold.

6.4 Optional: Reuse, Reclamation, and Other Forms of Internal Diversion

6.4.1 The Operator shall calculate the residual from each internal diversion method used by the Operator.

[12] Operators may offer alternative means for calculating/estimating residuals. Those shall be evaluated by the certification body for approval.
[13] For example, if an e-waste facility is undergoing certification, any e-waste it processes would be considered recycled or resold, not recovered as e-waste, unless it directly sells to another e-waste facility.
[14] A project or event Operator may propose prevention through redesign as a diversion method for SCS Standards' consideration by contacting standards@scsstandards.org and providing a related methodology.

6.4.2 Diverted material shall be calculated using the following equation:

$$Diverted\ material = amount\ input\ into\ the\ diversion\ process - residuals\ from\ process$$

6.4.3 Data used for the calculation shall be documented.

6.5 Sale/Donation

6.5.1 Waste material can be further classified into the following categories:

- Sale for reuse
- Donation for consumption
- Sale for manufacturing (Circularity)

6.5.2 A waste material can be considered a sold waste material, as opposed to a product, if the economic value, per unit, of the material is less than 15% of the economic value, per unit, of the main or primary product(s).

6.5.3 Data used for the calculation of the economic value (6.5.2) shall be documented.

6.5.4 The intended use of sold and/or donated waste material by the external vendor shall be documented.

6.6 Stored Waste Material

6.6.1 Storage of waste material is applicable to facilities only.[15]

6.6.2 Stored waste material that is not disposed of by the end of the facility's certification period shall not be counted as landfilled or diverted waste. Instead, it shall be tracked separately (i.e., in the SCS-approved Waste Diversion Calculator, tab "Tracked Waste not in Calculator").

6.6.3 The Operator shall include a plan for stored waste in its Waste Management Program Manual that includes intended storage time and intended methods of diversion or disposal.

6.6.4 In the subsequent audit, which covers 12 consecutive months, the Operator shall demonstrate the outcome of all stored waste.

6.7 Energy Recovery

6.7.1 Where the thresholds set in Table 1 are met, waste recovered as energy shall be calculated using the following equation:

[15] Stored waste material may be considered on a case-by-case basis for a project by contacting standards@scsstandards.org and providing a justification.

$$Total\ Waste\ recovered\ as\ energy\ (A) = Total\ waste\ sent\ to\ waste\ to\ energy\ (B) - Residuals$$

6.7.2 No more than the allowable amount as defined in Table 1, Column B shall be sent to waste-to-energy facilities.

Table 1. Allowable waste-to-energy recovery

A	B	C
Percentage of total waste allowed to be recovered as energy without further review (cell AE2004 of Waste Diversion Calculator)	**Cap on total amount of waste sent to waste-to energy-facilities (cell BD2004 of Waste Diversion Calculator)**	**Cutoff for allowance (based on year the waste is generated)**
25%	50%	2024 and prior
20%	40%	2025
15%	30%	2026-2030
10%	20%	2031-2035
5%	10%	2036-2040

6.7.3 To claim energy recovery as a diversion method for more than the allowable amount as defined in Table 1, Column A, the Operator shall demonstrate that there are no external vendors that can recycle, compost, or otherwise divert the material within a reasonable distance from the subject under assessment or at a feasible cost.[16] If other options are available, energy recovery as diversion method shall be capped at 25% and the rest shall be considered landfilled.

Note: the most conservative average residual percentage for waste-to-energy is 25% (by weight) and will be counted as landfilled in the calculation if other documentation cannot be provided.[17]

6.8 Hazardous Materials

6.8.1 The Operator shall demonstrate that hazardous materials that are required to go to landfill or incineration without energy recovery are disposed of in accordance with legal requirements. The amount of hazardous waste shall not be calculated in the diversion calculation but shall be tracked separately (i.e., in the SCS-approved Waste Diversion Calculator, tab "Tracked Waste not in Calculator").

6.8.2 If the Operator is able to demonstrate that the hazardous material has been diverted or prevented with redesign, re-purposed, or re-used (in a safe manner), this material can be considered diverted or prevented waste, following 6.2, 6.3, and 6.4.

[16] Feasibility of cost should be determined based on annual revenue of an Operator.
[17] United States Environmental Protection Agency, "Energy Recovery from the Combustion of Municipal Solid Waste (MSW)," US EPA, March 16, 2022, https://www.epa.gov/smm/energy-recovery-combustion-municipal-solid-waste-msw#03.

7. Record Keeping and Documentation

The Operator shall maintain written documentation and records of activities for all subjects under assessment, as listed in this section.

7.1 General Requirements

7.1.1 Records shall be kept for a minimum of five years.

7.1.2 The Operator shall maintain all records that track the movement and amount of waste materials, including, but not limited to, the following:

- Contracts with external vendors
- Invoices from external vendors
- Bills of lading, and
- Estimation of waste based on infrastructure.

7.1.3 The Operator shall maintain a written Waste Management Program Manual.

7.1.4 The Operator shall maintain Standard Operating Procedures (SOPs) for managing wastes.[18]

7.2 Regulatory Requirements

7.2.1 The Operator shall maintain a list of all applicable local, state, and federal waste regulations and a summary of how the subject under assessment conforms with each one.[19] This shall include regulations on e-waste and hazardous waste, as well as whether there are statutes that make recycling and composting compulsory.

7.2.2 Any legal allowances for diversion using waste-to-energy shall be described.

7.3 Waste Management Program Manual

The Waste Management Program Manual shall meet the following requirements:

7.3.1 Define the subject of the certification, including the name and a description of the subject's boundary.

[18] The SOPs may be part of the Operator's Waste Management Program Manual.
[19] If local regulations prohibit a diversion method allowed by the standard, the diversion calculation shall be calculated both with the diversion method and without. A footnote shall be added to the certificate to indicate what the diversion percentage would be considered under local laws.

7.3.2 Define the Operator's zero waste target (i.e., waste diversion goal as percentage) for the subject under assessment.

7.3.3 Include a long-term plan to reach zero waste (99%+ diversion), as well as how diversion will be achieved over time (reasonable time horizon to be established by the Operator). This shall include a long-term plan to quantify waste materials diverted through internal reuse, reclamation, and prevention from redesign, if these waste materials are not yet quantified at the time of the initial audit.

7.3.4 List all wastes generated in the context of the operations at the facility, project, or event under assessment, even if production of waste is not consistent. This includes, but is not limited to, the following: canteen/cafeteria waste, sanitary waste, e-waste (including lamps/lightbulbs), office waste (including used ink cartridges and paper waste), manufacturing waste, hazardous waste, waste sent for recycling, donated waste, landscaping waste, used oil, and construction and demolition waste. All wastes should be addressed; if not applicable due to limitation of the subject under assessment, this should be specified in the Waste Management Program Manual.

7.3.5 List staff responsible for implementing the Waste Management Program, as well as their responsibilities.

7.3.6 Describe any internal practices where waste is prevented, reclaimed, reused, or composted, if done on-site, including how residual from process is calculated and disposed.

7.3.7 List external vendors along with the diversion methods offered (recycling, composting, waste-to-energy, e-waste, sale/donation for manufacturing/consumption). This list shall include all 1st tier external vendors (i.e., locations where waste is sent immediately after it leaves the subject under assessment). This list should also include any known 2nd tier external vendor (i.e., location where 1st tier external vendor sends waste material for further processing) and 3rd tier external vendors (i.e., location where 2nd tier external vendor sends waste material for further processing).

7.3.8 Include a detailed plan and its implementation to phase out the use of waste-to-energy diversion pathways known to produce high GHG emissions[20], if any such pathways are used by the Operator. The plan shall include alternative waste diversion methods being explored and proposed deadlines for implementation. The Operator shall provide evidence if using a waste-to-energy pathway that does not produce high emissions.

7.3.9 Include the process and plan for ultimately diverting or landfilling any stored or internally transferred waste, if applicable. This is not applicable to events, may apply to projects, and is always applicable to facilities.

[20] Any GHG emissions over 0.49 kgco2eq/kg of waste material shall be considered high. This threshold was determined by taking the average emissions reported for mixed MSW from 14 scientific studies.

7.3.10 Describe any unaccounted-for waste and outline a plan to ensure future calculation, tracking, and long-term accountability, for each unaccounted-for waste stream.

7.3.11 Include any materials for which estimated values are used in place of actual values in the SCS-approved Waste Diversion Calculator. The Waste Management Program Manual shall include the name of the waste, the formula used, supporting documentation for any values used, and the timeline for updating estimates (this shall be updated every three months at minimum).

7.3.11.1 Indicate that the most conservative numbers are used when applying estimates/averages. For example, if pallets are diverted and the average weight is 30-48 lb, then 30 lb shall be used. The higher amount shall be used in cases of landfilling.

7.3.12 Define the internal audit process including personnel responsible to conduct the audit, personnel responsible to review the audit, documents and templates to be used, timeframe for conducting the audit, and deadlines for action plans that address findings (see section 7.5)

7.3.13 Define and map Critical Control Points. This can include a flow chart and map of facility, project, or event to give a clear picture of the flow of waste through the facility, project, or event.

7.3.14 Indicate whether the facility collects, manages, or processes waste material on the behalf of any other facility, including owned facilities, as well as the steps taken to ensure that material is not double counted in the calculator.

7.3.15 Include the waste diversion claims that are used or that are intended to be used following the claims allowed in Section 8 of this standard, as well as the fact that percentages in claims must be updated following certification and expire a year after the certificate is issued.

7.3.16 Include the selected metrics used to measure and track waste (see 6.1.6).

7.4 Training Records

7.4.1 The Operator shall maintain the following training documents and records:

- General training for all staff to understand diversion goals of program
- Training of staff and contractors working at all Critical Control Points
- Evidence of training regarding handling of wastes

7.5 Internal Audits

7.5.1 The Operator shall maintain evidence that internal audits are conducted.

7.5.2 The internal audits shall monitor the Operator's:

- Performance against this Standard

- Progress towards achieving its own waste diversion goals for subjects under assessment

7.5.3 Records of internal audits shall be available at every assessment, including the initial assessment.

7.6 Waste Diversion Calculator

7.6.1 Operators shall use the Waste Diversion Calculator to calculate waste diversion.[21]

7.6.2 In the Waste Diversion Calculator[22], each line shall represent an entry for a waste material, supportable with corresponding documentation.

7.6.3 Calculation shall be based on the following inputs for each waste material:

- Material name (name shall match name of material stated in the Operator's Waste Management Program Manual).
- Amount of material (weight)[23]
- Supporting document reference (e.g., corresponding bill of lading number, invoice number, internal document)
- Date of diversion/disposal (must match supporting document or be supported by internal document; must match date when waste was processed)
- Name(s) of any/all external vendors (Tier 1 – Tier 3)
- Method of diversion or disposal at each external vendor
- Residual rates of each external vendor, expressed as a percentage, representing the contamination of corresponding waste streams.
- Amount of material sent for further processing (e.g., sent from a Tier 1 vendor to a Tier 2 vendor), expressed as a percentage of total waste initially sent. Any amount not sent on further is considered a processing loss and shall be considered landfilled.
- Conversions between units in supporting documentation, which shall be tracked, either with the calculator or in the Waste Management Program Manual. For example, if invoice is in "Unit" and calculator is in pounds, then the conversion between "Unit" and pounds must be tracked.

7.7 Residuals

7.7.1 The Operator shall maintain one of the following types of supporting documentation[24] for residuals:

[21] The Operator may use a proprietary calculation tool subject to review and approval by the certification body.
[22] Currently, the Waste Diversion Calculator is an Excel tool. Technological solutions may be available in the future.
[23] A difference of 5% of amount entered in comparison to the supporting documentation may be accepted.
[24] For initial audits, emails from external vendors are acceptable.

7.7.1.1 Affidavit[25], from external vendors, that shall include:

- Address and name of external vendor
- Name of material(s) and volume or weight of material(s) received from the Operator
- Time boundary of material received, which includes the entire time period being audited, e.g., "For the waste received in the year 2021…"
- Information regarding residuals from received waste, either:
  - The exact percentage of residuals in the waste sent by the subject under assessment to external vendor, OR
  - The percentage of waste emitted by the external vendor as a whole (whenever feasible, the rate shall be no more than five years old)
- Whether residuals from their own process have been landfilled, sent for further processing, or used for waste-to-energy
- Affirmative statement indicating that all information provided is accurate and free of errors
- Name and signature of person with authority and knowledge of information provided representing external vendor

7.7.1.2 Actual data covering time period(s) sufficient to determine consistent residual. The origin of actual data shall be clearly demonstrated, and actual data shall only be used if an affidavit cannot be obtained from external vendors.

7.7.1.3 Industry studies, such as industry accepted/government calculated residual rates for MRFs or other external vendors.[26] Industry studies shall only be used if an affidavit cannot be obtained from external vendors and actual data is not available.

7.7.2 In the event that the Tier 1 facility is a pass-through facility, the movement of the material to the Tier 2 facility shall be represented in the calculator as 100% residual and 100% amount sent further for processing.

7.8 Estimates in Place of Actual Data

Requirements for using estimates in place of actual data are as follows:

7.8.1 Unaccounted-for waste material

7.8.1.1 A subject under assessment shall not have more than 5% of its total waste unaccounted-for in the calculation.

[25] An Affidavit template is available to operators upon request from their certification body.
[26] For example, studies per USA state can be found at: https://www.epa.gov/facts-and-figures-about-materials-waste-and-recycling/us-state-and-local-waste-and-materials

7.8.2 Comingled waste

7.8.2.1 If the Operator shares waste management services with other businesses and its waste is comingled, waste shall be measured separately prior to comingling. An Operator can establish estimates based on measured actuals. Averages used for estimation shall be updated every three months.

7.8.3 Estimates based on actual data

7.8.3.1 Estimated averages may be used in place of actual data for any waste stream as long as estimates are based on actual data. Averages used for estimation shall be updated every three months.

7.8.3.2 The following data may be used to build estimates:

- Manufacturer specifications
- Observations on bin fullness (volume)
- Established weights for waste materials when converting from volume[27]

7.8.3.3 Operators may offer alternative means for estimations to be evaluated by the certification body.

[27] See the EPA's Volume-to-Weight Conversion Factors for Solid Waste: https://www.epa.gov/smm/volume-weight-conversion-factors-solid-waste

8. Claims Based on Calculated Metrics

8.1 General Conformance Requirements

8.1.1 All claims language and/or label (i.e., logo) usage, including private labels, shall:

8.1.1.1 Be reviewed and approved by the certification body prior to use,

8.1.1.2 Conform to the certification body's labeling and language requirements, and

8.1.1.3 Comply with U.S. Federal Trade Commission guidelines or other national guidelines if outside of the U.S.

8.1.2 Any claims made by the Operator in connection with this Standard shall only be in reference to its own certification.

8.2 Acceptable Claims

Certificate holders may be eligible to make the following claims:

8.2.1 An Operator can make claims related to the diverted waste as a percentage of total waste:

8.2.1.1 An Operator that achieves 99%+ diversion can use 'Zero Waste' as an adjective describing their certified subject.

- For example:
  - "*Facility Name* is a Zero Waste Facility."
  - "Our landscape remodeling project at XXX was a Zero Waste Project."
  - "The XXX 2024 corporate retreat was a "Zero Waste Event."

8.2.1.2 An Operator that achieves waste diversion below 99% diversion for their certified subject can claim their exact diversion percentage.

- For example, "The XXX Facility/Event/Project achieved 75% Waste Diversion from Landfill."

8.2.2 An Operator can make a claim on the percentage of their diversion activities that is comprised of each diversion method, as stated on their certificate.

- For example, "10% of Waste from XXX Facility/Project/Event was diverted from landfill using Reuse."

8.2.3 An Operator that achieves their waste diversion without the use of waste-to-energy diversion methods known to produce high GHG emissions can add the claim: "without incineration" (or equivalent, as authorized by the approved certification body).

- For example, "The XXX Facility/Project/Event achieved 75% waste diversion from landfill, without the use of combustion."

8.2.4 An Operator can make a claim related to the diverted waste (by weight) in line with their tracking metrics (see 6.1.6).

- For example:
  - "The XXX Facility diverted 50 lb of waste from landfill per package delivered."
  - "The XXX Event diverted 20 lb of waste per attendee."

8.2.5 An Operator can make an on-product claim related to the certified facility at which a product was made.

- For example, "This product was made in a facility that achieved 75% Waste Diversion from Landfill."

8.2.6 An Operator can make a claim related to improvement of the diversion rate from the previous year, as is stated on their certificate.

- For example, "From 2021 to 2022, XXX Facility improved its waste diversion by 10 percentage points."

8.2.7 An Operator can make a claim related to the reduction of total waste produced compared to previous year(s) of certification. Data from the initial year of certification shall be used as the baseline.

- For example, "From 2020 to 2022, The XXX Facility reduced total waste produced by 15%."

8.2.8 An Operator can make a diversion claim that shall specify the assessment period if the claim is being made more than two years after the end of the assessment period (e.g., for facilities, the assessment period is the 12 months of data being assessed)

- For example, "In 2021, the XXX Facility diverted 50 lb of waste from landfill per package delivered."

8.2.9 An Operator can make a diversion claim without specifying the assessment period if the claim is being made less than two years after the end of the assessment period.

- For example, if an Operator received their certificate for 95% waste diversion achieved during calendar year 2022 on June 1, 2023, the Operator has 1.5 years to claim "Our facility achieves 95% waste diversion" without indicating the specific timeframe (i.e., by January 1, 2025, the claim is being made more than two years after the assessment period ended).