

Zero Waste Standard

Environmental Certification Services Division

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Setting the standard for sustainability™

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SCS Global Services

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SCS Zero Waste Standard

Summary

The SCS Zero Waste Standard provides a basis for certification for waste reduction at an Operator's facility. Certification provides a 3rd party assurance of the waste reduction and can be used to communicate the Operator's journey towards eliminating waste generation at its facilities. The annual assessment captures the amount of waste diverted from landfill as a percentage of total waste generated.

Waste, and its disposal, are a growing environmental problem. Globally, as resource availability becomes more constrained, efficient use of materials becomes increasingly important to ensure resources continue to be available to future generations. This standard seeks to recognize facility operators for waste reduction and environmentally friendly waste management efforts.

Under this standard, all facilities will be evaluated, and a sample will be audited onsite. Facilities demonstrating at least 50% waste diversion can be recognized through certification under this standard. All claims are based on a twelve-month period.

The Operator's achievements in waste diversion are made publicly available in a certificate.

The certificate shall include a transparent overview of the achievement, including the following required information:

1. The percent of waste diversion the company has achieved for that year. Percentage is calculated by $(\text{diverted waste} - \text{residuals}) + \text{prevented waste} / (\text{total waste} + \text{prevented waste})$
2. Each method of diversion used (e.g., recycling, composting, waste-to-energy) as well as the percentage diverted using each method
3. The progress the company has made in waste diversion expressed as points; for example, if a company achieved 55% diversion last year and 60% diversion in the audited year; the certificate would show '+5'.
4. Whether Operator currently stores any waste

Zero Waste Definitions

Ash: Includes 'fly ash' which is the airborne ash collected after incineration and 'incinerator bottom ash' which is the heavy ash found in the bottom of an incinerator post burning.

Average Residual Percentages: Industry averages of residuals calculated in formal studies. 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%.¹ These can be applied to an Operator's outgoing materials if an affidavit with a specific percentage cannot be provided by the recycling facility.

¹ See Table 4, page 3:

<https://www2.calrecycle.ca.gov/WasteCharacterization/PubExtracts/34106005/ExecSummary.pdf>

Composted Material: Materials organic in nature which are sent to a compost facility where they are allowed to decay to form relatively homogeneous and stable humus-like substance [ISO 14021].

Construction and Demolition Debris: Materials resulting from the construction and demolition (C&D) 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)

Diverted Waste: Internally processed waste and/or non-landfill-bound waste sent for external processing

Hazardous Waste: a waste listed by EPA; or a waste that is characterized by being ignitable, reactive, corrosive, or extraction procedure toxic (USDA Agricultural Resource Service)

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

Multi-Stream Materials Recovery Facility (MRF): 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.

Operator: Entity that owns or manages a facility.

Prevented Waste from Redesign: Waste that would have occurred under a former process, but has since been eliminated due to redesign of the product or packaging. Prevented waste from redesign can be calculated by dividing the previous year's total weight of the (now) prevented waste by the total number of units of product created in the previous year. Then multiplying this result by the number of units generated in the current year. Process will be reviewed on a case-by-case basis to ensure claims of prevented waste from redesign are accurate.

Re-claimed Material: Material that would have otherwise been disposed of as waste or used for energy recovery, but has instead been collected and recovered [reclaimed] as a "NEW" material input, in lieu of new primary material, for a recycling or a manufacturing process [ISO 14021].

Reasonable Distance: defined by the Operator's location relative to the nearest recycling/composting/reuse facility and nearest Waste-to-Energy Plant: in situations where the nearest MRF is more than twice the distance to the nearest Waste-to-Energy Plant, disposal via Waste-to-Energy can be an acceptable approach under this standard.

Recycled material: Material sent to a recycling facility to be shredded, pelletized, or chemically altered to be remade into objects or substances for commercial use. Common materials include glass, metal, cardboard, and plastics, but may apply to other materials, as well.

Re-used Material: Material that would have otherwise been disposed of as waste or used for energy recovery, but has instead been collected at the end of the process to be used again for its initial purpose.

Residuals: Waste material that remains after processing has taken place. Residuals percentages are specific to the type of recycling facility as well as to the state or city (depending on available data). Operator is responsible for obtaining these percentages in an affidavit from the facilities used for processing. Average Residual Percentages may be used if affidavits from facilities cannot be provided. See *Average Residual Percentages* above.

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

Waste Diversion: the practice of disposing of materials defined as wastes in an environmentally beneficial manner using the following methods: recycling, composting, re-use, reclaiming, prevention, waste-to-energy (instead of sending it to the landfill). Percentage is calculated by (diverted waste – residuals + prevented waste) / (total waste + prevented waste).

Waste Diversion Achieved: 50 – 100% of all waste material is diverted in one twelve-month period.

Waste-to-Energy (WTE): Energy recovered from material that would have been disposed of as waste but instead has been collected through managed processes [ISO 14021]. This method includes incineration, pyrolysis, and anaerobic digestion where the main purpose and output of the process is to create energy.

Zero Waste: 99%+ of all waste material is diverted in one twelve-month period for a defined facility.

Claims and Logos

Operators are 'Zero Waste certified' if they achieve 99%, or more, diversion; all other operators can claim their exact diversion percentage (minimum 50% diversion required). Claims are based on 12 preceding months, and are valid for a period of 12 months upon completion of the certification assessment.

The Operator can claim what percentage of their diversion activities is comprised of each method on on-product or off-product claims. This will be stated on their certificate.

The Operator can also make a claim related to improvement to their diversion rate from the previous year on on-product or off-product claims (only applicable to facilities undergoing re-certification). This will be stated on their certificate.

For use of the SCS logo, the Operator must follow SCS Logo Use Guidelines.

Requirements for Waste Diversion

A minimum of 50% diversion over a 12-month period must be achieved for an Operator's facility to be considered for certification.

The following list shows the requirements for materials handled by the Operator's facility as well as how to calculate diversion amounts:

1. Ash
 - a. No ash sent to landfill is considered diverted,² and shall instead be considered a waste.
2. Composted material
 - a. Calculate diverted amount as amount picked up by hauler for composting minus (-) residuals (as stated in affidavit or average residual percentage)
 - b. Affidavit with residual percentage is to be provided by Composting Facility; affidavit can either state
 - i. the exact percentage of residuals in the waste sent by Operator, OR
 - ii. the percentage of waste sent to landfill by Compost facility as a whole.

² Calrecycle: As of January 1, 2020, the use of green material as ADC does not constitute diversion through recycling and shall be considered disposal pursuant to PRC Section 41781.3. (2)(A).

- c. Operator must identify if the residuals has been landfilled or used for waste-to-energy, which will be counted towards the waste-to-energy diversion calculation.³ Affidavit with this information is to be provided.
3. Electrical equipment (E-waste)
 - a. 100% of waste electrical equipment must be sent to certified e-waste disposer⁴ at the end-of-life.
4. Prevented waste from redesign
 - a. Count all waste that has been prevented from a recent (prior 12 months) re-design to the product and/or packaging that reduced the amount of waste that would otherwise have been landfilled and instead recognize reductions from redesign towards diversion amount.
 - b. Re-design process will be reviewed by the auditor.
 - c. Evidence and weight of total waste from former process will need to be demonstrated.
5. Re-used/ re-claimed material
 - a. Count all re-used or re-claimed material that would otherwise have been landfilled towards diversion
6. Recycled material
 - a. Calculate diverted amount as amount picked up by hauler for recycling minus (-) residuals (as stated in affidavit or average residual percentage)
 - b. Affidavit with residual % is to be provided by Recycling Facility; affidavit can either state:
 - i. the exact percentage of residuals in the waste sent by Operator OR
 - ii. the percentage of waste emitted by Recycling facility as a whole
 - c. Operator must identify if the residuals has been landfilled or used for waste-to-energy, which will be counted towards the waste-to-energy diversion calculation.⁵ Affidavit with this information is to be provided.
7. Stored waste material
 - a. Stored material designated as waste that is not disposed of is to be noted on the certificate but will not count as waste generation or diverted waste.
8. Waste-to-Energy
 - a. Maximum percentage allowed without further review: 25% of total waste stream.
 - b. Calculate diverted amount as amount picked up by hauler for Waste-to-Energy (-) residuals (as stated in affidavit or average residual percentage)
 - c. Affidavit with residual percentage is to be provided by Recycling Facility; affidavit to state the percentage of residuals emitted by Waste-to-Energy facility which is sent to landfills
 - d. Note that the average residual percentage for Waste-to-Energy is 20% and will be counted towards landfilled total.⁶
 - e. Some companies may be located in a region where their waste is not easily recycled. To use Waste-to-Energy as a diversion method for more than 25% of the total waste

³ <https://www.calrecycle.ca.gov/docs/cr/75percent/mrfperfstds-092012wksp.pdf>

⁴ NSF: e-Stewards or R2 Standards or an NSF approved equivalent

⁵ <https://www.calrecycle.ca.gov/docs/cr/75percent/mrfperfstds-092012wksp.pdf>

⁶ <https://www.epa.gov/smm/energy-recovery-combustion-municipal-solid-waste-msw#03>

stream, the Operator must demonstrate that there are no facilities that can recycle, compost, or otherwise reuse the material within a *reasonable distance* (see definition above) from the facility.

9. Hazardous materials
 - a. To comply with the standard, the facility must only demonstrate that the hazardous material has been disposed of in accordance with legal requirements. The amount of hazardous waste is not calculated in the diversion calculation.
 - b. However, if the facility can demonstrate that the hazardous material has been prevented with redesign, re-purposed, or re-used (in a safe manner), the amount can be counted towards diversion, on a case-by-case basis.

Requirements for Audits

Operator must demonstrate that they meet all local, state, and national laws regarding waste management including licenses, and evidence of proper disposal of all wastes. Companies cited with violations related to waste handling and disposal during the prior twelve months will not be eligible for certification.

Desk Assessment:

The following documents and activities are necessary to meet requirements of the standard and will be reviewed for all facilities included in scope (not just those that will undergo an on-site assessment).

Review of Operator's Waste Management Program

Operator must have a Waste Management Program, which includes the following aspects:

1. Defines the company's zero waste policy
2. Lists all applicable waste regulations and a summary of how the company conforms with each one, including hazardous waste if relevant
3. Lists all wastes generated in the context of the company's operations, including hazardous waste, if applicable
4. Lists staff responsible for implementing the Waste Management Program as well as their responsibilities
5. Defines practices for disposing of electrical equipment and ash, if applicable
6. Internal practices: Describes how waste is prevented, reclaimed, reused (or recycled, composted, etc. if done on site), if applicable
7. External practices: Describes how when it is not possible to have internal diversion practices, where waste is sent for recycling, composting, or waste-to-energy
8. Defines internal audit process including reviewers, documents, deadlines, and action plans for findings
9. Definition of critical control points and responsibilities of workers at these points to assure diversion

Diversion Plan with Yearly Review (Internal Audit)

1. Diversion goal with long-term plan to reach zero waste
2. Details of how diversion will be achieved each year
3. Yearly, or more frequent, internal audits to review progress towards achieving diversion goals

4. Evaluation of success of efforts
5. Update to activities

Waste Tracking Spreadsheet

1. List of materials qualifying as wastes
2. Total weight of material internally and externally diverted and disposed
3. Calculated percentage of diverted waste (See Waste Calculator)
 - Type of material
 - Method of diversion or disposal
 - If externally disposed, the name of the hauler
 - Total weight or volume diverted or landfilled; include conversion factors if using volume of material disposed
 - Corresponding identifier for disposal:
 - Date of disposal
 - Corresponding bill of lading number/ invoices number
 - Residuals percentages, if applicable

Example in Annex

Traceability Documents/ Records

- a. All invoices, bills of lading, and any other document which track the movement of waste materials are kept on file and will be available to the auditor
- b. Records of training regarding handling of wastes
- c. Records of internal audits of waste management

Training Documents

- a. General training for all staff to understand diversion goals of program
- b. Control point specific training for staff or contractors key in ensuring success of the program
- c. Onboarding waste diversion training for all new staff within 12 months; of those involved in critical control points
- d. Training for contractors involved in ensuring waste diversion at critical control points

On-Site Audit of Infrastructure and Activities

Note: An on-site audit will be done for a sample of facilities included in scope (i.e., square root)

1. Review of activities at critical control points and conduct interviews with staff (to assure training)
2. Assessment of on-site infrastructure that supports diversion activities (e.g., receptacles)
3. Review of facility signage to confirm the correct storage of waste materials

4. Review of any documents Operator would prefer to show in person, rather than sending on-line, (e.g., invoices).

Certification and Re-Assessment

Upon completion of a successful audit, SCS will issue a checklist and certificate indicating:

1. The percent of waste diversion the company has achieved for that year for each facility in scope.

Percentage is calculated as:

$$(\text{diverted waste} - \text{residuals} + \text{prevented waste}) / (\text{total waste} + \text{prevented waste})$$

2. Each method of diversion used (e.g., recycling, composting, waste-to-energy) as well as the percentage diverted using each method
3. Percent of waste sent to landfill
4. The progress the company has made in waste diversion (expressed as percent change over last year's diversion rate).
5. The names and address of facilities in scope
6. Time period for the validity of the claim.

If the facility audit does not demonstrate conformance with this standard, the Operator shall receive the checklist indicating the non-conformities. See Complaints Resolution Mechanism for more information on the recourse available to the Operator.

For continued certification, a re-assessment will occur on a yearly basis, with the sample of facilities adjusted to cover facilities not assessed the previous year (in the event of multi-site) and/or sites deemed to have higher risk.

For a single facility, an on-site audit is required once every three years.

Complaints Resolution Mechanism

Operator has the right to appeal the certification decision within 30 days of receiving the final checklist.

Upon evaluation of the appeal, SCS shall communicate any change in the certification decision to Operator, including justification for the decision.

Annex: Example of Waste Calculation

Material	Waste Category	LB	Supporting document	Date	Facility	Residual Rate for MRF	Residual Rate for WTE	Compost	Recycling	WTE	Re-design	Re-claim ed	Re-used	E-Waste	Landfill	Stored
Cardboard	Recycled	50	Invoice1	10/1/19	Facility 1	6%	15%	0	47	2.55	0	0	0	0	0.45	0
Compost from Food	Composted	20	Invoice2		Facility 2	0%	0%	20	0	0	0	0	0	0	0	0
No longer use plastic liners	Prevented waste	60	N/A	10/1/19	Facility 3	0%	0%	0	0	0	60	0	0	0	0	0
Mixed Recyclables	Recycled	70	Invoice3	10/1/19	Facility 4	14%	0%	0	60.2	0	0	0	0	0	9.8	0
Reused Foam	Reused	29	N/A	10/1/19	Facility 5	0%	0%	0	0	0	0	0	29.4	0	0	0
Printers	E-Waste	10	Invoice4	10/1/19	Facility 6	0%	0%	0	0	0	0	0	0	10	0	0
Mixed Waste	Landfilled	5	Invoice5	10/1/19	Facility 7	0%	0%	0	0	5	0	0	0	0	5	0
Florescent lightbulbs	Storage	10	N/A	10/1/19	N/A	0%	0%	0	0	0	0	0	0	0	0	10
	-				-	0%	0%	0	0	0	0	0	0	0	0	0
								20	107.2	7.55	60	0	29.4	10	15.25	10

Total	249.4	Percentage Diverted	94%
Diverted	234.15	Percentage Landfilled	6%
Landfilled	15.25	Percentage WTE	3%

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