The SWEEP+ Standard for Local Government And Materials Management Industry

Final Ballot Draft:
Under review by SWEEP Committees

July 31st, 2020

Welcome!

Thank you for your interest in the Pilot SWEEP+ (Solid Waste Environmental Excellence Performance Plus) Standard for Local Government and Materials Management Industry.

SWEEP+ is the product of volunteer industry experts, like you, sharing their experience and expertise in best practices to help transform the solid waste sector toward sustainability.

Once the final standard is adopted, the SWEEP+ Pilot will range from 9-15 months in up to 15 jurisdictions across the country. Each local government entity participating in the pilot will also have an industry counterpart to assess how well the standards work together. Lessons learned and the certification materials and tools developed in the Pilot Program will be incorporated into the first public-release draft of SWEEP+, anticipated in 2021.

Once again thank you for your interest and we look forward to hearing your thoughts

– The SWEEP Team

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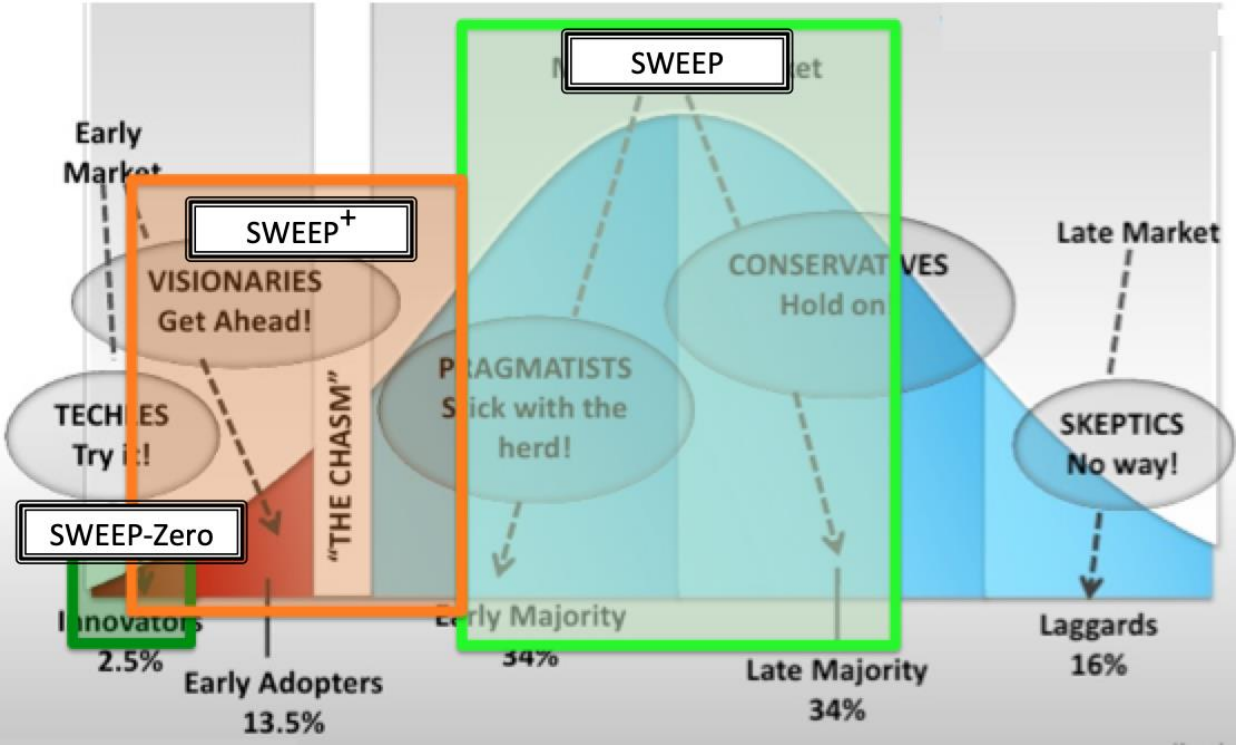
Executive Description of SWEEP+

The Solid Waste Environmental Excellence Performance Plus (SWEEP+) Standard evaluates the environmental, economic and social aspects of providing materials management services for Local Government jurisdictions, whether these services are provided by government or private entities. The standard will be achievable by governments and companies of all sizes and covers the full range of activities required to sustainably manage society's solid waste. For Local Governments, activities include those contracted out to waste industry companies, or provided by Local Government employees, and for Industry service providers it can cover only a single aspect of solid waste services, such as hauling or processing recovered organics, all the way to a fully vertically integrated suite of services ranging from collection to material recovery and disposal.



SWEEP+ is the first standard to be released under the SWEEP system, which is designed to cover the majority of the market for waste management services as shown in the figure above. SWEEP+ is intended to certify programs and companies in the top quartile of sustainable materials management practice and achievement.

SWEEP will be convening new Committees to develop the SWEEP standard, which will be a common best practices standard and the most far-reaching in terms of addressed market. SWEEP will be crafted to stimulate improvements in the broad middle of the market in terms of performance and activity. Rather than focus on absolute achievements like SWEEP+ does, SWEEP will emphasize and reward improvements on current performance. Both standards will have 4 tiers of recognition: Certified, Silver, Gold and Platinum.

The SWEEP-Zero standard, will be a beacon Zero Waste standard for the most advanced and successful programs in the country and, eventually, the world. Unlike the other two programs, SWEEP-Zero will be a binary certification: either the applicant is certified or it is not.

Sustainable Materials Management

The principal organizing framework for the SWEEP+ standard is Sustainable Materials Management (SMM). "Sustainable materials management (SMM) is a systemic approach to using and reusing materials more productively over their entire life cycles. It represents a change in how our society thinks about the use of natural resources and environmental protection. By looking at a product's entire life cycle, we can find new opportunities to reduce environmental impacts, conserve resources and reduce costs."[1]

SWEEP Volunteer Committees

The following volunteer professionals dedicated many hours to developing the draft standard and SWEEP deeply appreciates their efforts and expertise. SWEEP plans on expanding its Committees and is currently looking for interested members to join!

Steering Committee Member	Organization
Adam Gendel	GreenBlue
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Michael Mignano	International Brotherhood of Teamsters
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Jim Thompson	Waste Business Journal
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[1] https://www.epa.gov/smm

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Keene, NH	Los Angeles, CA	City of Riverside, CA	Salt Lake City, UT
San Marcos, TX	Santa Monica, CA	Wellesley, MA	California Refuse Recycling Council, Northern District
Florida Department of Environmental Protection	Indiana Department of Environmental Management	LAANE (Los Angeles Alliance for a New Economy)	Los Angeles Regional Agency (LARA)
Los Angeles County	MassDEP	NYC Department of Education	Oregon DEQ Materials Management
State of Texas Alliance for Recycling (STAR)	Antioch University	Arizona State University	Cornell University
Santa Monica College	Wake Forest University	All About Waste	Blue Green Alliance

[2] Includes SWEEP Committee Members, SWEEP Members and participants in SWEEP public meetings and commenters on the SWEEP Standards. Does not imply endorsement of the SWEEP Standard.

Construction & Demolition Recycling Association	GAIA	HDR	Institute for Local Self-Reliance
Places International	Recycling Certification Institute	Solid Waste Association of North America (SWANA)	The International Brotherhood of Teamsters (IBT)
US Green Building Council/ TRUE			

Industry[3]

Athens Services	Avencore Group		Blue Ridge Services
Casella Waste Systems	Compology	Covanta	DemCon
EcoHub LLC	Eliot Maine Solid Waste	ENGIE INsight	Everest Labs.AI
Foodservice Packaging Institute	Gaia Strategies	GreenBlue	Institute of Scrap Recycling Industries (ISRI)
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MSW Consultants, LLC	National Recycling Coalition	National Waste & Recycling Association (NWRA)	Northeast Recycling Council
Northeast Resource Recovery Association (NRRA)	Plastics Industry Association	RecycleGO	Reenergy Holdings
Republic Services	Re-TRAC Connect	RRS	STL Co
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[3] Includes SWEEP Committee Members, SWEEP Members and participants in SWEEP public meetings and commenters on the SWEEP Standards. Does not imply endorsement of the SWEEP Standard.

We would like to thank the Center for Social Innovation at Fordham University for letting us use their beautiful space to create an efficient environment for work and meetings pertaining to SWEEP.

Finally, a special thanks to SWEEP's amazing group of staff and interns: Grace Keenan, Christopher Galantino, Christina Weiler, Aidan Ganzert, Laura LoSciuto, Ruth Hupart, Kelsey Gaude, Ryan McCarthy, Eric Panicco, Harjap Singh, Ella Rosenkranz, Miranda deBruyne, Harry Grigorian, Allie Salerno, Charlotte Salitsky, Darcy Rodriguez Ovalles, Viviana Barrientos, and Julien Morgan, Isabelle Amlicke, Lauren Chung, Luna Oiwa and the Cornell Sustainability Consultants for their dedication to furthering and improving SWEEP as it grows. SWEEP would not be possible without their dedication and drive towards making the solid waste industry more sustainable. Their contributions have helped make SWEEP what it is today.

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Performance Categories, KPIs and Credits

The Local Government and Industry Standards are composed of **6 Performance Categories** designed to comprehensively address sustainable waste management from intention (policy) through to implementation and verification (data collection):

1. **Sustainable Material Management Policy** (SMMP)	1 Prerequisite 9 Credits (Industry: 7 Credits	21 points
2. **Waste Generation and Prevention** (WGP)	1 Prerequisite 9 Credits	18 points
3. **Solid Waste Collection** (SWC)	8 credits	18 points
4. **Post-Collection Recovery** (PCR)	1 Prerequisite 12 credits	29 points
5. **Post-Collection Disposal** (PCD)	10 credits	14 points
		100 points
6. **Innovation**		**10 bonus points**

In addition to the 5 core Performance Categories, a separate Innovation performance category will recognize measures and approaches that are beyond best practice.

Within the Performance Categories, credit is given for specific measurable and verified actions. Credits under these Performance Categories are organized by four **Key Performance Indicators** (KPIs) that define the framework that SWEEP measures success.

1. **Efficiency and Effectiveness**
2. **Environmental Performance**
3. **Economic Performance**
4. **Public Participation, Working Conditions and Social Impact**

Credits are specific actions designed to meet the goals of SWEEP that are documented by entities seeking certification and verified by an independent certification body approved by SWEEP. At the outset, SWEEP may perform the certification activity.

SWEEP credits are structured as follows:

1. **Intent:** States the purpose of the credit (the "Why").

2. **Local Government and Industry Requirements:** Describes the specific actions the applicant needs to take to achieve credit toward certification (the "What").

3. **Potential Strategies:** Examples of how to achieve the Requirement(s) (the "How") Strategies are for reference only; they are not part of the standard and projects are not required to follow the examples given.

How SWEEP Standards Apply to Different Participants

The SWEEP Standard is comprised of two complementary parts, the first for Local Government and the second for Industry.

The scope and applicability of each credit will be specific to the entity seeking certification. Some credits will be nearly identical, while other credits will have unique Local Government and Industry requirements. These different types of credits are designated as "Reciprocal" and "Non-Reciprocal" credits.

Reciprocal & Non-Reciprocal Credits

As shown below, you will note that beneath the credit title and point total, there will be a designation of "Reciprocal" or "Non-Reciprocal".

The purpose of having these designations is to reinforce cooperation between the local government and waste services provider(s). SWEEP recognizes that often times local government waste management services are provided by private contracted companies. If those companies are providing services that fulfill the requirements of SWEEP, then both the Local Government and the private company should receive credit for that performance. Alternately, if a certain activity can only be undertaken by one party or the other, that activity must be shown to have been implemented if credit is to be given.

Reciprocal Credits

Reciprocal Credits are credits that are 'transferable' between the local government and the contracted private service provider, *so long as only one entity is performing the service*. In this case, credit achievement by either party in the contractual relationship is automatically conveyed to the other party.

Thus, if a private company under contract to a local government for a certain service and that company achieves the required performance, the credit will be given to both the local government as well as the private company providing waste services. If the company chooses to certify.

If, however, both the local government and the private service provider are each performing a portion of the service in question, then both parties must demonstrate the required level of performance in order to receive credit.

Example 1:

SMMP Credit: *Regular Waste Characterization and Generation Study Policy* is an example of a reciprocal credit because either the local government or a contracted private hauling/disposal company could undertake such a study. Since only one waste characterization/ generation study is required, either party could do it to fulfill the requirement.

Example 2:

SWC Credit: Energy Efficient and Low Emissions Collection generally would be considered reciprocal, since often only one entity performs the particular service. Thus, for example, a contracted hauler's fuel-efficient fleet would allow the local government to receive credit for this performance.

However, there are circumstances in which this Credit would not be considered "Reciprocal," such as a situation where the local government collects residential materials and private companies collect institutional, commercial and qualifying industrial materials or a local government collects one residential material stream such as MSW and the private company collects the residential recycling. In this instance, both the local government collection fleet and the private collection fleet would need to demonstrate achievement of the credit's requirements. In the event of there being multiple franchised service providers, the aggregate fleet average of all franchisees would be used to determine achievement.

Example 3:

PCR Credit: *Producing High Quality Products from Recovered Organic Materials* would also be considered reciprocal since either a local government or a private processor could fulfill the requirements of the credit. As above, if both Local Government and private, commercial-scale organics processing are being

undertaken on behalf of a local government, then both facilities would need to meet the requirements for the local government to achieve credit.

Non-Reciprocal Credits

Non-Reciprocal Credits are credits that are not transferable between the local government and the contracted private service provider and require that each entity perform the activity in question independently in order to get the credit under the applicable standard. Credit requirements must be achieved by each party in order to receive credit.

Example 1:

SMMP Prerequisite: **Comprehensive Sustainable Materials Management Policy** is considered non-reciprocal because even though in theory a comprehensive approach to materials management could be developed and implemented by a private company partner, SWEEP believes that such a policy is sufficiently important that it should be developed and implemented by the local government. In addition, it is not apparent that there is an identical analogue to city policy from the corporate perspective. This will likely be one of the cases where a unique and different credit or set of credits will be established for the Industry Standard.

Example 2:

WGP Credit: Sustainable Capital and Utility Procurement would be considered non-reciprocal. This is because each entity, the Local Government and the contracted service provider, each has its own facilities and capital equipment that it purchases separately for general administrative and operational purposes.

SWEEP Requirements and Federal and State Standards

SWEEP requirements are never a substitute for Federal or State standards for any of the criteria in the system. One of the Minimum Requirements for SWEEP is that certifying entities, whether public or private, are compliant with all relevant State and Federal regulations. If SWEEP is more stringent than these mandatory requirements, in order to receive credit in SWEEP, certifying entities are expected to meet these levels of performance. If State or Federal requirements are more stringent than SWEEP, then the expectation is that the certifying entity will comply with these standards; credit under SWEEP will be guaranteed, so long as compliance is demonstrated.

SWEEP Certification Manual

Detailed documentation requirements, calculation methodologies, default values and other key information about achieving SWEEP credits are found in a separate

Once the SWEEP Certification Manual™ is in an electronic form, we will provide this section with links that will provide clear definitions and integrated links to further learning. SWEEP will be developing this manual during its Pilot Phase and it will be available for participants at no charge in the Pilot Phase.

Note on the SWEEP Certification Manual: *The SWEEP Certification Manual will be developed during the Pilot Program and will be a free resource to all Pilot participants. It will be available for sale when the Standard is ready for public release.*

SWEEP Pilot Program

The SWEEP+ Pilot Program (Pilot) is expected to be launched in the1st half of 2020. The Pilot Program will last from 9 to 15 months with a defined set of participating local government and private industry participants. During the pilot phase, SWEEP will look at actual market conditions and determine whether field conditions require adjustments within the requirements upon the program's completion.

Local Governments will be chosen to be representative of the three size categories of SWEEP (Small: <30,000; Medium: 30,000 – 300,000; Large: >300,000) as well as for geographical distribution and population density: rural, suburban, and urban. Interested local governments may contact SWEEP at info@sweepstandard.org.

Industry partners will be chosen for each Local Government jurisdiction in the Pilot Program. Industry partners can range from large, vertically integrated national companies to small, local focused companies. As with Local Governments, Industry participants are classified according to annual revenues: Small: <$2,500,000 annual revenue; Medium: $2,500,001 to $25,000,000; Large: >$25,000,001. Interested Industry partners may contact SWEEP at info@sweepstandard.org.

All participants in the Pilot Program will receive one of the following SWEEP+ Certifications:

- SWEEP+ Pilot Participant
- SWEEP+ Certified (Prerequisites, plus 50-59% of the available points)
- SWEEP+ Silver (60-69%)
- SWEEP+ Gold (70-79%)

- SWEEP+ Platinum (80+%)

The SWEEP Team will be actively engaged with participants in the Pilot Program to determine the most streamlined and cost-effective way of complying with the requirements of the standard.

The purpose of the Pilot Program is to:

- Further refine and define the certification process.
- Develop tools to facilitate certification for different types of local governments.
- Identify gaps in what SWEEP+ covers.
- Adjust the performance levels in SWEEP+

Note: If the requirements of the Pilot SWEEP+ Standard are found to be different in the field, entities seeking certification will be evaluated according to the updated criteria.

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1. Sustainable Materials Management Policies (SMMP) (21 Possible Points)

|| **Sustainable Materials Management Policies** || refer to a broad array of regulatory and policy measures aimed at minimizing solid waste generation, improving the performance of solid waste collection, processing, and recovery practices.

The SMMP requirements of SWEEP+ take into account four key performance indicators (KPI):

1. Efficiency and Effectiveness
2. Environmental Performance
3. Economic Performance
4. Public Participation

SMMP **Efficiency & Effectiveness** Key Performance Indicator (KPI)

SMMP Prerequisite: ***Comprehensive Sustainable Materials Management Policy and Programs*** (Required)

Non-Reciprocal

Intent:

To promote the highest and best use of materials and to reduce the overall generation of waste through the adoption of government or corporate policies and programs.

Local Government Requirements

Design and adopt a Comprehensive Sustainable Materials Management policy that covers all of the following elements as applicable to the jurisdiction:

- Include a clear statement of waste reduction goals.
- Establish programs that minimize the generation of waste at the source.
    - Develop a roadmap that ultimately diverts materials away from landfills and waste-to-energy facilities.
    - Set procurement rules for environmentally preferred products (EPP) and recycled content products, with emphasis on domestic infrastructure.
    - In cooperation with the relevant local government authorities, define requirements for source separation of materials, depending on material management system used.
        - Includes a Disaster Debris Management Plan
- Environmental and energy performance standards for collection vehicles
- Establish a public and Local Government employee education and information program.
- Require best available management practices for landfill operations (methane recovery, leachate treatment, odor and vector control, safety, alternative daily cover contamination minimization)
    - Provide thorough documentation of all greenhouse gas emissions from landfills and describe the use of the best available technology as approved by the US EPA to monitor greenhouse gas emissions.
        - Provide thorough documentation of emissions leakage from energy recovery system

        - Conduct a net benefit analysis that assesses whether producing energy from LFG recovery systems produces less GHGs than flaring emissions or producing energy from fossil fuels.
    - Landfill facilities that utilize LFG as a renewable energy source can be managed to maximize landfill gas recovery but must not be managed to maximize landfill gas production, such as treating it like a bioreactor and/or recirculating leachate.
    - Alternative Daily Cover (ADC) use should meet Federal and State regulations as well as the following:
        - Use of ash and sewage sludge is prohibited unless the face of the landfill is covered by a tarp or other approved dust suppression techniques are used (e.g. foams or slurries)
        - Require the use of continuous active dust suppression techniques
        - Do not permit the use of glass or other materials that have established markets for recycling or diversion. Recyclable materials used as ADC do not count towards diversion rate regardless of a market being available.
- Adopt specific MWBE/Veteran owned business share goals
- Include a stakeholder outreach and participation plan that:
    - Establishes practices and/or programs to timely respond to any community complaints
    - Includes both business and residents and is inclusive of all communities
    - Is sensitive to environmental justice concerns, including accounting for:
        - Impacts on public health and quality of life
        - Impacts on the job market and communities' employment opportunities
    - Identifies plans to provide protection and ensure environmental justice to its community when stakeholders may hold conflicts of interest.

Industry Requirements

Design and adopt corporate-wide environmental goals and programs that cover all of the following elements as applicable to the overall activities of the company. These goals may differ from the goals of communities being served by the company, so long as they are consistent with the requirements of SWEEP+.

- Include a clear statement of waste reduction goals for the company.
- Establish programs that minimize the generation of waste at the source.
    - Develop a roadmap that gradually diverts materials away from landfills and waste-to-energy facilities.

  - Set procurement rules for environmentally preferred products (EPP) and recycled content products, with emphasis on domestic infrastructure.
  - In cooperation with the relevant local government authorities define requirements for source separation of materials, depending on material management system used.
    - Includes a Disaster Debris Management Plan
- Environmental and energy performance standards for collection vehicles
- Establish an employee education and information program
- Require best available management practices for landfill operations (methane recovery, leachate treatment, odor and vector control, safety, Alternative Daily Cover (ADC) contamination minimization)
  - Provide thorough documentation of all greenhouse gas emissions from landfills and describe the use of the best available technology as approved by the US EPA to monitor greenhouse gas emissions.
    - Provide thorough documentation of emissions leakage from energy recovery system
    - Conduct a net benefit analysis that assesses whether producing energy from LFG recovery systems produces less GHGs than flaring emissions or producing energy from fossil fuels.
  - Landfill facilities that utilize LFG as a renewable energy source can be managed to maximize landfill gas recovery but must not be managed to maximize landfill gas production, such as treating it like a bioreactor and/or recirculating leachate.
  - Alternative Daily Cover (ADC) use should meet Federal and State regulations as well as the following:
    - Use of ash and sewage sludge is prohibited unless:
      - the face of the landfill is covered by a tarp or other approved dust suppression techniques are used (foams or slurries)
      - Require the use of continuous active dust suppression techniques
- Do not permit the use of glass or other materials that have established markets for recycling or diversion. Recyclable materials used as ADC do not count towards diversion rate regardless of a market being available.
- Adopt specific MWBE/Veteran owned business share goals
- Include a stakeholder outreach and participation plan that:
  - Establishes practices and/or programs to timely respond to any community complaints
  - Includes both business and residents and is inclusive of all communities

- Is sensitive to environmental justice concerns, including accounting for:
  - Impacts on public health and quality of life
  - Impacts on the job market and communities' employment opportunities
- Identifies plans to provide protection and ensure environmental justice to its community when stakeholders may hold conflicts of interest.

Potential Strategies

- Look comprehensively at materials management issues.
- Require use of recycled materials so long as material is to spec, and cost is equal.
- Require best available landfill management practices, including management of methane recovery, groundwater management, leachate treatment, odor and vector control, safety, etc.
- Conduct a life cycle assessment of different waste management options that assess the option's environmental components.
  - Minimally, the assessment should include:
    - All GHGs, criteria air pollutants, hazardous air pollutants, and biogenic emissions emitted from disposal facilities or sites
    - The number of people impacted within a given radius and the demographics and health disparities of the impacted population
    - Jobs generated
  - Evaluate and quantify the externalized costs of:
    - The health impacts of pollution on impacted communities
    - Environmental and social impacts of disposal facilities and sites from air emissions
    - Production and disposal
  - As well as social and economic components
- Certification in applicable training, such as SWANA's Managing Integrated Solid Waste Management System course.
- Take into consideration local market conditions for materials such as glass, which tend to be more local and regional in nature.

Note: Life cycle assessment should not account as diversion waste that is diverted from landfills to waste to energy and thermal conversion facilities.

SMMP Performance Path

SMMP Credit: ***Comprehensive Sustainable Materials Management Lifecycle Analysis and Policy Program*** (10-19 points)

[Substantive Change: Further clarified/expanded materials disposed to include Bulky Waste; Modified Tier 1 & Tier 2 point sub-totals to reflect the updated allocation; Added C&D option for the Industry requirements; Modified the MSW diversion requirement for the Industry requirements and also includes Bulky Waste.

Non-Reciprocal

Intent:
Drive to the best environmental solutions for materials managed (generated, disposed, and processed) by local governments.

Local Government Requirements

Develop a plan—following either the Tier 1 **OR** Tier 2 approach—where the program is designed to produce the highest and best environmental result based on life-cycle thinking principles. The comprehensive plan can be a Sustainable Materials Management (SMM), Zero Waste, Closed Loop, Circular Economy, or comparable plan.

Tier 1 (10 points)

Develop a comprehensive 10-year (at a minimum) SMM, Zero Waste, Closed Loop, Circular Economy, or comparable plan that includes provisions for periodic updates to reflect new opportunities or significant legislative changes.

- Prepare a comprehensive waste characterization study (WCS) for materials handled within the local government jurisdiction following the requirements of SMMP Credit: *Regular Waste Characterization and Source Reduction Programs.*

- Conduct material-specific analysis for all material categories identified in the WCS that prioritizes policies and programs that provide the greatest environmental benefit. The analysis should assess environmental elements of

the material categories, as well as social and economic elements of the material categories.

- Minimally, the assessment[4] should include:
  - Evaluating and documenting
    - All GHGs, criteria air pollutants hazardous air pollutants, and biogenic emissions emitted from disposal facilities and sites
    - The number of people impacted within a given radius and the demographics and health disparities of the impacted population
    - Jobs generated
  - Evaluating and quantifying the externalized costs of
    - The health impacts of pollution on impacted communities
    - Environmental and social impacts disposal facilities and sites from air emissions
    - Production and disposal
  - Assessing social and economic components.

- The Plan will list and propose actions for at least the top 10 materials that result in the largest environmental benefit, or improvement, based on the current version of the EPA WARM model analysis using the methodology outlined in the Certification Manual.
- The Plan will also require keeping track of how all materials identified in the WCS are being:
  - Generated: (Tons of Disposal + Waste-to-Energy + composting/digestion + recycling)
  - Reduced: The Plan will include per-capita waste reduction goals over at least 10 years from the Base Year at the start of the program.
    - Achieve reduction in per capita waste disposal (MSW + Bulky Waste + C&D):
      - 5 points for 6.0 lbs./person disposal
      - +3 points for 5.85 lbs./person
      - +2 points for 5.7 lbs./person
  - List the strategies, policies, programs and projects being considered to achieve these goals.

[4] Assessment should not account for waste diverted from landfills to waste to energy and thermal conversion facilities.

Tier 2 (19 points)

- Conduct the comprehensive SMM analysis and develop policy program solutions described in Tier 1 based on analysis using a lifecycle assessment tool, such as MEBCalc**,** or equivalent, instead of EPA WARM. Use the baseline assumptions described in the Certification Manual.
    - Achieve reduction in per capita waste disposal (MSW + Bulky Waste + C&D):
        - 8 points for 6.0 lbs./person disposal
        - +6 points for 5.85 lbs./person
        - +5 points for 5.7 lbs./person

Industry Requirements

Develop a sustainable materials management (SMM) or equivalent (e.g. Zero Waste, Closed Loop, Circular Economy) business and/or strategic plan that supports the achievement of the goals of the SMMP Prerequisite, where the program is designed to optimize the efficiency and the best environmental and social result based on life-cycle thinking principles.

Tier 1 (10 points)

Develop a set of comprehensive long-term economically, socially and environmentally sustainable corporate goals for the company that includes provisions for periodic updates to reflect new opportunities.

- Support the development of and/or utilize a comprehensive waste characterization study (WCS) for materials handled within the Company's service area, or the territory of the jurisdiction seeking SWEEP+ Certification where the Company does business. The WCS should comply with the requirements of SMMP Credit 4: *Regular Waste Characterization and Source Reduction Programs.*
- Operational sustainability and value chains
- Conduct material-specific analysis for all material categories identified in the WCS that prioritizes policies and programs that provide the greatest environmental benefit. The analysis should assess environmental elements of the material categories, as well as social and economic elements of the material categories.
    - Minimally, the analysis should include:
        - All GHGs, criteria air pollutants, hazardous air pollutants, and biogenic emissions emitted from disposal facilities and sites
        - The number of people impacted within a given radius and the demographics and health disparities of the impacted population
        - Jobs generated

- Evaluate and quantify the externalized costs of:
  - The health impacts of pollution on impacted communities
  - Environmental and social impacts of air emissions from disposal facilities and sites
  - Production and disposal
- As well as social and economic components.
- Assessment should not account for waste diverted from landfills to waste to energy and thermal conversion facilities.
- The Plan will list and propose actions for at least the top 10 materials that result in the largest environmental benefit, based on the current version of the EPA WARM model analysis using the methodology outlined in the Certification Manual.

- The Plan will also require keeping track of how all materials identified in the WCS are being:
  - Generated: (Tons of Disposal/waste to energy + composting/digestion + recycling)
  - Reduced: The Plan will include per-capita waste reduction goals over at least 10 years from the Base Year at the start of the program.
    - Achieve reduction in per capita waste disposal:

Points	MSW + Bulky Waste/Capita	C&D/Capita
5	4.6 lbs./capita	1.4 lbs./capita
+3	4.5 lbs./capita	1.35 lbs./capita
+2	4.4 lbs./capita	1.3 lbs./capita

  - List the strategies, policies, programs and projects being considered to achieve these goals.

Tier 2 (19 points)

- Conduct the comprehensive SMM analysis and develop policy program solution described in Tier 1 based on analysis using a lifecycle assessment tool, such as **MEBCalc,** or equivalent, instead of EPA WARM. Use the baseline assumptions described in the Certification Manual.

Points	MSW + Bulky Waste/Capita	C&D/Capita
8	4.6 lbs./capita	1.4 lbs./capita
+6	4.5 lbs./capita	1.35 lbs./capita
+5	4.4 lbs./capita	1.3 lbs./capita

- List the strategies, policies, programs and projects being considered to achieve these goals.

Potential Strategies:

- **A Sustainable Materials Management (SMM) framework is the principal guiding concept for the SWEEP+ standard,** but Local Governments and Companies may consider Zero Waste plans as the most environmentally, socially and economically beneficial option. In all cases, organizations seeking Certification should conduct an analysis to show the benefits of the plan.
- Educate and engage the community in looking at how materials are wasted, especially food.
- Consider landfill material bans (e.g. green waste as ADC) or source reduction bans or fees (e.g. on single-use bags, straws, polystyrene)
- Look at prevention as a low-cost, high leverage strategy.
  - Research from Oregon demonstrates that food waste prevention shows a 6-7x better environmental benefit than post consumption processing.

SMMP Prescriptive Path

SMMP Credit: ***Materials Processing Infrastructure and Market Development Policy*** (2 points)
Non-Reciprocal

Intent:
To support economic development by increasing local and/or regional processing infrastructure and markets for recovered materials.

Local Government Requirements
Develop and adopt a policy that facilitates and supports the development of public and/or private processing and manufacturing infrastructure for recovered materials and incentives for purchasing the output of these facilities.

Industry Requirements
Not applicable.

Potential Strategies:

- Convene an **Enabling Board** to support local economic development through material recovery and processing infrastructure.

- "Buy local" and "buy recycled" content incentives in procurement. Incentives can include low-interest loans, grants, technical assistance and business development and marketing support.

- Be a collaborative partner, streamline and assist in the project development process for qualifying projects, including accelerating permitting, fee or tax reductions, etc.

- Integrate market development incentives in service agreements, i.e., offset costs of processing for hard-to-market recoverable materials.

- Set up a "last chance" mercantile stores that sell reusable goods that have been either donated to or salvaged by waste processing facilities.

SMMP Credit: ***Adoption of Diversion and Recycling Goals*** (Local Government: 1-3 points; Industry: 1-5 points)

Non-Reciprocal

Intent:
Increase recycling, composting and other beneficial utilization of waste through methods that have been proven non-harmful to environmental systems and human life and increase the productivity of alternative disposal methods so that the highest quality outcomes are produced.

Local Government Requirements

Adopt a policy that sets recycling and landfill diversion goals that exceed U.S. national average recycling and diversion rates as reported by the Environmental Protection Agency and the Construction and Demolition Recycling Association. The policy must require publicly reporting achieved recycling/diversion goals and require that recycling and diversion methods yield the highest quality outcome/product of disposed-of materials.

C&D Diversion Facilities must obtain CORR certification to be considered a viable diversion facility within this standard. (https://www.recyclingcertification.org/resources/)

Tier 1: (1 Point)

Adopt a policy goal to achieve recycling and diversion rates 15 percent higher than the national Average Recycling Rate[5] for MSW and 25 percent higher than the national average recycling rate for C&D.

- Residue from recycling facilities should not exceed 20 percent.

Tier 2: (+1 Point)

Adopt a policy goal to achieve recycling and diversion rates 20 percent higher than the National Average Recycling Rate for MSW and 30 percent higher than the national average recycling rate for C&D.

- Residue from recycling facilities should not exceed 15 percent.

[5] National Average Recycling Rate for MSW, which includes Bulky Waste, is 34.7 percent (EPA) and for all C&D (Bulk Aggregate, Mixed C&D & Recycled Asphalt Pavement (RAP) it is 73% (CDRA). During the Pilot we will evaluate whether to include Bulk Aggregate and RAP, or whether to just use the Mixed C&D number (38%). If National Average Recycling Rates increase, the policy should be adjusted accordingly.

Tier 3: (+1 Point)

Adopt a policy to achieve a Zero Waste goal.

Policy must adopt or reference the *SWEEP Diversion Calculation Methodology* and *SWEEP Guidelines for Waste Characterization and Waste Generation Studies*[6] as the basis of the calculations. In addition, the Plan/Policy must be updated when there is a change in federal average diversion rates made publicly available.

Alternative Compliance Path: (For Pilot Implementation)

Tier 1: (1 Point)

Adopt a policy goal to achieve Recycling and Diversion rates 10 percent higher than the Local Government's state average and develop and submit a plan to achieve 10 percent higher than national average diversion within a period of 3-5 years.

- Residue from recycling facilities should not exceed 20 percent.

Tier 2: (+1 Point)

Adopt a policy goal to achieve Recycling and Diversion rates 20 percent higher than the state average and develop and submit a plan to achieve 20 percent higher than national average diversion within a period of 3-5 years.

- Residue from recycling facilities should not exceed 15 percent.

Tier 3: (+1 Point)

Adopt a policy goal to achieve to achieve a Zero Waste goal within a period of 3-5 years.

Note: Alternative Compliance Path Plan/Policy must be updated when state and/or federal average diversion rates are made available.

[6] SWEEP Methodologies for calculating the Diversion Rate, Waste Generation and Characteristics will be under development during the Pilot Phase. Diversion rates should not include materials disposed of by waste to energy facilities. Diversion rates should not include waste derived alternative daily cover, such ash, sewage sludge, or recyclable materials.

Industry Requirements

Adopt a corporate-wide business goal that sets recycling and landfill diversion goals that exceed U.S. national average recycling and diversion rates as reported by the Environmental Protection Agency and/or the Construction and Demolition Recycling Association. The implementation program for the business goal must require publicly reporting achieved recycling/diversion figures.

C&D Diversion Facilities must obtain CORR certification to be considered a qualifying diversion facility within this standard. (https://www.recyclingcertification.org/resources/)

Tier 1: (1 Point)
Adopt a company business goal to achieve recycling and diversion rates 15 percent higher than the national average recycling rate for MSW and 25 percent higher than the national average recycling rate for C&D.

- Residue from recycling facilities should not exceed 20 percent.

Tier 2: (2 Points)
Adopt a company business goal to achieve recycling and diversion rates 20 percent higher than the National Average Recycling Rate[7] for MSW and 30 percent higher than the national average recycling rate for C&D.

- Residue from recycling facilities should not exceed 15 percent.

Tier 3: (2 Points)
Adopt a company business goal to achieve Zero Waste goal within a period of 3-5 years.

Policy must adopt or reference the *SWEEP Diversion Calculation Methodology* and *SWEEP Guidelines for Waste Characterization and Waste Generation Studies*[8] as the basis of the calculations.

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[7] National Average Recycling Rate for MSW is 34.7 percent (EPA). If National Average Recycling Rates increase, the policy should be adjusted accordingly.

[8] SWEEP Methodologies for calculating the Diversion Rate, Waste Generation and Waste Characteristics will be under development during the Pilot Phase. Diversion rate calculation will include consideration of local market conditions, such as the reasonable availability of glass recycling capacity and other factors. Diversion rates should not include materials disposed of by waste to energy facilities and diversion rates should not include alternative use of incinerator ash, sewage sludge, or recyclable materials, such as glass, as an alternative landfill cover.

Alternative Compliance Path: (For Pilot Implementation)

Tier 1: (1 Point)
Adopt a company business goal to achieve recycling and diversion rates 10 percent higher than the Local Government's state average and develop and submit a plan to achieve 10 percent higher than national average diversion within a period of 3-5 years.

- Residue from recycling facilities should not exceed 20 percent.

Tier 2: (2 points)
Adopt a policy goal to achieve recycling and diversion rates 20 percent higher than the state average and develop and submit a plan to achieve 20 percent higher than national average diversion within a period of 3-5 years.

- Residue from recycling facilities should not exceed 15 percent.

Tier 3: (2 points)
Adopt a policy goal to achieve to achieve a Zero Waste goal within a period of 3-5 years.

Note: Alternative Compliance Path Plan/Policy must be updated annually when state and/or federal average diversion rates are made available.

Potential Strategies:

- Calculate the diversion rate.
- Measure residual rates. SWEEP+ requirements may be adjusted based on data acquired from the field.
- Establish policies, programs and projects to increase diversion from disposal.
- National average recycling rates for MSW and C&D materials as they apply to Local Governments and Industry service providers will be described more fully in the Certification Manual and will be based on conventional sources, such as the EPA and the Construction & Demolition Recycling Association.

SMMP Credit: ***Regular Waste Characterization and Generation Study Policy*** (2 points)

Reciprocal

Intent:
To collect up-to-date data to support the development and evaluation of effective and sustainable materials management programs.

Local Government and Industry Requirements:

Develop and adopt a policy to regularly collect data on the generation and characterization of all materials collected within the boundary of the Local Government or the Company's service area, including MSW, Recycled Material, Organic Material and C&D Material.

The Government policy or Company program shall reference and require waste characterization and generation studies to follow the *SWEEP Guidelines for Waste Characterization and Waste Generation Studies*[9].

At a minimum, the policy must specify that a Comprehensive Waste Characterization Study and a Comprehensive Waste Generation Study be conducted every 7 years, with at least one Waste Characterization Update and one Waste Generation Update either 3 or 4 years between major studies.[10] Numbers should be calculated using verifiable weights wherever possible.

Potential Strategies:

- Utilize Re-TRAC Connect as a data collection platform.
- Evaluate the development and implementation of a verification/certification/audit process.
- Engage colleges and universities to help conduct waste characterization surveys or updates.

[9] SWEEP Methodologies for calculating the Diversion Rate, Waste Generation and Characteristics will be under development during the Pilot Phase. Diversion rates should not include materials disposed of by waste to energy facilities. Diversion rates should not include waste derived alternative daily cover, such ash, sewage sludge, or recyclable materials.
[10] SWEEP will accept studies and updates from organized waste sheds in which the certifying Local Government or Industry partner is located.

SMMP Credit: ***Advanced Comprehensive Sustainable Materials Management Policy*** (2 points)

Reciprocal

Intent:
To adopt policies and programs to promote environmental stewardship, including highest and best use of materials, to reduce the overall generation of waste.

Local Government and Industry Requirements:

Implement the requirements of SMMP Prerequisite: ***Comprehensive Sustainable Materials Management Policy and Programs***: and adopt additional policy elements that cover most/all of the following, as applicable to the Local Government or Company:

- Regular collection of waste characterization and volume/weight data
- Measure and or calculate vehicle, disposal, and processing emissions (greenhouse gas, and criteria air pollutants) of each of the three major programs: trash, recycling, and compost.
- Collection and treatment of organics
- Energy efficiency and contamination standards for material recovery facilities (MRFs)
- Research, Development & Deployment (RD&D) incentive and education program for advanced sustainable material management technology and products for recovered materials
- Disposal material ban(s)
- Mutual Aid Agreements requires a sustainable materials management plan for disaster debris management on the part of included agencies.

Potential Strategies:

- Evaluate different data collection options for regular waste characterization studies.
- Develop an organics processing strategy.
- Determine feasibility, including cost, infrastructure, etc. and legal precedent for banning certain materials from disposal.

SMMP Environmental Performance KPI

SMMP Credit: ***Solid Waste Greenhouse Gas and Air Emissions Footprint Reduction Policy*** (Local Government: 1-3 points; Industry: 2-5 points)

Non-Reciprocal

Intent:
To reduce greenhouse gas, criteria air pollutants, and hazardous air pollutants (HAP) footprint of the Local Government's or the Company's solid waste management program.

Local Government Requirements

Tier 1: (1 point)
Adopt a policy to measure and reduce the per capita greenhouse gas OR adopt a policy to reduce other criteria air[11] pollutants and HAP footprint of the collection, recovery and disposal of waste within the jurisdiction by at least 20 percent compared with a 2015 baseline within 5 years of policy adoption. See PCD Credit: ***Landfill Emissions Minimization*** for specific landfill gas management requirements.

- Require measuring and documenting GHG and toxic emissions with the best available technology that captures emissions/leakages throughout the entire system.

Tier 2: (+2 points)
Adopt a policy to measure and reduce BOTH the per capita greenhouse gas AND other criteria air emissions footprint of the collection, recovery and disposal of waste within the jurisdiction by at least 25 percent compared with a 2015 baseline within 5 years of policy adoption. See PCD Credit: ***Landfill Emissions Minimization*** for specific landfill gas management requirements.

- Require measuring and documenting GHG and toxic emissions with the best available technology that captures emissions/leakages throughout the entire system.

[11] Criteria air pollutants as defined by the EPA are Ground-Level Ozone, Carbon Monoxide, Lead, Particulate Matter, Sulfur Dioxide and Nitrogen Dioxide (https://19january2017snapshot.epa.gov/criteria-air-pollutants_.html).

Industry Requirements

Tier 1: (2 points)
Adopt a company goal to measure and reduce the greenhouse gas footprint OR adopt a company goal to reduce other criteria air[12] pollutants and HAP footprint of the collection, recovery and disposal of waste by the Company by at least 20 percent compared with a 2015 baseline within 5 years of goal adoption. See PCD Credit 5 for specific landfill gas management requirements.

- Require measuring and documenting GHG and toxic emissions with the best available technology that captures emissions/leakages throughout the entire system.

Tier 2: (+3 points)
Adopt a company goal to measure and reduce BOTH the per capita greenhouse gas AND other criteria air emissions footprint of the collection, recovery and disposal of waste by the Company by at least 25 percent compared with a 2015 baseline within 5 years of goal adoption. See PCD Credit 5 for specific landfill gas management requirements.

- Require measuring and documenting GHG and toxic emissions with the best available technology that captures emissions/leakages throughout the entire system.

Potential Strategies:

- Use a metric of carbon dioxide equivalents to quantify the carbon impact of waste, assessing the emissions generated by producing and recycling materials as well as the emissions from the disposal and/or conversion processes.

[12] Criteria air pollutants as defined by the EPA are Ground-Level Ozone, Carbon Monoxide, Lead, Particulate Matter, Sulfur Dioxide and Nitrogen Dioxide (https://19january2017snapshot.epa.gov/criteria-air-pollutants_.html).

SMMP Credit: ***Source Reduction Policy*** (4 points)

Non-Reciprocal

Intent:
Reduce waste generation and disposal through programs that encourage waste prevention and reuse.

Local Government Requirements:

Develop and adopt a policy to promote product and material waste prevention and reuse. The policy should allow or facilitate most of the following or equivalent programs:

- Partnerships with Food Rescue Groups
- Partnerships with local reuse organizations, such as Habitat for Humanity, Salvation Army, and Goodwill.
- Purchase products that have either a Healthy Product Declaration (HPD), or an Environmental Product Declaration (EPD).
- Adopt a C&D recycling ordinance that includes and incentivizes deconstruction.
- Promote backyard composting with subsidized bins, education, training and other support.
- Partnership with companies that handle hard-to-recycle items
- Programs to eliminate or reduce usage of products, e.g.
    - Bans on the use of single-use plastic bags and other single-use plastics
    - Filtered water bottle refilling stations in public places
    - Procurement programs that emphasize and reward source reduction
        - Strengthen extended producer responsibility
        - Replace throw-away system with alternative delivery systems including reusable/refillable
- Purchase products that have either a Healthy Product Declaration (HPD), or an Environmental Product Declaration (EPD).
- Promote citizen or industry repair programs and infrastructure through “tool libraries,” “repair cafes,” corporate events (e.g. Patagonia repair bus), etc.
    - Funding for source reduction programs
    - Promote the use of reusable containers and selling in bulk
        - Examples:
            - Distribute reusable plastic bags
            - Provide incentives for companies to use reusable containers
    - Training and education programs about source reduction

- Support for and development of material exchanges
  - Including neighborhood reuse and repair centers
- Developing “On demand” programs for consumer items in service establishments, such as straws in restaurants
- Offer and promote no-cost regular business waste assessment/audit with recommendations for “right-sizing”.

Industry Requirements:

Develop, adopt and document company programs to promote product and material reuse. The programs should allow or facilitate most of the following or equivalent approaches:

- Partnerships with Food Rescue Groups
- Partnerships with local reuse organizations, such as Habitat for Humanity, Salvation Army, and Goodwill.
- Purchase products that have either a Healthy Product Declaration (HPD), or an Environmental Product Declaration (EPD).
- Promote citizen or industry repair programs and infrastructure through “tool libraries,” “repair cafes,” corporate events (e.g. Patagonia repair bus), etc.
- Support for and development of material exchanges
- Promote backyard composting with subsidized bins, education, training and other support.
- Partnership with companies that handle hard-to-recycle items.
- Programs to eliminate or reduce usage of products, e.g.
  - Bans on the use of single-use plastic bags and other single-use plastics
  - Filtered water bottle refilling stations in public places
  - Procurement programs that emphasize and reward source reduction
    - Strengthen extended producer responsibility
    - Replace throw-away system with alternative delivery systems including reusable/refillable
  - Funding for source reduction programs
  - Promote the use of reusable containers and selling in bulk
    - Examples:
      - Distribute reusable plastic bags
      - Provide incentives for companies to use reusable containers
  - Training and education programs about source reduction.
  - Support for and development of material exchanges.
    - Including neighborhood reuse and repair centers

- Developing “On demand” programs for consumer items in service establishments, such as straws in restaurants.
- Offer and promote no-cost regular business waste assessment/audit with recommendations for “right-sizing”.

Potential Strategies:

- Develop a comprehensive consumer outreach program to notify residents about the source reduction programs being supported and promoted by the Local Government.

- Include deconstruction requirements as part of the permitting and final approval process to add teeth to the policies.

SMMP **Economic Performance** KPI

SMMP Credit: ***Market-Based Waste Management Program Policy*** (1-3 points)

Non-Reciprocal

Intent:
Use market mechanisms to reduce waste generation and to incentivize more efficient waste management systems.

Local Government Requirements:

Adopt the following incentive/market-based policies.

Tier 1: (1 point)
Develop and adopt 2 or more policies/programs.

Tier 2: (+1 point)
Develop and adopt 4 or more policies/programs.

Tier 3: (+1 point)
Develop and adopt 6 or more policies/programs.

Sample list of potential based policies and programs

- Pay-as-you-throw variable pricing for waste management services.
- Offer and promote no-cost annual business waste assessment/audit with recommendations for “right-sizing”.
- Incentives for product ‘lightweighting’ through EPP guidelines.
- Tax breaks or other incentives for donations to non-profit food rescue or other intermediate material reuse organizations.
- Tax breaks and/or other incentives for difficult to recycle materials such as mattresses and Styrofoam.
- Incentives for xeriscaping or other policies to reduce grass planting and drought tolerant landscaping
- Optimize and incentivize procurement policies for products and materials that are recyclable and have recycled content.

- Creation of recycling market development zones.
- Adoption of reward-based recycling incentive programs, such as Recyclebank & other loyalty-based buyback programs.
- Advanced disposal/processing fees; e.g. Tire and battery disposal fees, and any other container reuse/recovery fees.
- Extended Producer Responsibility (EPR) requirements in Local Government procurement or requirements for retail establishments should conform with Version 4 of SMaRT Sustainable Product Standard, or an equivalent standard that has an operational reuse prerequisite and credit for end-of-life reuse in excess of 35 percent.
- Other programs as defined by the Local Government

Industry Requirements:

Not applicable.

Potential Strategies:

- Evaluate the best combination of options to sustainably manage materials in the Local Government and develop an ordinance to adopt these programs.

- Ensure that dedicated resources are allocated for execution of the Sustainable Materials Management strategies.

SMMP **Public Participation** KPI

SMMP Credit: ***Local Government Policy for Comprehensive Public Participation in Solid Waste Management Program Development*** (1-2 points)

Non-Reciprocal

Intent:
Solicit and encourage broad public input into decision-making around solid waste management.

Local Government Requirements

Tier 1: (1 point)
Adopt a policy of best-practices public participation in solid waste management decision-making[13] as described in the EPA's Resource Conservation and Recovery Act Public Participation Manual January 11, 2017 https://www.epa.gov/sites/production/files/2017-01/documents/final_rcra_ppm.pdf.

Tier 2: (+1 point)
Implement Tier 1 requirements
AND

- The policy must provide support for the inclusion of public participation. Support can include technical support, provided experts, funding, etc.

Industry Requirements

Not applicable.

Potential Strategies:

- Provide online access to public meeting calendar for waste management meetings and a record of the topics and discussions held.
- Create the role of Waste Ombudsman to interface with the public around these topics.

[13] Solid waste management programs that could be addressed include: recycling program development, waste management fees and contracts, landfill operations (Local Government and contracted), Solid Waste Management Plans, etc.

SMMP Credit: ***Industry: Comprehensive Public Reporting of Corporate Sustainability*** (1-3 points)

Non-Reciprocal

Intent:
Provide public transparency regarding corporate policy and activity around economically, environmentally and socially sustainable business practices.

Local Government Requirements

Not applicable.

Industry Requirements

Tier 1: (1 point)
Publish an annual Corporate Sustainability Report that includes the following:

- Statement of corporate commitment to environmental, social and economic sustainability
- A list of specific and quantifiable corporate sustainability goals
- A stated roadmap to achieve sustainability goals

Tier 2: (+2 points)
Publish an annual Corporate Sustainability Report that meets Tier One requirements and includes the following:

- Progress to date on the achievement of goals (KPIs)
    - Provide verified data on achievement
- Assess and quantify the economic impact of sustainability activities
    - Provide up-to-date and verified data of economic impact
- Publish data on company website or make the information accessible to the public in another manner

Potential Strategies:

- Create the role of Chief Sustainability Officer to interface with the public around these topics.
- Provide compelling and accessible graphics about information found in the report.
- Make the Sustainability Report available online and through social media.

2. Waste Generation & Prevention (WGP) (18 Possible Points)

|| Waste generation || refers to the volume or tonnage of solid waste generated prior to any recovery or disposal. Preventing and minimizing waste generation is widely considered to be more important than solid waste recovery and disposal; and it is prioritized first in the U.S. Environmental Protection Agency (US EPA) sustainable materials management hierarchy. [14]

In an era of limited resources, the sustainable management of natural capital is increasingly at the forefront of international dialogue about how to achieve economic development without compromising human health and the environment. Avoiding wasting does both. Known generally as source reduction and reuse, these approaches reduce waste generation and maximize positive social value in terms of quality of life. Source reduction and reuse are addressed separately due to the difficulty of identifying and measuring impacts associated with prevention (e.g., how to count something that isn't there).[15]

Per capita waste generation (including construction and demolition waste) is the best way to measure the growth or lack of growth in waste generation. As the economy changes along with the population -- and the products and packages we use -- per capita waste generation gives us the best picture of where we are heading and whether or not we are succeeding at preventing waste.

The WGP requirements of SWEEP+ take into account **four key performance indicators (KPI)**:

1) Efficiency and Effectiveness
2) Environmental Performance
3) Economic Performance
4) Public Participation

[14] EPA is thinking beyond waste; and it has transitioned from focusing on waste management to focusing on Sustainable Materials Management (SMM) https://www.epa.gov/facts-and-figures-about-materials-waste-and-recycling/national-overview-facts-and-figures-materials

[15] A related issue is the continued efforts by private industry that may have contradictory impacts upon reducing waste or protecting the environment. Some examples include: the use of heavier gauge plastic bags to replace single use thin-walled plastic bags; substitution of single use paper straws for plastic; substitution of lightweight plastics for heavier but more recyclable glass and metal containers; and the introduction of difficult to recycle aseptic packaging to avoid food product loss in the absence of refrigeration.

WGP **Efficiency & Effectiveness** KPI

WGP Prerequisite: ***Measuring and Calculating Waste Generation, Recovery and Disposal*** *(Required)*

Reciprocal

Substantive Change: Removed Biosolids from the scope of the prerequisite.

Intent:
Develop an understanding of waste generation and characteristics as a good foundation for public policy making or business strategy and program implementation for measuring macro and micro progress towards achieving sustainable materials management objectives.

Local Government and Industry Requirements:

Based on the SMMP Performance Path (SMMP Credit: ***Comprehensive Sustainable Materials Management Lifecycle Analysis and Policy Program***) or Prescriptive Path (other applicable SMMP credits pursued), the Local Government or Company should estimate, calculate or measure the generation of municipal solid waste, including, as appropriate, construction and demolition (C&D) waste within the boundaries of the Local Government's jurisdiction or the Company's service area by the Residential and Nonresidential (i.e. multifamily, commercial and non-hazardous industrial premises) sectors.

The Local Government or the Company servicing the community should report total aggregated annual tonnage of all generated and collected materials within the boundaries of the jurisdiction including mixed waste, recycling (including contamination), green waste, and C&D as weighed on certified scales, or the equivalent, at the final destination of the material. Total waste imports should be measured/quantified separately but should not be included in the calculation of waste generation within the Local Government jurisdiction or Company's service area.

The Local Government and Company must collect data on how their waste is ultimately disposed of. This includes noting the type of facility the waste is disposed at, naming the specific facilities in use, and categorizing how much of the recycling stream is being diverted or sent to disposal.

Potential Strategies:

- **Companies are only responsible for measuring or calculating materials that they handle through collection, processing or disposal.** Companies can focus their analysis only on their services within the jurisdiction seeking certification or within the geographical service area, which could be applied to multiple jurisdictions.
- Local Governments should conduct, or private Companies should utilize or support the development of, a recent baseline study of waste generation and characterization in the Local Government jurisdiction or Company's service area including total quantity and composition, by residential and nonresidential sector. Update this information on a 5 to 10-year basis.
- Encourage or require solid waste haulers (i.e., service providers of waste collection) to conduct studies of collected materials by sector on a regular basis.
- Conduct or support the development of regular (as defined in SMMP Credit 4) studies or surveys of major waste generators and/or haulers to estimate the total amount of waste by type generated in the Local Government jurisdiction or Company's service area. Typically, the top 30% of individual sources generate upwards of 70% of all waste in that sector.
- Encourage or require transfer stations and material recovery facilities to conduct studies of received materials, any recovery, and residual disposition.
- For C&D associated with permitted projects, generation may be calculated based on lbs. per sq. ft.
- If field data are not available, use default waste generation and characterization values in the SWEEP+ Certification Manual to estimate waste generation and characterization.

WGP Credit: ***MSW Source Reduction Programs*** (1-3 points)

Reciprocal

Substantive Change: Removed Biosolids from the scope of the credit.

Intent:
Encourage reduced waste generation to minimize resource consumption throughout society, and to avoid human health and environmental impact from toxicity resulting from the manufacturing of goods.

Local Government and Industry Requirements:

Implement a waste prevention program for MSW, including, as appropriate, C&D waste.

SMMP Performance Path:

Report changes in per capita disposal due to source reduction programs outlined in the SMMP Credit: *Sustainable Materials Management Policy* and briefly describe the programs used to achieve this result.

SMMP Prescriptive Path:

Tier 1: (1 point)

- Develop, support and promote at least **2** of the following—or equivalent—waste reduction programs in the Local Government's jurisdiction or Company's service area.

Tier 2: (+1 point)

- Develop, support and promote at least **4** of the following—or equivalent—waste reduction programs in the Local Government's jurisdiction or Company's service area.

Tier 3: (+1 point)

- Develop, support and promote at least **6** of the following—or equivalent—waste reduction programs in the Local Government's jurisdiction or Company's service area.

Examples of Waste Reduction Programs

- Rate structure modifications (Pay-as-you-throw programs in the residential sector and/or fee adjustments to nonresidential sector rates)
- Advanced disposal fees on single use, disposable, and non-durable goods
- Food waste reduction: (e.g., promoting reduced portions of food for customers)
- Material opt-out options (i.e. phone books, news publications, etc.)
- Local Government-sponsored book drives for community re-circulation
- Extended Producer Responsibility and Stewardship program targeting litter, single-use products, universal waste, or wasted goods (e.g., take it back programs for universal wastes)
- Reduce transport packaging program (e.g., reusable boxes)
- Waste prevention at venues and events (e.g., avoiding single use cups, plates and utensils)
- Junk mail reduction program (removing customers from junk mail lists)
- Material leasing programs (e.g., returnable electronics)
- Awards and recognition program (e.g., trash cutters award)
- Environmentally preferable purchasing (e.g., avoiding wasteful purchases or ensuring recycled content)
- Xeriscaping program (e.g., rebate for replacing grass lawns with organic gardens)
- Discounts on reusable product usage (e.g., 15 cents off a coffee for using a reusable mug or a per bag discount for bringing your own reusable bag)
- Buy locally strategies for food and other goods
- Other suggested by Local Government

Potential Strategies

- Disposal bans on plastic single use products
- Business waste prevention programs
- Smart shopping campaigns for residents and businesses
- Purchasing co-ops for residents and businesses
- Encourage LEED or equivalent construction standards with builders and developers
- Code amendments to reflect source reduction practices
- Rate structure modifications
- Local government procurement programs and local tax incentives
- Encourage local community gardens through zoning code revisions
- Encourage residential and nonresidential sector organics waste prevention program

WGP Credit: ***Reuse and Rescue Programs/Projects*** (1-3 points)

Reciprocal

Intent:
To reduce disposal of products and food that are still usable or are fit for consumption through reuse and rescue programs.

***Local Government* and *Industry* Requirements:**

Local government and/or its vendors or the Company should:

- Support or implement product reuse or upcycling programs

And

- Support or Implement a daily Prepared Food rescue program for healthy and Edible Food.

Or

- Support or Implement a program of heavily discounted pricing for food near or at expiration date.

	Food Rescue (percent of available Edible Food)	Or	**Near Expiration Date Discount Program**
Tier 1: (1 Point)	Rescue 10 percent of available Edible Food		10 percent of local food stores have discount program
Tier 2: (+1 Point)	Rescue 20 percent		20 percent of local food stores
Tier 3: (+1 Point)	Rescue 25 percent		25 percent of local food stores

Potential Strategies:

- Support or encourage local product reuse programs and organizations through grants, publicity, educational awareness, social media, and/or technical assistance
  - Upcycling opportunities
  - Local reuse companies and agencies
  - Material reuse donations from businesses and institutions for schools

- Support or encourage local food rescue organizations through grants, publicity, educational awareness, social media, and/or technical assistance.

- Connect residents and non-profits with food rescue smartphone applications that alert user whenever excess food becomes available for discounted or free consumption (ex: Food for All, Gebni, goMkt, etc.).

- “Spoiler Alert” for products with limited lifetime

- Recognize and promote stores that are being proactive in food waste recovery (e.g. Kroger Zero Waste, Zero Hunger)

- Adopt additional “good Samaritan law” to augment the federal “Bill Emerson Act” which reduces liability for food vendors
    - Have a health inspector go to food vendors to clarify these laws

WGP Credit: ***Measuring and Calculating Source Reduction and Reuse/Rescue Impacts*** (1-2 points)

Reciprocal

Intent:

To consistently measure and/or calculate the generation and characterization of municipal solid waste within the Local Government's jurisdiction or Company's service area, including as appropriate, C&D waste, represents an important foundation for societal transformation of traditional solid waste management into effective sustainable materials management.

Local Government and Industry Requirements:

Calculating Source Reduction Potential[16] (1 point)
Based on calculated or measured waste generation and characterization, calculate the Source Reduction potential for the Local Government.

Utilize the source reduction potential calculation methodology outlined in the US EPA's *Source Reduction Program Potential Manual* available at https://www.epa.gov/nscep

Calculating Reuse & Rescue[17] (1 point)
Estimate, calculate or measure waste diverted from disposal through Reuse and Rescue programs operating within the Local Government's jurisdiction or Company's service area.

Utilize the SWEEP reuse and rescue calculation methodology outlined in the Certification Manual.

Potential Strategies:

- Encourage certification of public and private facilities to the TRUE Standard
- Food rescue programs/projects "Spoiler Alert" for products with limited lifetime
- Implement and enforce local mandatory business waste prevention policy.
- Educational programs on reuse and source reduction
  - Prevalence and magnitude of educational programs for residents &/or commercial/institutional organizations
  - Prevalence and magnitude of educational programs for waste management employees

[16] *SWEEP Guidelines for Waste Characterization and Waste Generation Studies* must be adopted and implemented.

[17] Guidelines for calculating Reuse and Rescue will be developed in the Certification Manual.

- Measuring/calculating
  - Total solid waste generated;
  - Per capita solid waste generation;
  - Residential vs. Commercial origin;
- Procurement policies and achievements
  - EPP policy-recycling, composting, etc.
    - Municipal building recycling & composting programs
    - Buy used
    - Use remanufactured toner cartridges
    - Buy Recycled
  - Auction/resale of used goods
  - Encouraging take-back programs
- Product labeling practices
  - Procurement guidelines regarding labeling products as compostable or other definitional label
- Local Government Sponsored Source Reduction programs:
  - Backyard composting;
  - Material exchanges/material libraries, e.g. textiles/clothing
  - Waste audit & recommendations “right-size” programs
  - Phone book and junk mail opt out program
  - Grasscycling
  - Xeriscaping

WGP Environmental Performance KPI

WGP Credit: ***Litter Prevention and Reduction Infrastructure*** (1 point)

Reciprocal

Intent:
To beautify public areas, prevent materials from polluting the natural environment, and encourage proper handling of materials by Local Governments and waste management Companies.

Local Government and Industry Requirements:

- Prevention
  - Implement a program that encourages the adoption of durable products such as reusable bags and cups and disincentivizes single-use alternatives or eliminating disposable, single-use packaging at government sponsored community events.
- Reduction
  - Maintain a sufficient number of receptacles in public areas including walkways, parks, and other public places.
    - Receptacles should be both visible and have effective signage.
    - Side by side receptacles for both recycling and trash.
    - Receptacles must have openings that contain waste without impeding the introduction of new material (i.e. push flaps, tops).
  - Consistent and reliable servicing of receptacles.
    - A schedule is in place to appropriately empty receptacles nearing capacity.
    - Limit overflow events to *zero* (0) per year.
- Enforcement
  - Demonstrate rapid cleanup of illegal dumping within 72 hours of being notified of the illegal dumping.
  - Demonstrate increased enforcement and fines for littering and illegal dumping.
  - Add signage stating no liter or dumping.

Potential Strategies

- Example methods include unified language, artwork, vibrant colors, and/or colors that coincide with universal understanding
- In addition to trash, have multi-material disposal options (such as trash and recycling together).
- Local Government programs to eliminate or reduce usage of products that are frequently littered e.g. bag bans or taxes/promotion or distribution of reusable bags; water bottle refilling stations in public places.
- Partnering with local businesses or community groups and doing “Adopt a Street” programs.
- Consistent education through labeling of acceptable materials in all container types – i.e. trash or recycling
- Code enforcement of litter laws.
- Analyze usage of street bin infrastructure and develop / adjust schedule based on seasonality and city events.
- Include support for container deposit return systems, which have proven effective at significantly reducing litter and marine/waterway debris.
- Utilize cloud-based remote receptacle monitoring systems and “smart” bins.

WGP Credit: ***Environmentally Preferable Product Procurement (Non-Capital Items)*** (1-2 points)

Non-Reciprocal

Intent:
To encourage and increase the procurement of recycled content and other environmentally preferable products (EPP[18]).

Requirements:

Local Government Requirements

Tier 1: (1 point)
Demonstrate the Local Government's procurement of products that meet EPP requirements for a minimum of 10 percent of the local government's procurement budget.

Tier 2: (+1 point)
Demonstrate the Local Government's procurement of products that meet EPP requirements for a minimum of 25 percent of the local government's procurement budget.

Industry Requirements

Tier 1: (1 point)
Demonstrate the Company's procurement of products that meet EPP requirements for a minimum of 10 percent of the Company's procurement budget.

Tier 2: (1 point)
Demonstrate the Company's procurement of products that meet EPP requirements for a minimum of 25 percent of the Company's procurement budget.

[18] EPP criteria should conform with EPA or US Department of Energy or SMaRT Sustainable Product Standard guidelines for environmentally preferable products as outlined in Federal Executive Order 13693, section 3 (i) or demonstrated through life cycle assessment. Products that are certified to Version 4 of the SMaRT Sustainable Product Standard count 2x non-certified products.

Potential Strategies

- Utilize an open database of 'preferred' alternative chemicals, materials, and processes to help companies reformulate products to make them more circular.
- Establish procurement guidelines to label products as compostable

WGP Credit: ***Sustainable Capital and Utility Procurement*** (1-2 points)

Non-Reciprocal

Intent:
To establish energy efficiency and sustainability requirements for new purchases of capital equipment, construction, infrastructure, and utilities pertaining to waste management administration.

Local Government Requirements

- Maintain a sustainable purchasing program covering capital equipment associated with administration of the Local Government's solid waste program with a high cost per unit that are not regularly replaced through the course of operations. This equipment includes, but is not limited to:
    - Vehicles
    - Office equipment and appliances
- Maintain a sustainable purchasing program covering the waste management program's administration facilities total energy consumption through the course of operations.

Tier 1: (1 point)
Offset 100 percent of the Scope 1 & Scope 2 carbon emissions through Carbon Offsets and/or Renewable Energy Credits (RECs) or equivalent.[19]

- RECs purchased from the grid must be Green-e-Energy certified or equivalent from sources that have come online in the last 10 years
- For remaining Scope 1 emissions or for all Scope 1 & Scope 2 carbon emissions, purchase carbon offsets that are Green-e-Climate certified or equivalent

Or

Supply 10 percent of total energy of vehicles and facilities from on-site renewables (wind, hydro, solar, biomass etc.) and/or renewable fuels as defined in credits SWC Credit: ***Alternative Fueled Solid Waste Collection Vehicles***, PCR Credit: ***Clean and Efficient Material Recovery and Organics Processing Facilities*** or PCD Credit:

[19] There are many equivalent and acceptable carbon offset programs that achieve the same outcome as Green-e-Energy certified and Green-e-Climate certified programs. Other programs used for carbon offsets or RECs will be reviewed and approved by the SWEEP certification team.

Renewable or alternative fueled On-site Mobile Equipment for Disposal Facilities. Low-carbon or alternative fuels as defined in these credits e.g. natural gas recovered from the local waste stream, may count toward this requirement, but are discounted by 50%.

- Credit assignment options: Electricity generation, cogeneration, heat generation, or cleaned and compressed for mobile equipment or collection equipment

Tier 2: (+1 point)
Certify all construction or renovation projects of waste processing facilities in excess of 5,000 square feet to LEED certification version 3 and above, or LEED Silver for version 2 or equivalent. SWEEP will review all equivalent certification and renovation projects.

Industry Requirements

- Maintain a sustainable purchasing program covering capital equipment associated with administration of the Company's solid waste program with a high cost per unit that are not regularly replaced through the course of operations. This equipment includes, but is not limited to:
    - Vehicles
    - Office equipment and appliances
- Maintain a sustainable purchasing program covering the waste management program's administration facilities total energy consumption through the course of operations.

Tier 1: (1 point):
Offset 100 percent of the Scope 1 & Scope 2 carbon emissions through Carbon Offsets and/or Renewable Energy Credits (RECs) equivalent.[20]

- RECs purchased from the grid must be Green-e-Energy certified or equivalent from sources that have come online in the past 10 years.
- For remaining Scope 1 emissions or for all Scope 1 & Scope 2 carbon emissions, purchase carbon offsets that are Green-e-Climate certified or equivalent.

Or

- 10 percent of the facility's total energy consumption (vehicles + facility) must come from on-site renewables. These include: wind, hydro, and solar energy sources.

[20] There are many equivalent and acceptable carbon offset programs that achieve the same outcome as Green-e-Energy certified and Green-e-Climate certified programs. Other programs used for carbon offsets or RECs will be reviewed and approved by the SWEEP certification team.

- Credit assignment options: Electricity generation, co-generation, heat generation, or cleaned and compressed gas for mobile equipment or collection equipment.

Tier 2: (+1 point)
Certify all construction or renovation projects of waste processing facilities in excess of 5,000 square feet to LEED certification for version 3 and above or LEED Silver for version 2, or equivalent.

Potential Strategies

- Quantify Scope 1 & Scope 2 carbon emissions.
- Purchase qualifying offsets for renewable energy and/or carbon
- Evaluate sites in the local jurisdiction for renewable energy potential
- Design and certify waste management and support facilities to green building standards, such as LEED. “Designed to” LEED or other certification programs does not count toward this credit.
- Certifying entity must demonstrate equivalence to the referenced standards.

WGP **Economic Performance** KPI

WGP Credit: ***Economic Assessment of Solid Waste Management Program*** (2 points)

Reciprocal

Intent:
Provide transparency around the costs and benefits of solid waste management programs.

Local Government and Industry Requirements:

1. Calculate and publish total (residential and non-residential) solid waste program costs per ton or per household or per capita.

2. Provide breakouts as follows:
   - Total solid waste management cost per ton.
   - Collection costs per ton:
     - Mixed MSW (Black Bin; residential and non-residential)
     - Single-stream or dual-stream recyclables (Blue Bin)
     - Green Waste/Food Waste (Green/Brown/Yellow Bin)
     - Household Hazardous Waste (including drop off programs)
     - Bulk items
     - C&D Debris
   - Disposal costs per ton.
     - Gross
     - Net (post-sale of output, e.g. energy sales)
   - Recycling processing costs per ton:
     - Gross
     - Net (post-sale of output, e.g. commodity sales)
   - Organic processing costs per ton:
     - Gross
     - Net (post-sale of output, e.g. soil amendment sales)

3. Estimate impact from waste management program, including indirect and induced effects, on:
   a. employment and

b. economic activity

Potential Strategies:

- Track costs for different aspects of the Local Government waste management: collection, processing, disposal, etc.
- Include line items for maintenance, labor and customer service. Figures at this level of detail do not need to be reported.
- Make the top-level cost figures available to Local Government residents and/or to customers of the solid waste Company.
- Provide total costs of each program (recycling, trash, compost) per Household or per capita.

WGP **Public Participation** KPI

WGP Credit**: *Education and Engagement Programs on Litter & Source Reduction and Reuse*** (2 points)

Reciprocal

Intent:
Reduce litter and waste generation and disposal through public education and Local Government Employee training programs.

Local Government and Industry Requirements:

Implement Local Government or Company Employee Training Programs.[21]

Publish and promote online resources that provide an overview of the overall waste management program and the material management process occurring at facilities owned by the Local Government or the Company.

Educational Program(s) on Inbound Contamination
Develop education and/or information programs on inbound contamination. Demonstrate that the information can reach at least 80 percent of the customers in the Local Government's jurisdiction or in the Company's service area.

- Provide on-site public educational tours of the waste management facilities operated by the Local Government or the Company.
- Conduct Local Government or Company staff training programs on waste prevention.
- Training programs to teach EPP (environmentally preferable products) requirements guidelines in Local Government or Company procurement.
- Develop and/or develop procurement collaboratives to share guidelines for EPP with procurement departments of various departments or other institutions, such as local school districts, as well as retail establishments.
    - In the case that a city/county does not have the capacity to create these programs, partner with a product stewardship organization(s), such as PSI or NSAC for support.

[21] Education & Training to encompass all facilities (MRFs, Landfills, Transfer Stations, WTE, Gasification, etc.).

- Post the plan and strategy on the Local Government jurisdiction or Company's website.
- Send out regular emails and links to the EPP section of the Local Government's or Company's internal website.
- Social media campaign/marketing on multiple platforms

Education Programs on Source Reduction, Reuse, and Disposal

Develop education and/or information programs on source reduction, reuse, and proper materials disposal. Demonstrate that the information can reach at least 80 percent of the customers in the Local Government's jurisdiction or within the Company's service area.

The educational components should include the following:

- A website and physical materials, e.g. calendars & refrigerator magnets, that are regularly distributed and posted in public areas.
- Social media campaign/marketing on multiple platforms
- Example tools and materials include school modules, educational activities designed for both children and adults, downloadable PDF posters clearly listing materials accepted in recycling streams, etc. e.g. Marking storm drains that empty directly into local water bodies.
  - Demonstrate that information about the program is accessible to 80 percent or more of the community and/or customers in the Company's service area.
  - Establish ongoing litter prevention and reduction efforts which may include any of all of the following: government or civic based community organization, youth and adult education programs including behavior change campaigns such as messaging in the community or Company's service area (i.e. slogans such as "Don't Mess with Texas").
    - **Option 1**: Pursue as an independent entity.
    - **Option 2**: Partner with an organization (i.e. non-profit)
- Promote litter prevention through sponsored area cleanups (i.e. parks, beaches, highways, etc.).

Required Information:

Information on how to reduce material consumption and channels for reuse of materials:

- Current list of materials accepted for curbside collection (link to another credit later on).
- Current list of materials not accepted for curbside collection.
- Drop-off locations for materials not accepted curbside.
- Information on household hazardous waste.

In the case that a city/county does not have the capacity/ability to create these materials, Partner with Environmental Education groups such as the state's Recycling Organization or Department for Environmental Quality; or other nonprofits.

Potential Strategies

- Ballot bins (fun questions for people to vote with their litter).
- Slogans that curb littering behavior (e.g. Don't Mess with Texas; "*Dunna Chuck Bruck"*: sample programs that put the community first in litter prevention campaign.).
- Promote public education programs that:
  - Encourage, amplify and reinforce residents to utilize waste reduction infrastructure, such as 'tool libraries', 'repair cafes', and corporate sponsored programs (e.g. Patagonia repair bus), etc.
  - Teach the public how to reduce consumption and reuse products.
    - Excess packaging; product durability; buying used, etc.
    - Post notice of products available for reuse, etc. online and in Waste Exchanges
- Education programs on Food waste Prevention & reuse geared toward children, families and businesses.
- Public information on existing partnerships/programs with companies that handle hard-to-recycle items (e.g. Best Buy's TVs recycling programs, Terracycle, etc.)

WGP Credit: ***Household Hazardous Waste Reduction and Engagement Program*** (1 point)

Reciprocal

Intent:
Educate the public on existing HHW infrastructure and available avenues for HHW reduction in order to minimize potential negative human health impacts and pollution of the natural environment.

Local Government and Industry Requirements:

Demonstrate that the information about household hazardous waste programs has the potential to reach 80-90 percent of residents within the Local Government's jurisdiction or Company's service area. Best practices include the following:

- List of materials considered household hazardous waste and how to properly dispose (i.e. drop-off or pickup) through an engaging platform (i.e. website).
- List of products that meet the EPA Safer Choice Standard (https://www.epa.gov/saferchoice/products)
- Publish activities, lessons, and/or worksheets that explain household hazardous waste and the danger of exposure designed for children.

Potential Strategies:

- Develop a hazardous waste website & publish the URL to citizens.
- Include 'bill stuffers' for utility (electricity, water, sewer, trash, etc.) bills, tax bills or other regular communication with residents.
- Post notices in local print, visual and online media.

3. Solid Waste Collection (SWC) (18 Possible Points)

|| Waste collection || refers to the process of gathering, consolidating, and transporting solid waste, encompassing considerations related to waste receptacles and hauling practices. Waste collection tends to be distinct between commercial, institutional, residential, and away-from-home waste generation points.

The SWC requirements of SWEEP+ take into account four key performance indicators (KPI) related to Solid Waste Collection:

1. Efficiency and Effectiveness
2. Environmental Performance
3. Economic Performance
4. Working Conditions and Social Impact

SWC Efficiency and Effectiveness KPI

SWC Credit: ***Alternative Collection Options for Recyclable and Compostable Products and Materials*** (2 points)

Reciprocal

Intent:
Provide various collection methods for recyclable and discarded materials

Local Government and Industry Requirements:

Demonstrate access for 90 percent or more of your customers to one or more of the following collection options for Recyclable Materials and Compostable Materials:

- Curbside programs: (frequency, scope)
    - E.g. Weekly pick-up of recyclables.
- Drop-off programs/facilities (accessibility; proximity; hours of operation)
- Street bins: coverage, servicing, materials collected, color-coding/identification

Potential Strategies:

- Identify the number of residents or customers covered by operating curbside programs.
- Site and support drop-off facilities in convenient locations.
- Adopt standardized color-coding and labeling of private and public carts and bins.
    - Conversion to standardized colors and/or labels can occur in conjunction with retirement of existing non-conforming color-coded containers.

SWC **Environmental Performance** KPI

SWC Credit: ***Energy and Emissions Optimization of Solid Waste Collection*** (1-3 points)

Reciprocal

Intent:
Reduce fuel consumption and lower air emissions resulting from waste collection

Local Government and Industry Requirements:

Demonstrate Fleet Fuel Economy, Collection Route Efficiency or Fleet Criteria Emissions of solid waste (including MSW, Bulky Waste, Recyclables, Organics and C&D) collection per the following criteria:

	Option 1	Or	**Option 2**
Tier 1: (1 Point)	Demonstrate Fleet Fuel Economy of 3.4 miles per gallon/gallons diesel equivalent.		Demonstrate Collection Route Efficiency of <2.8 annual gallons per ton of waste collected.
Tier 2: (+1 Point)	Demonstrate Fleet Fuel Economy of 3.55 miles per gallon/gallons diesel equivalent.		Demonstrate Collection Route Efficiency of <2.7 annual gallons per ton of waste collected.
Tier 3: (+1 point)	Demonstrate Fleet Fuel Economy of 3.75 miles per gallon/gallons diesel equivalent.		Demonstrate Collection Route Efficiency of <2.55 annual gallons per ton of waste collected.

Or

Demonstrate that annual fleet emissions meet Federal Low Emission Vehicle (LEV) Standards for Heavy Duty Highway Engines in 40 CFR 88.105-94

Potential Strategies

- Baseline: MPG or MPGGE (Gallon-gasoline equivalents)
- GGE conversion factors: https://epact.energy.gov/fuel-conversion-factors
    - Diesel gallon equivalents = gasoline gallon equivalents * 1.155

SWC Credit: ***Alternative Fueled Solid Waste Collection Vehicles*** (1-2 points)

Reciprocal

Intent:
Reduce atmospheric emissions associated with collection and transportation of solid waste and promote renewable and low-carbon intensity alternatives to non-renewable transportation fuels.

Local Government and Industry Requirements:

Demonstrate, on a percentage basis, the use of renewable or low-emission fuels in the solid waste collection vehicles. The percentage of alternative fuel use can be determined on the basis of either the fraction of the vehicle fleet or the fraction of annual miles traveled.

Tier 1: (1 point)
Percentage of Alternative Fueled[22] collection vehicles:

- 30 percent or more of the collection vehicle fleet utilizes Renewable fuels;
  or
  - 30 percent of total collection vehicle fuel consumption is Renewable fuel;
  or
  - 30 percent of total collection fleet miles traveled is by Renewable-fueled vehicles.

[22] Please see the Compliance Manual for full definitions.

- Renewable fuels are defined by the US EPA as "Biomass-based diesel [that] meet[s] a 50% lifecycle GHG reduction; Cellulosic biofuel [that is] produced from cellulose, hemicellulose, or lignin and...meet[s] a 60% lifecycle GHG reduction; Advanced biofuel [are] produced from qualifying renewable biomass (except corn starch) and...meet a 50% GHG reduction." https://www.epa.gov/renewable-fuel-standard-program/overview-renewable-fuel-standard
- "Low Carbon Intensity" fuels include landfill methane and corn-based ethanol. Methane from landfill facilities operated as "bioreactors" do not qualify for this credit.
- "Alternative fuels include gaseous fuels such as hydrogen, natural gas, and propane; alcohols such as ethanol, methanol, and butanol; vegetable and waste-derived oils; and electricity. These fuels may be used in a dedicated system that burns a single fuel, or in a mixed system with other fuels including traditional gasoline or diesel, such as in hybrid-electric or flexible fuel vehicles." https://www.epa.gov/renewable-fuel-standard-program/alternative-fuels.
- Liquid fuels derived from plastics that could otherwise be recovered for recycling do not count toward this credit.

- 60 percent or more of the collection vehicle fleet utilizes Alternative/Low-Carbon fuels;
  or
  - 60 percent of total collection vehicle fuel consumption is Alternative/Low-Carbon fuel;
  or
  - 60 percent of total collection fleet miles traveled is by Alternative/Low-Carbon vehicles.

Tier 2: (+1 point)
Percentage of Alternative Fueled collection vehicles:

- 50 percent or more of the collection vehicle fleet utilizes Renewable fuels;
  or
  - 50 percent of total collection vehicle fuel consumption is Renewable fuel;
  or
  - 50 percent of total collection fleet miles traveled is by Renewable-fueled vehicles.
- 95 percent or more of the collection vehicle fleet utilizes Alternative/Low-Carbon Intensity fuels or 95 percent of total fleet vehicle miles traveled for collection is Alternative/Low-Carbon Intensity fuels.

Potential Strategies

- Electric collection vehicles
- Utilize landfill methane
- Utilize natural gas
- Utilize Digester methane
- Diesel Hybrid collection vehicles
- Liquid fuels derived from solid waste

SWC Credit: ***Household Hazardous Waste Collection Infrastructure*** (2 points)

Reciprocal

Intent:
To ensure proper handling and disposal of HHW by the Local Government entity and greater community or the Company, preventing negative human health impacts and pollution of the natural environment.

Local Government and Industry Requirements:

Implement an exclusive program that handles household hazardous waste as defined by the EPA and involves RCRA Subtitle C regulation, as well as household medical waste

- Demonstrate accessibility to 95 percent of residents or customers served. Services may consist of "drop off locations," "to-house pick-up services," and/or recycling services. All of the following must be considered in program development
    - Batteries
    - Light bulbs
    - Paint
    - Cleaning products (i.e. drain, oven, glass, etc.)
    - Automobile fluids (i.e. motor oil, brake fluid, antifreeze, etc.)
    - Pesticides, herbicides and insecticides
    - Other derivatives of HHW sub-programs will be taken into consideration upon review
        - Household medical waste including but not limited to:
        - Prescription drugs
        - Needles and sharps
        - Blood-soiled materials
        - Chemotherapy residues

Potential Strategies:

- Publish collection drives and locations of facilities or programs that accept HHW or collect it at the residents' door.
- Support or facilitate mail-back programs.

SWC Credit: ***Minimizing Emissions from Transfer Stations*** (2 points)

Reciprocal

Intent:
Reduce the environmental footprint of transfer stations

Local Government and Industry Requirements:

- Limit Idle Time to 10 minutes
    - Total time from which a vehicle arrives to when it leaves the facility

- Institute best practice dust control techniques

- Demonstrate that the transfer station has the capacity to store and/or treat 100 percent of onsite runoff, including any run-on from adjacent property, prior to discharge to the sewer system, street or any nearby waterway.

Mobile Equipment (1 point)
- For 50 percent of mobile equipment utilized on site or 50 percent of total fuel consumption: Utilize low-sulfur diesel fuel; install catalytic and particulate pollution control devices; and/or utilize diesel engines certified as Low NOx (<0.02 g NOx/bhp-hr) by the California Air Resources Board (CARB).

Processing Equipment (1 point)
- For 50 percent of Processing Equipment:
    - Utilize electric equipment or use ultra low-sulfur diesel fuel; install catalytic and particulate pollution control devices

and/or
    - Utilize ULEV diesel engines

Potential Strategies
- Utilize low emission on site mobile equipment.

SWC **Economic Performance** KPI

SWC Credit: ***Solid Waste Collection Cost Transparency*** (2 points)

Reciprocal

Intent:
Provide transparency to the cost of collecting and transporting waste materials.

Local Government and Industry Requirements:

- Calculate the cost per ton or cost per household or per capita (single and multifamily) or "cost per collected yard" per commercial customer of collecting and transporting discarded materials, including mixed waste, recycling and organic material, from the Local Government jurisdiction or Company's service area.
  - *Collecting* is from curbside to transfer station or final disposition.
  - *Transporting* is from transfer station to MRF/Landfill/Compost facility
  - Break down cost by waste stream. MSW, Bulky, C&D, Recycling, Universal Waste, etc.
- Demonstrate how costs are covered.
- Make cost data available to waste customers in the Local Government and/or make cost data available to those serviced by the solid waste Company

Potential Strategies:

- Include performance/service and labor rate issues.
- Evaluate whether there are cross subsidies between residential and non-residential collection.
- Only top-level costs need to be presented, e.g. MSW collection cost = $75/ton; Recycling Collection $120/ton or $4.37/household/month. Breakouts of these costs are not required.
- Indicate whether commercial material collected is compacted after collection and before disposal.

SWC **Working Conditions & Social Impact** KPI

SWC Credit: ***Commitment to Safe Working Conditions*** (3 points)

Reciprocal

Substantive Changes: Updated driving hours requirement; added worker protections against being forced to do potentially hazardous work; updated health care and living wage requirements.

Intent:
Ensure worker safety and health outcomes during daily waste collection through hazard identification and remediation and making worker protection a part of organizational culture.

Local Government and Industry Requirements:

Increase operational oversight of safety resources and safety awareness in the collection and transport of waste materials (MSW and C&D). Priority must be taken to protect workers from danger on the job, including on the street, inside buildings, inside the vehicle cab, and behind/beside the vehicle hauling and discharging or off-loading material by undertaking all of the following actions, as applicable:

- Make available and complete all employee safety and health training programs that are appropriate for the methods of collection utilized. Training programs must be conducted in the primary language of the attending employees.
- Provide safety resources to managers and employees that advise all employees of health and safety hazards they may reasonably expect to face in their daily activities and the importance of safety in general .
- Comply with ANSI Z245 safety standards as applicable.
- Compile documentation of job hazards for each employees' tasks, which is reviewed by an Employee Safety Committee.
- Complete and record Risk Assessments for all work tasks using ANSI Standard Z10, OSHA 3071, or OSHA's recommended practices.
    - Any identified violations must be remediated
    - http://www.osha.gov/shpguidelines/docs/OSHA_SHP_Recommended_Practices.pdf

- Monitor, record, report, and analyze work related illnesses, worker fatalities and injuries utilizing OSHA 300 logs and/or State OSHA logs, if equivalent. All incidents should be investigated, regardless of the extent of injury, illness or property damage.
    - Follow procedures in OSHA Field and Safety and Health Manual Appendix B Hazard Reporting and Incident Investigation Worksheet or comparable State procedures if equivalent.
- Drivers should limit hours driven consecutively. A 30-minute non-driving break should take place between the 4th and 6th hour of driving. Drivers should work no more than 12 hours per day. Drivers should not work more than 6 days consecutively except in situations of responding to Force Majeure events. Or state/federal regulations, whichever is more stringent.
- Regularly hold employee led Safety Committee meetings during paid hours. Ensure that Safety Committee members receive the necessary safety training to enable them to effectively perform their required functions as committee members. Ensure employees have the opportunity to communicate opinions on the effectiveness of worker safety regulations and be able to voice suggestions for the improvement of these programs. Worker participation means that workers are involved in establishing, operating, evaluating, and improving safety and health programs. All workers involved in collection at a worksite should participate, including those employed by contractors, subcontractors, and temporary staffing agencies.
    - Safety Committee members must be democratically elected
    - Safety Committee members must have proper, secured storage for OSHA 300 logs as these logs often contain sensitive employee data.
    - All copies of the employer's OSHA 300 Illness and Injury logs, or equivalent, are automatically shared with the Safety Committee in a timely fashion
    - The results of a Safety Committee observation can only be used to discipline workers if there is an observation of illegal or recklessly endangering activity.
    - No worker shall be punished or discriminated against in any way for refusing work that he or she believes in good faith to be immediately dangerous or for bringing health and safety violations to the attention of any person.
- Provide workers with a health insurance plan that has the characteristics of an Affordable Care Act qualified plan for pre-existing conditions, young adult coverage, cancellation and appeals, benefit limits, and preventative care. The health insurance plan should also have, at a minimum, an actuarial value of 90% that covers all employees and family members, with no employee/family payroll premium deductions or waiting periods regardless of company size.

- Ensure all workers are paid not less than a Living Wage, including hourly wage, benefits, and paid overtime OR an Alternative Living Wage set at 150% of the Minimum Wage.[23]
    - To determine the Living Wage for your region, utilize MIT's Living Wage Calculator or EPI's Family Budget Calculator. If you are using a living wage calculator, the calculated Living Wage should not exceed the Median Household Income[24].

Potential Strategies:

- Convene Employee led Safety Committee.
- Conduct an OSHA-level audit of driving practice.
- Review past safety records to identify potential problems to remedy.
- Participate in industry Safety Summits and other safety conferences and workshops.
- Provide safety resources to employees that include but are not limited to: SWANA's 5 to Stay Alive materials, Safety Monday, Slow Down to Get Around information, EPA's Heat Rest Shade info.

[23] As will be further described in the Certification Manual, the Living Wage is calculated as follows--Either use the referenced living wage calculators or use the Alternative Living wage. The Alternative Living Wage is defined as 150% of the Minimum Wage. The Minimum Wage is defined as the average of 1) the existing Federal Minimum Wage of $7.25/hr., indexed to current dollars using the CPI deflator (https://www.bls.gov/data/inflation_calculator.htm) and 2) Fifteen dollars ($15/hr.). For the Pilot Program, the Applicable Minimum Wage is calculated as $11.75/hr. The Alternative Living Wage for SWEEP is calculated to be $17.63/hr.

[24] SWEEP uses a Median Household Income of $60,293 defined by the Census of the United States. https://www.census.gov/search-results.html?q=median+income&page=1&stateGeo=none&searchtype=web&cssp=SERP&_charset_=UTF-8

SWC Credit: ***OSHA Compliant Practices and Safe Vehicle Processes*** (2 points)

Reciprocal

Substantive Change: Added reference to FMCSA safety requirements for training, drug & alcohol testing and preventative maintenance.

Intent:
Reduce collection vehicle accidents and worker injuries.

Local Government and Industry Requirements:

Implement an ongoing safety and equipment usage training program that demonstrates compliance with all Federal Motor Carrier Safety Administration (FMCSA) Vehicle and Driver safety requirements, including applicable drug and alcohol testing.

Disconnect safety incentive programs from “accident-free” periods.

Conduct an OSHA-Level audit by a qualified auditor.
Qualified auditors include:

- Federal or State OSHA inspector;
- A Certified Safety Professional (CSP) or Certified Industrial Hygienist (CIH) certified insurance inspector;
- A union CIH or equivalent safety official

Full abatement of all OSHA incidents reported

Collection vehicle accident prevention:

- Hold pre-dispatch safety meetings “Safety tailgates” and pre-trip safety checklist review
  - Paid shift hours and schedules should accommodate these safety reviews.

- Develop and implement a policy on distracted driving, including limitation on Smartphone or other handheld devices for drivers.

- Utilize vehicle monitoring devices to analyze Safety Leading Indicators
  - The first offense shall result in training, unless there was extreme disregard for the law and taught safety practices. The second offense shall result in discipline.

  - No employee driver shall be discharged if such discharge is based solely upon information received from GPS, telematics, or any successor system that similarly tracks or surveils a driver's movements, unless he/she engages in dishonesty (any intentional act or omission by an employee where he/she intends to defraud the Company) or extreme disregard for the law or safety practices, as set by the employee led safety committees.
  - Truck maintenance requirements as set forth in ANSI Z245.

- Equip trucks with side-guards to prevent pedestrian/bicyclist run overs.

- Ensure that pick-up occurs on the side of the street with the prevailing flow of traffic for the lane.
  - No vehicle or personnel crosses traffic to pick up waste.

Potential Strategies:

- Automated arms to reduce injuries

- Install lighting and strobes; one standard wheeled tote of limited size

4. Post Collection Recovery (PCR) (29 Possible Points)

|| Post-collection Recovery || refers to practices aimed at avoiding landfilling of solid waste by preserving and utilizing its residual material value. There are several methods of recovery including mechanical recycling, chemical recycling, composting, anaerobic digestion, energy recovery, in addition to emerging novel recovery methods. Waste sortation is often prerequisite to each of these processes, depending on collection methods. Waste disposal refers to landfilling practices.

The PCR requirements of SWEEP+ take into account four key performance indicators (KPI) related to Post Collection Recovery:

1. Efficiency and Effectiveness
2. Environmental Performance
3. Economic Performance
4. Working Conditions and Social Impact

PCR **Efficiency and Effectiveness** KPI

PCR Prerequisite: ***Minimum Diversion Rate*** (Required)

Non-Reciprocal

Intent:
To encourage the acceptance of a wide range of materials and to promote the production of marketable commodities with the highest percentage of captured product and lowest percentage of residue.

Local Government Requirement:

Demonstrate that at least 30% of the MSW, including C&D, generated in the jurisdiction is diverted from disposal.

Industry Requirements:

Demonstrate that at least 30% of the MSW, including C&D, that is controlled by the Company is diverted from disposal.

Potential Strategies:

- Develop and promote community-wide material recovery programs for residential & commercial MSW and C&D
- Measure, document and report recovery volumes
- Engage and educate residential and commercial waste generators around material reduction, reuse and recycling

PCR Credit: ***Material Recovery & Per Capita Disposal Optimization*** (1-3 points)

Reciprocal

Intent:
To encourage the acceptance of a wide range of materials and to promote the production of marketable commodities with the highest percentage of captured product and lowest percentage of residue.

Local Government and Industry Requirements:

C&D **Diversion Facilities** must be **CORR** certified. (https://www.recyclingcertification.org/wp-content/uploads/2013/02/CORR-Protocol-CRR-1.9.pdf)

For each material processing technology owned, operated, or utilized by the Local Government: Maintain facility uptime of 90 percent or better and:

SMMP Performance Compliance Path

Using the SWEEP calculation methodology, demonstrate achievement in per capita waste disposal (lb./person/day)[25]:

Tier 1: (1 point)
6.0 lbs./person/day

Tier 2: (+1 point)
5.85 lbs./person/day

Tier 3: (+1 point)
5.7 lbs./person/day

[25] The SWEEP per capita disposal calculation methodology will be detailed in the Certification Manual and accompanying certification tools.

SMMP Prescriptive Compliance Path

Facility	**Tier 1:** (1 point)	**Tier 2:** (+1 point)
E-waste Recycling (processing electronic waste to remove electronics from the waste stream)	Recover 25 percent of total electronic waste generated	Recover 40 percent of total electronic waste generated
Mixed Waste MRF (processing mixed MSW or commercial waste to remove recyclables from the waste stream)	Recover greater than 25 percent of the total waste stream (MSW)	Recover greater than 40 percent of the total waste stream (MSW)
Single stream recycling (processing source-separated materials collected in one bin)	Recover at least 50 percent of the total paper, metal, glass and plastic recycling stream	Recover at least 60 percent of the total paper, metal, glass and plastic recycling stream
Dual stream recycling (processing source-separated materials collected in two or more)	Recover at least 75 percent of the fiber stream and 50 percent of the non-fiber stream	Recover at least 85 percent of the fiber stream and 75 percent of the non-fiber stream
C&D Recycling Mixed (Mixed C&D processing)	Recover 60 percent or more of the C&D stream	Recover 75 percent or more of the C&D stream
C&D Recycling Source Separated (processing source-separated materials)	Recover 80 percent or more of the C&D stream	Recover 95 percent or more of the C&D stream

C&D Recycling numbers must utilize measured, verified data or certify to a program that verifies data. Applies to the following credits: WGP Prerequisite: **Measuring and Calculating Waste Generation, Recovery and Disposal**, WGP Credit: ***Measuring and Calculating Source Reduction and Reuse/Rescue Impacts*** , SWC Credit: ***Alternative Fueled Solid Waste Collection Vehicles***, PCR Credit: ***Material Recovery & Per Capita Disposal Optimization***, PCR Credit: ***Minimize Bale/Output Contamination Rate*** .

Potential Strategies:

- The facility has and uses the following processing/sorting technology:
  - Inspection and potential presort occurs on the Tip Floor.
  - Shredding and sizing of materials.
  - Positive pick belt sort - A conveyor belt is used to present material to laborers in an effort to recover recyclable materials. Conveyor belts should move at a rate that optimizes sorting effectiveness and worker safety.
  - Negative pick belt sort - A conveyor is used to present material and laborers remove contaminants, such as organics, from the belt prior to recycling. Conveyor belts should move at a rate that optimizes sorting effectiveness and worker safety.
  - Mechanical Screening.
  - Optical sorting.
    - Magnetic (ferrous metal)
    - Eddy Current (non-ferrous metal)
    - Air classification
    - Robotic
    - Quality Assurance/Quality Control

- The facility has and uses a daily maintenance program to maintain the effectiveness of the sorting process.

- The facility has and uses best practices for the bale storage area.

PCR Credit: ***Minimize Bale/Output Contamination Rate*** (1-3 points)

Reciprocal

Intent:
To mitigate post-sorting contamination or residue rates for the successful recirculation of recovered materials

Local Government and Industry Requirements:

Demonstrate that material recovery facilities (MRFs) operated by the Local Government or Company, or operated by companies contracted by the Local Government or Company, or operated by companies subcontracted by franchise haulers, achieve the following post-sorting contamination/residue (bale quality) rates using a Visual Inspection or Counts of Contamination methodology, as well as following relevant quality and grading guidelines and material content prohibitions of the current ISRI Scrap Specifications Circular (Current version: 4/16/18):

Mixed Waste MRFs

	Paper/Paperboard <10 percent Moisture	Metal	"MRF Glass"	Plastic Bale Contamination
Tier 1: (1 point)	Outthrows + Prohibited 90 percent of maximum allowed for each grade	90 percent of maximum allowed for each grade	Non-glass residue & Fines < 10 percent	● PET & HDPE bottles: 10 percent ● Other Plastics: <120 percent of recommended maximum contamination for each grade
Tier 2: (+1 point)	70 percent of maximum	70 percent of maximum	<7 percent	● PET & HDPE bottles: 7 percent ● Other Plastics: <100 percent of recommended maximum contamination
Tier 3: (+1 point)	50 percent of maximum	50 percent of maximum	<4 percent	● PET & HDPE bottles: 5 percent ● Other Plastics: <80 percent of recommended maximum contamination

Single Stream MRFs

	Paper/ Paperboard <10 percent Moisture	Metal	"MRF Glass"	Plastic Bale Contamination
Tier 1 (1 point)	Outthrows + Prohibited: 80 percent of maximum allowed for each grade	80 percent of maximum allowed for each grade	Non-glass residue & Fines < 7 percent	● PET & HDPE bottles: 5 percent ● Other Plastics: <80 percent of recommended maximum contamination for each grade
Tier 2: (+1 point)	60 percent of maximum	60 percent of maximum	<5 percent	● PET & HDPE bottles: 4 percent ● Other Plastics: <60 percent of recommended maximum contamination
Tier 3: (+1 point)	40 percent of maximum	40 percent of maximum	<3 percent	● PET & HDPE bottles: 3 percent ● Other Plastics: <40 percent of recommended maximum contamination

Dual Stream MRFs

	Paper/ Paperboard <10 percent Moisture	Metal	"MRF Glass"	Plastic Bale Contamination
Tier 1: (1 point)	Outthrows + Prohibited: 60 percent of maximum allowed for each grade	70 percent of maximum allowed for each grade	Non-glass residue & Fines < 6 percent	● PET & HDPE bottles: 4 percent ● Other Plastics: <70 percent of recommended maximum contamination for each grade
Tier 2: (+1 point)	50 percent of maximum	50 percent of maximum	<4 percent	● PET & HDPE bottles: 3 percent ● Other Plastics: <50 percent of recommended maximum contamination

Tier 3: (+1 point)	30 percent of maximum	30 percent of maximum	<2 percent	● PET & HDPE bottles: 2 percent ● Other Plastics: <30 percent of recommended maximum contamination

Potential Strategies:

- Utilize contamination/residue rate calculation methodology in the SWEEP+ Certification Manual.
- Material grading of inbound material
- Inbound volume metric collection (for calculation)
- Sorting on tipping floor
- Metering drums and conveyor speeds
- Film removal (vacuum)
- Manual sorting (pick line)
- Density sorting technology (ballistic separators, conventional disc screening, etc.)
- 2-D vs. 3-D sort
- Eddy Current (Aluminum)
- Magnets (Ferrous and other metals)
- Optical sorting (glass by colors, plastics by types, etc.)
- Sorted stream metrics collection
- Residual metrics collection

PCR Credit: ***Producing High Quality Products from Recovered Organic Materials*** (1-3 points)

Reciprocal

Intent:

Promote high quality organic end products from organic processing infrastructure.

Local Government and Industry Requirements:

	Composting	and/ or	Anaerobic Digestion
Req.			Test and manage digestate according to the American Biogas Council's Digestate Certification Program: http://digestate.org/about-the-program/summary-of-the-program/
Tier 1: (1 point)	Produce STA Certified Compost for 80 percent of compost produced. https://compostingcouncil.org/seal-of-testing-assurance/		Produce biogas with a minimum average 65 percent CH4 content or meet state set average of CH4 content (Whichever is higher).
Tier 2: (+2 points)	Produce STA Certified Compost for 95 percent of compost produced. Facility is operated by a Certified Compost Professional™ from the USCC or equivalent (https://www.certificationsuscc.org/Get-Certified/More-Training-and-Help)		Produce biogas with a minimum average 75 percent CH4 content or exceed state set average of CH4 content by 20% (Whichever is higher). Process biogas output to extract non-combustible and contaminant gases.

Potential Strategies:

- Pre and post-composting screening for organic inputs and compost and anaerobic digestion outputs
- Undergoes regular testing (heavy metals, other contaminants, and agronomic parameters) per US Composting Council guidelines.
- Provides or publishes information to the public for proper use of compost or digestate products generated by their facilities.

PCR Credit: ***Anaerobic Digestion Infrastructure*** (1-2 points)

Reciprocal

Intent:

To develop infrastructure to provide optimized anaerobic breakdown of food waste and, if indicated, other organic material to produce gas, digestate and other useful products.

Local Government and Industry Requirements:

SMMP Performance Path

Tier 1: (1 point)
Demonstrate food waste reduction of at least 5% or CO2e reduction equivalent to 5% of food waste generated being anaerobically digested.

Tier 2: (+1 point)
Demonstrate food waste reduction of at least 15% or CO2e reduction equivalent to 15% of food waste generated being anaerobically digested.

SMMP Prescriptive Path

Tier 1: (1 point)
Demonstrate operating capacity (centralized and/or distributed) to anaerobically digest 15 percent of the food waste generated. Demonstrate that 5 percent of food waste generated is being anaerobically digested.

Tier 2: (+1 point)
Demonstrate operating capacity (centralized and/or distributed) to anaerobically digest 25 percent of the food waste generated. Demonstrate that 15 percent of food waste generated is being anaerobically digested.

In all cases, demonstrate biogas processing and utilization infrastructure to utilize a minimum of 80% gas output of the facility.

Potential Strategies:

- Create capacity to process the required volume of food waste using mesophilic or thermophilic anaerobic digestion equipment.

- Include gas scrubbing and other processing equipment, such as compressors for use as transportation fuel or direct connection with combined heat and power generators or connection with existing gas transmission networks.

- Utilization of wastewater treatment plant and/or farm-based infrastructure for anaerobic digestion.

PCR Credit: ***Compact Commodity/Output Supply Chain*** (1-3 points)

Reciprocal

Intent:
Maximize local environmental and economic benefits and minimize environmental footprint through compact and transparent supply chains.

Local Government and Industry Requirements:

Tier 1: (1 point)
Demonstrate that 80 percent or more of outputs from material recovery and organics processing facilities are sold and/or utilized within 2,000 miles or demonstrate that carbon emissions per ton-mile of material shipped is less than 150 lb. CO2/ton-mile.

Tier 2: (+1 point)
Demonstrate that 50 percent or more of outputs from material recovery and organics processing facilities are sold and/or utilized within 500 miles or demonstrate that carbon emissions per ton-mile of material shipped is less than 90 lb. CO2/ton-mile.

Tier 3: (+1 point)
Demonstrate that 25 percent or more of outputs from material recovery and organics processing facilities are sold and/or utilized within 100 miles or demonstrate that carbon emissions per ton-mile of material shipped is less than 60 lb. CO2/ton-mile.

Potential Strategies:

- Work with your broker to identify local demand for processed materials,
- Develop marketing programs that emphasize local use.
- Utilize efficient, low carbon intensity transportation modes.

PCR Environmental Performance KPI

PCR Credit: ***Energy Efficient and Low Emissions Operations*** (1-2 points)

Reciprocal

Intent:
Reduce the environmental footprint of material recovery facilities (MRF) and organic processing operations

Local Government and Industry Requirements:

Demonstrate that the MRF and Organic Processing operations meet the following targets:

Tier 1: (1 Point)

- Institute best practice dust control techniques
- Reduce VOC emissions from active composting phase by 80 percent
- For 50 percent of mobile equipment or 50 percent of total fuel consumption:
  - Utilize electric equipment, and/or
  - Utilize low-sulfur diesel fuel, and/or
  - Install catalytic and particulate pollution control devices, and/or
  - Utilize diesel engines certified as Low NOx (<0.02 g NOx/bhp-hr) by the California Air Resources Board (CARB).

- For 50 percent of onsite Processing Equipment:
  - Utilize electric equipment, and/or
  - Use ultra low-sulfur diesel fuel, and/or
  - Install catalytic and particulate pollution control devices, and/or
  - Utilize ILEV or ULEV diesel engines[26]

Tier 2: (+1 Point)

- Certify to the RIOS™ Standard.

Or

[26] ULEV engines count 2X ILEV engines

- Without compromising health and safety, limit onsite Idle Time for facilities receiving:
  - Less than 100 tons per day: an average of 10 minutes
  - 100-250 tons per day: an average of 15 minutes
  - Over 250 tons per day: an average of 20 minutes

Potential Strategies

- Take measures to improve energy efficiency per ton of output (machines and buildings)

- Procure energy efficient or alternative fueled mobile equipment (front-end loaders; forklifts; yard hustlers and other onsite hauling) vehicle emissions.

- Procure low emission processing equipment with best available emissions control (e.g. windrow turning equipment + other).

- Minimize emissions from collection vehicle queuing through idling policies and minimizing facility turnaround time.

- Implement interior and site-level dust & litter suppression.

- Employ odor control technology as warranted.

- Methane & other emissions control for composting and anaerobic digesters

PCR Credit: ***Clean and Efficient Material Recovery and Organics Processing Facilities*** (1-2 points)

Reciprocal

Intent:
Minimizing the environmental footprint of material recovery and organics processing facilities.

Local Government and Industry Requirements:

Tier 1: (1 point)

- Meet the renewable energy or carbon offset requirements of WGP Credit: **Sustainable Capital and Utility Procurement**
- Facility(ies) is/are Energy Star Certified or implement(s) energy conservation best practices that result in a 25 percent savings in energy consumption (over a LEED compliant baseline).
- Facility(ies) address(es) ambient and indoor air quality through proper dust control practices.
- Facility(ies) provide(s) employees with daylight/natural light and access to views/nature.
- 40 percent of at least one facility (by value, excluding equipment) is constructed from recycled or repurposed materials. This excludes processing equipment.
- Facility(ies) minimize(s) water use and/or utilize(s) reclaimed water

Tier 2: (+1 point)
Facility(ies) is/are certified under a recognized standard such as LEED, Envision Infrastructure Rating System, etc.

Potential Strategies:

- Utilize solar energy.
- The facility uses electric, natural gas or alternative fueled vehicles.
- The facility implements energy-reduction processes (motion-activated lighting, efficient equipment, etc.) and practices.
- Utilize LEED compliant baseline and energy saving calculation procedure in the SWEEP+ Certification Manual.

PCR Credit: **Renewable or *Alternative Fueled On-site Mobile Equipment for Recovery Facilities*** (1 point)

Reciprocal

Substantive Change: Changed the compliance percentage from 50% to 30%; refined and further defined underlying definitions for "renewable" "alternative" and "low-carbon".

Intent:

Reduce atmospheric emissions associated with recovery of solid waste and promote renewable and low-carbon intensity alternatives to non-renewable transportation fuels.

Local Government and Industry Requirements:

Demonstrate, on a percentage basis, the use of renewable or low-emission fuels[27] in the on-site vehicles/mobile equipment utilized in material recovery facilities, including MRFs, compost facilities anaerobic digestion facilities, etc.

The percentage of renewable or alternative fuel use can be determined on the basis of either the fraction of the vehicles used on-site or the fraction of annual hours used.

Percentage of Alternative Fueled on-site mobile equipment:

- 30 percent or more use of Renewable fuels in onsite vehicles/mobile equipment or 30 percent or more total fuel consumption utilizes Renewable Fuels.

OR

[27] Please see the Compliance Manual for full definitions.

- Renewable fuels are defined by the US EPA as "Biomass-based diesel [that] meet[s] a 50% lifecycle GHG reduction; Cellulosic biofuel [that is] produced from cellulose, hemicellulose, or lignin and...meet[s] a 60% lifecycle GHG reduction; Advanced biofuel [are] produced from qualifying renewable biomass (except corn starch) and...meet a 50% GHG reduction." https://www.epa.gov/renewable-fuel-standard-program/overview-renewable-fuel-standard
- "Low carbon" fuels include landfill methane and corn-based ethanol.
- "Alternative fuels include gaseous fuels such as hydrogen, natural gas, and propane; alcohols such as ethanol, methanol, and butanol; vegetable and waste-derived oils; and electricity. These fuels may be used in a dedicated system that burns a single fuel, or in a mixed system with other fuels including traditional gasoline or diesel, such as in hybrid-electric or flexible fuel vehicles." https://www.epa.gov/renewable-fuel-standard-program/alternative-fuels
- Liquid fuels derived from plastics that could otherwise be recovered for recycling do not count toward this credit.

- 60 percent or more from Alternative/Low-Carbon Fuels of on site mobile equipment or 60 percent or more total fuel consumption utilizes Alternative/Low-Carbon Fuels.

Potential Strategies

- Electric equipment
- Utilize landfill methane
- Utilize natural gas
- Utilize Digester methane
- Diesel Hybrids
- Liquid fuels derived from solid waste

PCR Economic Performance KPI

PCR Credit: ***Material Recovery Cost Transparency*** (1 point)

Reciprocal

Intent:
Provide transparency to the cost of recovering recycled and composted or digested materials.

Local Government and Industry Requirements:

- Calculate the average cost per ton or per Household or per capita of processing and transporting of materials recovered from residential and nonresidential customers by/through the Local Government Program or the contracted Company's program
  - All materials collected through single or dual-stream recycling program, e.g.; Paper, Metal, Glass, Plastic and other materials
  - Yard/Green Waste
  - Food Waste
  - Cost of managing contamination/residuals

- Demonstrate how costs are covered.

Potential Strategies:

- Include program overhead and administrative costs in per ton/Household/capita calculations. These figures do not need to be reported separately, however.

- Publicize results on the Local Government's and Company's website

- Protect or mask proprietary information

PCR **Working Conditions and Social Impact** KPI

PCR Credit: ***Good Neighbor Practices*** (1-3 points)

Reciprocal

[Substantive Changes: Changed the distance around facilities that must be cleaned and added density-based requirements. Added a requirement for facility exhaust that was mistakenly put in another credit.

Intent:
To minimize impacts on community quality of life from material recovery and organics processing facility operations.

Local Government and Industry Requirements:

Material recovery and/or organic processing facility/facilities owned or utilized by the Local Government or Company servicing the jurisdiction implement(s) an operational plan that addresses all aspects of operations and that is intended to improve the quality of life for the surrounding residents and/or businesses.

And

- Litter control and mitigation measures are implemented onsite. [Good article on litter control: https://www.mswmanagement.com/collection/article/13012519/litter-control-at-landfills-think-close
- Litter is inspected and recovered:
  - Urban: within 100 yards of the facility's boundary and at least ¼ along primary access routes.
  - Suburban: within 100 yards of the facility's boundary and at least 1 mile along primary access routes.
  - Rural: within 100 yards of the facility's boundary and at least 2 miles along primary access routes.
- Dust control and mitigation measures are implemented onsite
- Dust control and mitigation measures are implemented:
  - Urban: Within 100 yards of the facility's boundary and at least ¼ mile along primary access routes.
  - Suburban: Rural: Within 100 yards of the facility's boundary and at least 1 mile along primary access routes.

  - Rural: Within 100 yards of the facility's boundary and at least 2 miles along primary access routes.
- Install filtration on exhaust ventilation system to the outdoors that captures >80 percent of PM 2.5 or smaller particles for any enclosed facilities.
- Implement measures that do not allow runoff to exit the site untreated.
- New Facilities are not built within the designated Buffer Zone of residences, schools, parks, prisons, playgrounds, nursing homes, day care centers, or other places people live or congregate. The Buffer Zone requirement does not apply to Existing Facilities. [28]

Population Density	Buffer Zone
Rural: <100 people/mi^2	900 Feet
Suburban: 101 – 1,000 people/mi^2	500 Feet
Urban: >1,000 people/mi^2	250 Feet

- Has a system in place to receive and address comments from the community.

And

Tier 1: (1 point)

- Achieve 1 Credit from PCR credits: ***Energy Efficient and Low Emissions Operations***, ***Clean and Efficient Material Recovery and Organics Processing Facilities*** , **or Renewable or Alternative Fueled on-site Mobile Equipment for Recovery Facilities** and
- No unresolved complaints or violations within the last year;
  - Noise
  - Traffic
  - Pest/Vermin
  - Odor
  - Litter
  - NPDES permit requirements

Tier 2: (+1 point)

- Achieve 2 Credits from PCR credits: ***Energy Efficient and Low Emissions Operations***, ***Clean and Efficient Material Recovery and Organics Processing Facilities*** , **or Renewable or Alternative Fueled on-site Mobile Equipment for Recovery Facilities** and
- No unresolved complaints or violations within the last two years
  - Noise

[28] Existing Facilities are defined as projects that are operational prior to the Local Government or Company applying for SWEEP Certification.

- Traffic
- Pest/Vermin
- Odor
- Litter
- NPDES permit requirements

Tier 3: (+1 point)

- Achieve PCR Credits ***Energy Efficient and Low Emissions Operations***, ***Clean and Efficient Material Recovery and Organics Processing Facilities*** , **and Renewable or Alternative Fueled on-site Mobile Equipment for Recovery Facilities** and
- No unresolved complaints or violations within the last three years:
  - Noise
  - Traffic
  - Pest/Vermin
  - Odor
  - Litter
  - NPDES permit requirements

Potential Strategies:

- Follow stormwater management guidelines in PCD Credit: ***Effective Utilization of Recovered Methane***
- Develop a traffic management plan in consultation with the local community
- Limit idling of waiting vehicles
- Implement Integrated Pest Management techniques
- Rapidly process materials to minimize putrefaction
- Install windscreens or other perimeter techniques to reduce or prevent litter and fugitive dust from escaping the site.

PCR Credit: **Post-Collection Recovery Facility Safety Protocols and Training** (1-3 points)

Reciprocal

Substantive Changes: Added a requirement regarding worker protection vis a vis hazardous work. Updated language around health care and living wage requirements. Added the "accessible training" requirement to Tier 1 achievement. Added an alternative Tier 2 compliance path for training.

Intent:

To reduce accidents and injuries and ensure worker safety and health outcomes during daily material recovery and organics processing facility operations through attention to hazards and making worker protection a part of company culture.

Local Government and Industry Requirements:

Implement a Safety Incentive Program that is not directly connected with accident-free periods. The program must include 'whistleblower' protection where employees are never to be disciplined for identifying and reporting hazards or reporting accidents.

The Employer and the employees shall comply with all state and federal health and safety laws and regulations.

Establish an employee-led Safety Committee consistent with OSHA Recommended practices [29]:

- Establish regular meetings to be conducted during paid hours
- Ensure that Safety committee members receive the necessary safety training to enable them to effectively perform their required functions as committee members.
- Ensure that employees have the opportunity to communicate opinions on the effectiveness of worker safety regulations and suggestions for improvement.
- The Safety Committee should automatically receive all copies of the employer's OSHA 300 illness and Injury logs as well as the facilities' personnel-hours
- Ensure that safety committee members have proper, secured storage for OSHA 300 logs as these logs can often contain sensitive employee data.

[29] https://www.osha.gov/shpguidelines/docs/OSHA_SHP_Recommended_Practices.pdf

- No worker shall be punished or discriminated against in any way for refusing work that he or she believes in good faith to be immediately dangerous or for bringing health and safety violations to the attention of any person.

And

Tier 1: (1 point)

- Verify that weekly safety and equipment usage demonstrations and training are being conducted for all employees
- Operates in a documented safety-training system that complies with ANSI Z245 safety guidelines as applicable.[30]
- Monitor, record, and report worker illnesses, fatalities and injuries
- Provide workers with a health insurance plan that has the characteristics of an Affordable Care Act qualified plan for pre-existing conditions, young adult coverage, cancellation and appeals, benefit limits, and preventative care. The health insurance plan should also have at a minimum, an actuarial value of 90% that covers all employees and family members, with no employee/family payroll premium deductions or waiting periods regardless of company size.
- Ensure all workers are paid not less than a Living Wage, including hourly wage, benefits, and paid overtime OR an Alternative Living Wage set at 150% of the Minimum Wage.[31]
    - To determine the Living Wage for your region, utilize MIT's Living Wage Calculator or EPI's Family Budget Calculator. If you are using a living wage calculator, the calculated Living Wage should not exceed the Median Household Income[32].
- Provide "Accessible" Training that is available in the predominant/fluent language of the workers being trained:
    - Mandatory weekly for new hires for at least the first quarter
    - Ongoing monthly training for existing employees
    - Features graphic-based or video training;
    - American National Standard (ANSI Z245) symbols are used throughout

[30] https://swana.org/Safety/ANSIStandardsforWasteandRecycling.aspx

[31] As will be further described in the Certification Manual, the Living Wage is calculated as follows--Either use the referenced living wage calculators or use the Alternative Living wage. The Alternative Living Wage is defined as 150% of the Minimum Wage. The Minimum is defined as the average of 1) the existing Federal Minimum Wage of $7.25/hr., indexed to current dollars using the CPI deflator (https://www.bls.gov/data/inflation_calculator.htm) and 2) Fifteen dollars ($15). For the Pilot Program, the Applicable Minimum Wage is calculated as $11.75. The Alternative Living Wage for SWEEP is calculated to be $17.63.

[32] SWEEP uses a Median Household Income of $60,293 defined by the Census of the United States. https://www.census.gov/search-results.html?q=median+income&page=1&stateGeo=none&searchtype=web&cssp=SERP&_charset_=UTF-8

Tier 2: (+2 points)

- All the requirements of Tier 1,
- Workers receive additional worker training program(s) recognized by their collective bargaining representative.

Or

- Provide "Advanced operational training" covering fixed and onsite mobile equipment
  - Training should include both "classroom" and "field" components
  - For training on existing equipment or improved existing equipment, Trainers should have a minimum of 2 years of full time operating experience on the equipment that is the subject of the training and demonstrated training experience of 100 hours, or equivalent certification.
  - For newly introduced equipment (e.g. robotics), Trainers should have a minimum of 6 months of field or **laboratory** operating experience on the equipment that is the subject of the training and demonstrated training experience of 100 hours, or equivalent certification.

Potential Strategies:

Accomplish increased operational regulation, safety resources, and safety awareness campaigns by implementing the following recommendations:

- Complete all employee safety and health training programs and track participation and if employees passed tests.
- Incorporate safety training into all onboarding training.
- Complete and record Risk Assessments for all work tasks; remediate identified hazards.
- Implement a system to report near-misses and discuss for practical lessons.
- Implement and follow a Safe Driving Policy & training for facility mobile equipment (option: using SWANA's template)
- Conduct regular safety training at least weekly for all employees, track attendance.
- Create and maintain standard operating procedures based on industry best practices.
- Regularly hold focus group meetings between employees and employers. Ensure both parties have the opportunity to communicate opinions on the effectiveness of worker safety regulation, and suggestions for improvement.
- Worker participation means that workers are involved in establishing, operating, evaluating, and improving the safety and health program. All workers at a worksite should participate, including those employed by contractors, subcontractors, and temporary staffing agencies.

PCR Credit: ***OSHA-Compliant Material Recovery & Organics Processing Facilities*** (1-3 points)

Reciprocal

Intent:

Promote safe and efficient operation of material recovery and organics processing facilities.

Local Government and Industry Requirements:

Prevent or identify and correct OSHA-related operational violations and/or recommendations in all OSHA covered facilities under the control of the Local Government or Company.

Tier 1: (1 point)
Demonstrate a current OSHA-compliant safety plan that has been updated within the past 2 years.

Conduct an OSHA (or equivalent)-Level audit by a qualified auditor following the official forms, which must be completely filled out.
Qualified auditors include:

- Federal or State OSHA inspector;
- Insurance inspector (must have current CSP or CIH certification);
- Union CIH or equivalent safety official

And

- Full remediation of all OSHA (or equivalent) incidents reported.

Tier 2: (+1 point)
Fulfill Tier 1 requirements and implement an annual safety audit program utilizing a qualified safety inspector.

Tier 3: (+1 point):
Fulfill Tier 1 requirements and implement a quarterly safety audit program utilizing a qualified safety inspector

Potential Strategies:

- List all OSHA violations and state of resolution for last 5 years.

5. Post Collection Disposal (PCD) (14 Points Possible)

|| Post-collection Disposal || refers to practices aimed at the safe and effective disposal of waste that has no higher or more beneficial use.

The PCD requirements of SWEEP+ take into account four key performance indicators (KPI) related to Post Collection Recovery:

1. Efficiency and Effectiveness
2. Environmental Performance
3. Economic Performance
4. Working Conditions/Social Impacts

PCD Environmental Performance KPI

PCD Credit: ***Renewable or Alternative Fueled On-Site Mobile Equipment for Disposal Facilities*** (1 point)

Reciprocal

Substantive Change: Changed the compliance percentage from 50% to 30%; refined and further defined underlying definitions for "renewable" "alternative" and "low-carbon".

Intent:
Reduce atmospheric emissions associated with disposal of solid waste and promote renewable and low-carbon intensity alternatives to non-renewable transportation fuels

Local Government and Industry Requirements:

Demonstrate, on a percentage basis, the use of renewable or low-emission fuels in the vehicles/mobile equipment used on-site. The percentage of renewable or alternative fuel use can be determined on the basis of either the fraction of the vehicle/mobile equipment fleet or the fraction of annual miles traveled, or total fuel consumed.

Percentage of Alternative Fueled[33] on-site mobile equipment:

- 30 percent or more use of Renewable fuels in onsite vehicles/mobile equipment or 30 percent or more total fuel consumption utilizes Renewable Fuels.

OR

[33]Please see the Compliance Manual for full definitions.

- Renewable fuels are defined by the US EPA as "Biomass-based diesel [that] meet[s] a 50% lifecycle GHG reduction; Cellulosic biofuel [that is] produced from cellulose, hemicellulose, or lignin and...meet[s] a 60% lifecycle GHG reduction; Advanced biofuel [are] produced from qualifying renewable biomass (except corn starch) and...meet a 50% GHG reduction." https://www.epa.gov/renewable-fuel-standard-program/overview-renewable-fuel-standard
- "Low carbon" fuels include landfill methane and corn-based ethanol.
- "Alternative fuels include gaseous fuels such as hydrogen, natural gas, and propane; alcohols such as ethanol, methanol, and butanol; vegetable and waste-derived oils; and electricity. These fuels may be used in a dedicated system that burns a single fuel, or in a mixed system with other fuels including traditional gasoline or diesel, such as in hybrid-electric or flexible fuel vehicles." https://www.epa.gov/renewable-fuel-standard-program/alternative-fuels
- Liquid fuels derived from plastics that could otherwise be recovered for recycling do not count toward this credit.

- 60 percent or more from Alternative/Low-Carbon fuels of on site mobile equipment or total 60 percent or more fuel consumption utilizes Alternative/Low-carbon Fuels.

Potential Strategies

- Utilize Electric equipment
- Utilize landfill methane
- Utilize natural gas
- Utilize Digester methane
- Diesel Hybrids
- Liquid fuels derived from solid waste

PCD Credit: ***Landfill Stormwater Management*** (1 point)

Reciprocal

Intent:
To effectively manage stormwater at a landfill to minimize run-off exposure to waste and production of leachate.

Local Government and Industry Requirements:

Develop a comprehensive stormwater management plan that

- Minimizes stormwater penetration of open and closed cells
- Provides for regular inspection of stormwater control measures
- Meets the performance objectives of the stormwater management system
- Keeping and maintaining comprehensive operations, maintenance, and discharging records

Demonstrate that the landfill has an effective stormwater management system in place to prevent water pooling and reduce excessive infiltration , including:

- Landfill must not be sited:
  - in wetlands
  - in the 100-year flood plain of adjacent rivers or streams
- Leachate and stormwater management systems must be separate
- Landfill is designed and managed to minimize oozing
- Stormwater run-on must not come within 100 yards of the base of capped or active cells.
- Stormwater runoff must not exit site untreated

Potential Strategies:

- Design of the daily cell to minimize ponding and run-off
- Maintaining the slopes of the landfill to minimize erosion and increased runoff
- Define existing and intermittent flow channels and the area and characteristics of the contributing watershed;
- Schedule landfilling operations to minimize disturbed areas (i.e., phase-in operations);
- Attempt to limit the handling of topsoil or cover materials to only one operation;
- Construct and stabilize stormwater controls in advance of landfilling;
- Stop flowing water from entering the active fill area with permanent perimeter diversions;
- Establish a complete sequence of controls (i.e. interception, conveyance, transportation, energy dissipation and sediment disposition);
- Use stormwater detention to improve the quality and reduce the intensity of stormwater runoff;
- Plan for the National Pollutant Discharge Elimination System (NPDES) stormwater permit by keeping good operations records and monitoring discharges off the site;
- Use a surface water collection/ removal (SWCR) system immediately above the hydraulic barrier in the final closure cap. Geonets, geocomposites and/or granular material can be used for this purpose;
- Inspect and maintain controls after each significant storm
- Integrate run-off/run-on and erosion and sediment control into every phase of the landfill operation.

Resource on how to measure/manage stormwater:
https://www.waste360.com/mag/waste_fighting_elements_keys

PCD Credit: ***Landfill Emissions Minimization*** (1-3 points)

Reciprocal

Intent:
To effectively manage and minimize emissions from landfills, including air emissions and leachate in order to prevent or reduce air contamination and surface and groundwater contamination.

Local Government and Industry Requirements:

Implement the policies and programs outlined in SMMP Credit: ***Advanced Comprehensive Sustainable Materials Management Policy*** . Demonstrate that emissions permit requirements are being met.

Air Emissions: (1-2 points).

Tier 1: (1 point)

- Measure and document greenhouse gas, criteria air pollutants and hazardous air pollutants emissions with the best available technology that captures emissions/leakages throughout the entire system.
- Landfills with energy recovery systems must document methane leaks and GHG, criteria air pollutants and HAPs emissions as a result of the LFG recovery systems. Documented data must be provided to SWEEP. If document leaks exceed the national average of leaks for flaring of LFGs, the credit will not be given.
- Implement a control system designed and operated to:
  - Reduce non-methane organic compounds by 98 percent by weight, or,
  - When an enclosed combustion device is used for control,
    - to either reduce NMOC by 98 percent by weight or
    - to reduce the outlet to less than 20 parts per million by volume, dry basis as hexane at 3 percent oxygen.

  The reduction efficiency or parts per million by volume shall be established by an initial performance test to be completed no later than 180 days after the initial startup of the approved control system using the test methods specified in § 60.754(d).

Tier 2: (+1 point)

- Implement Tier 1 requirements

AND

- Implement a control system that uses no-burn technology OR fuel cell technology

Water Emissions: (1 point)

- Implement PCD Stormwater Management Credit
- The landfill has no outstanding violations of existing permitted landfill effluent emission limits including:
  - Discharges from wastewater treatment facilities handling the leachate.
  - Groundwater and surface water pollutant concentration limits.
- The landfill has an effective leachate management system, which includes:
  - Operational practices that prevent water from penetrating the landfill cap in the first place
  - Methods of measuring leachate volumes, concentration and composition
  - Leachate collection and diversion infrastructure.
  - Effective methods of processing leachate (on-site or off-site)
  - Regular testing of groundwater and surface water for the presence of leachate compounds.
  - Remediation plan in the case of leakage.

Potential Strategies

- Regularly monitor landfill gas collection, flaring emissions and leachate management systems.
- Creation of methyl alcohol as an industrial feedstock
- Creation of dry ice from CO2

PCD Credit: ***Effective Utilization of Recovered Methane*** (1-2 points)

Reciprocal

Intent:
Minimize greenhouse gas emissions from landfills.

Local Government and Industry Requirements:

Utilize the methodology outlined in the US Greenhouse Gas Reporting Rule, 40 CFR Part 98 Subpart HH to calculate landfill gas generated by landfills covered by this rule that are owned, controlled or utilized by the Local Government or Company. Report calculated values for:

- Landfill gas generated
- Methane content
- CO2e in tons per year (Equation A-1)

Demonstrate that non-methane toxic organic compounds, halogenated compounds, dioxins and furans have been removed from the gas and properly disposed of.

And

Tier One: (1 point)

- Demonstrate that at least 90 percent of landfill gas collected is utilized in place of conventional fossil fuels.

Tier Two: (+1 point)

- Demonstrate that at least 90 percent of landfill gas collected is converted to a functional use through non-burn landfill gas management methods.

Potential Strategies

Utilize recovered landfill gas for:

- Creation of methyl alcohol as an industrial feedstock
- Creation of dry ice from CO2
- Process heat
- Electricity generation
- Combined heat and power
- Compressed fuel for mobile equipment and or collection vehicles
- Selling gas to distribution network
- Follow the criteria calculation methodology described in the Certification Manual

PCD Economic Performance KPI

PCD Credit: ***Material Disposal Cost Transparency*** (1 point)

Reciprocal

Intent:
Provide transparency to the cost of waste materials that are landfilled or treated with burn technology, such as at waste to energy facilities, thermal conversion facilities, or incinerators.

Local Government and Industry Requirements:

- Calculate the cost per ton of disposal in the landfill or incineration plant of waste materials collected from residential and commercial customers by/through the Local Government's or the contracted Company's waste management program
  - Mixed waste/black bin waste
  - Bulky waste

- Demonstrate how costs are covered.

- Make cost data available through the Local Government or Company website.

Potential Strategies:

- Include transportation from the transfer station to ultimate disposal site in the cost assessment.

PCD Working Conditions/Social Impact Performance KPI

PCD Credit: ***Post-Collection Disposal Facility Safety Protocols and Training*** (1-2 points)

Reciprocal

Substantive Change: Added a requirement regarding worker protection vis a vis hazardous work. Updated language around health care and living wage requirements. Added the "accessible training" requirement to Tier 1 achievement. Added an alternative Tier 2 compliance path for training.

Intent:

To reduce accidents and injuries and ensure worker safety and health outcomes during daily waste disposal facility[34] operations through attention to hazards and making worker protection a part of company culture.

Local Government and Industry Requirements:

Implement a Safety Incentive Program that is not directly connected with accident-free periods. The program should include 'whistleblower' protections where employees are never to be disciplined for identifying and reporting hazards or reporting accidents.

The Employer and the employees shall comply with all state and federal health and safety laws and regulations.

- Establish an employee-led Safety Committee consistent with OSHA Recommended Practices: https://www.osha.gov/shpguidelines/docs/OSHA_SHP_Recommended_Practices.pdf
- Allow regular meetings to be conducted during paid hours
- Ensure that employees have the opportunity to communicate opinions on the effectiveness of worker safety regulations and suggestions for improvement.
- The Safety Committee should automatically receive all copies of the employer's OSHA 300 illness and Injury logs as well as the facilities' personnel-hours

[34] "Waste disposal facility" includes transfer stations, landfills and thermal conversion facilities.

- Ensure that safety committee members have proper, secured storage for OSHA 300 logs as these logs can often contain sensitive employee data.
- No worker shall be punished or discriminated against in any way for refusing work that he or she believes in good faith to be immediately dangerous or for bringing health and safety problems to the attention of any person.

And

Tier 1: (1 point)

- Verify that weekly safety and equipment usage demonstrations and training are being conducted for all employees.
- The program operates in a documented safety-training system that complies with ANSI Z245 safety guidelines as applicable. https://swana.org/Safety/ANSIStandardsforWasteandRecycling.aspx
- Monitor, record, and report worker related illnesses, fatalities and injuries
- Provide workers with a health insurance plan that has the characteristics of an Affordable Care Act qualified plan for pre-existing conditions, young adult coverage, cancellation and appeals, benefit limits, and preventative care. The health insurance plan should also have at a minimum, an actuarial value of 90% that covers all employees and family members, with no employee/family payroll premium deductions or waiting periods regardless of company size.
- Ensure all workers are paid not less than a Living Wage, including hourly wage, benefits, and paid overtime OR an Alternative Living Wage set at 150% of the Minimum Wage.[35]
    - To determine the Living Wage for your region, utilize MIT's Living Wage Calculator or EPI's Family Budget Calculator. If you are using a living wage calculator, the calculated Living Wage should not exceed the Median Household Income[36].
- Provide "Accessible" Training that is available in the predominant/fluent language of the workers being trained:

[35] As will be further described in the Certification Manual, the Living Wage is calculated as follows--Either use the referenced living wage calculators or use the Alternative Living wage. The Alternative Living Wage is defined as 150% of the Minimum Wage. The Minimum is defined as the average of 1) the existing Federal Minimum Wage of $7.25/hr., indexed to current dollars using the CPI deflator (https://www.bls.gov/data/inflation_calculator.htm) and 2) Fifteen dollars ($15). For the Pilot Program, the Applicable Minimum Wage is calculated as $11.75. The Alternative Living Wage for SWEEP is calculated to be $17.63.

[36]SWEEP uses a Median Household Income of $60,293 defined by the Census of the United States. https://www.census.gov/search-results.html?q=median+income&page=1&stateGeo=none&searchtype=web&cssp=SERP&_charset_=UTF-8

- Mandatory weekly for new hires for at least the first quarter
- Ongoing monthly training for existing employees
- Features graphic-based or video training;
- American National Standard (ANSIZ245) symbols are used

Tier 2: (+1 point)

- Meet all the requirements of Tier 1,

And

- Workers receive additional worker training program(s) recognized by their collective bargaining representative.

Or

- Provide "Advanced operational training" covering fixed and onsite mobile equipment
  - Training should include both "classroom" and "field" components
  - For training on existing equipment or improved existing equipment, Trainers should have a minimum of 2 years of full time operating experience on the equipment that is the subject of the training and demonstrated training experience of 100 hours, or equivalent certification.
  - For newly introduced equipment (e.g. robotics), Trainers should have a minimum of 6 months of field or laboratory operating experience on the equipment that is the subject of the training and demonstrated training experience of 100 hours, or equivalent certification.

Potential Strategies:

Accomplish increased operational regulation, safety resources, and safety awareness campaigns by implementing the applicable safety recommendations.

- Comply with applicable ANSI Z245 requirements
- Complete all employee safety and health training programs
- Complete and record Risk Assessments for all work tasks
- Implement a system to report near-misses
- Implement and follow a Safe Driving Policy & training for facility mobile equipment (option: using SWANA's template)
- Incentivize workers for monitoring, recording, and reporting worker fatalities and injuries
- Conduct regular safety training at least weekly for all employees
- Create and maintain standard operating procedures based on industry best practices
- Disconnect incentive programs from accident-free periods

- Regularly hold focus group meetings comprised of employees only to discuss the effectiveness of worker safety regulation, and suggestions for improvement.
- Have a safety committee regularly present findings and recommendations from these employee-only focus groups to the employer
- Follow recommendations found in: http://www.forworkingfamilies.org/sites/pwf/files/publications/SustainableAndSafeRecycling.pdf.

PCD Credit: ***OSHA-Compliant Facilities*** (1-2 points)

Reciprocal

Intent:

Promote safe and efficient operation of waste disposal facilities.[37]

Local Government and Industry Requirements:

Prevent or identify and correct OSHA-related operational violations and/or recommendations in all OSHA covered facilities under the control of the Local Government or Company.

Tier 1: (1 point)

- Demonstrate a current OSHA-compliant safety plan that has been updated within the past 2 years.
- Conduct an OSHA (or equivalent)-Level audit by a qualified auditor following the official forms, which must be completely filled out.

Qualified auditors include:

- Federal or State OSHA inspector;
- Insurance inspector (must have current CSP, or CIH certification);
- Union CIH or equivalent safety official

Full remediation of all OSHA (or equivalent) incidents reported.

Tier 2: (+1 point)

- Fulfill Tier 1 requirements

And

- Implement a Voluntary Protection Program (VPP). See OSHA Guidelines: www.osha.gov/dcsp/vpp/index.html

Potential Strategies:

- List all OSHA violations and state of resolution for the last 5 years.

[37] "Waste disposal facility" includes transfer stations, landfills and thermal conversion facilities.

PCD Credit: ***Good Neighbor Practices*** (1-2 points)

Reciprocal

Substantive Change: Changed the distance around facilities that must be cleaned and added density-based requirements.

Intent:
To minimize impacts on community quality of life from waste disposal facility operations.

Local Government and Industry Requirements:

The waste disposal facility[38] owned, operated, or controlled by the Local Government or Company has a policy and specified practices to address all aspects of operations that might result in a reduction in the quality of life for the surrounding residents and/or businesses, including:

- Litter control and mitigation measures are implemented onsite.
- Litter is inspected and recovered:
  - Urban: within 100 yards of the facility's boundary and at least ¼ mile along primary access routes.
  - Sub-urban: within 100 yards of the facility's boundary and at least 1 mile along primary access routes.
  - Rural: within 100 yards of the facility boundary and at least 2 miles along primary access routes.
- Dust control and mitigation measures are implemented onsite.
- Dust control and mitigation measures are implemented:
  - Urban: Within 100 yards of the facility's boundary and at least ¼ mile along primary access routes.
  - Sub-urban: Within 100 yards of the facility's boundary; and at least 1 mile along primary access routes.
  - Rural: Within 100 yards of the facility's boundary; and at least 2 miles along primary access routes.
- New Facilities are not built within the designated Buffer Zone of residences, schools, parks, prisons, playgrounds, nursing homes, day care centers, or other places people live or congregate. The Buffer Zone requirement does not apply to Existing Facilities. [39]

[38] "Waste disposal facility" includes transfer stations, landfills and thermal conversion facilities.
[39] Existing Facilities are defined as projects that are operational prior to the Local Government or Company applying for SWEEP Certification.

Population Density	Buffer Zone
Rural: <100 people/mi^2	900 Feet
Suburban: 101 – 1,000 people/mi^2	500 Feet
Urban: >1,000 people/mi^2	250 Feet

- Has a system in place to receive and address comments from the community.

And

Tier 1: (1 point)
Demonstrate that the facility has no unresolved or unaddressed complaints regarding the operational elements listed above that are pending before any governing agency or body.

- No unaddressed complaints or violations within the last three years:
  - Noise
  - Traffic
  - Pest/Vermin
  - Odor
- Limit emissions from mobile equipment and other operations according to PCD Credit ***Landfill Emissions Minimization***.
- Implement the stormwater management requirements from PCD Credit: ***Landfill Stormwater Management***.

Tier 2: (+1 Point)
Fulfill requirements in Tier One. Then complete the following:

- Fund a study to understand the negative effects of waste management operations on individual communities within 5 miles of your solid waste facility
- Implement the requirements of PCD Credit: Renewable or Alternative Fueled On-Site Mobile Equipment to reduce the amount of diesel fueled vehicles within your fleet that haul waste to and from incinerators, transfer stations, and recycling facilities
- Invest in alternative forms of transportation to and from solid waste facilities

Potential Strategies:

- Conduct regular 'listening sessions' with the local community regarding issues that impact the quality of life
- Work with education institutions, activist groups, and/or the Center for Disease Control and Prevention to assess health impacts on surrounding communities
- Invest in barges and rail as a means for transport rather than diesel trucks

SWEEP+ Standard Innovation Credits

|| **Innovation** || refers to practices or actions not necessarily outlined in the 5 core Performance Categories (SMMP, WGP, Collection, and PCR and PCD), but demonstrate exemplary performance within solid waste policy, generation, collection, and/or recovery processing and disposal. This supplemental sub-standard serves to acknowledge extraordinary investment, development, and/or implementation of innovative mechanisms related to solid waste management.

Points in the Innovation section are like "extra credit" points on an exam. They do count toward the final score of the certification but are not included as part of the core 100-point denominator of the certification scale.

Up to 10 credits will be given for innovative approaches to waste management including:

1. Exemplary performance of at least 1 performance increment compared with the credit Requirements.
    a. E.g. if the first tier is a 10 percent improvement and a second tier is 20 percent improvement, Innovation credit will be given for 30+ percent improvement
2. "Exploration Credits" proposed by SWEEP
3. Previously approved Innovation Credits from other certified entities.
4. Project specific Innovation proposed by entities seeking SWEEP+certification

Examples of Innovative Approaches

Sustainable Materials Management Policy

- Organizations share innovative, open-source advancements for the greater good of the industry and environmental enhancement

Waste Generation Prevention

- Monitoring, development, investment, and advancement toward innovative processes and technology
    - Investment in research
    - Implementation of pilot studies

Post Collection Recovery and Post Collection Disposal

- Innovative steps or actions that a facility invests in to improve the recovery of materials
- Monitoring, development, investment, and advancement toward innovative processes and technology
    - Investment in research
    - Implementation of pilot projects
- Implementation of carbon capture technologies

Exploration Credits:

Exploration Credit: ***Collective Bargaining Agreement*** (2 points)

Non-Reciprocal

Intent:
Provide best practices working conditions and worker empowerment in waste collection, processing and disposal activities and facilities.

Local Government and Industry Requirements:
Have in place a collective bargaining agreement for workers engaged in waste collection, recovered materials processing, recovered organics processing, or waste disposal facilities.

Potential Strategies:

- Provide opportunities for facility workers to organize.

Exploration Credit: ***Use of Measured, Verified or Certified Data*** (2 points)

Reciprocal

Intent:
Develop materials management policy and projects based on real, current data, rather than estimates or assumptions.

Local Government and Industry Requirements:
For SWEEP+ credits where estimated data or calculations are called for: Utilize measured, verified data or certify to a program that verifies data. Applies to credits WGP Prerequisite 1, WGP Credit 3, SWC Credit 2, PCR Credit 1, PCR Credit 2.

Bonus points are available to all credits where qualifying data is used, up to the 10-point Innovation Credit limit

Potential Strategies:

- Develop an ongoing measurement and reporting program for waste management activities.

Exploration Credit: ***Maximize Supply Chain Efficiency*** (1 point)

Reciprocal

Intent:
Maximize local environmental and economic benefits and minimize excess transportation**.**

Local Government and Industry Requirements:
Locate single and dual stream recycling facilities within 20 miles of the Local Government jurisdiction or Company service area boundary.

- Facilities must meet the Good Neighbor requirements of PCD Credit 10

Potential Strategies

- Maximize waste transport route efficiency
- Cite and construct facilities within designated service areas
- Work with broker to determine nearby available markets for recycled content

Exploration Credit: ***Non-residential Hazardous Waste*** (1 point)

Reciprocal

Intent
To ensure proper handling and disposal of non-residential hazardous waste by the Local Government entity and greater community or the Company, preventing negative human health impacts and pollution of the natural environment

Local Government and Industry Requirements:
Extend Hazardous Waste programs to the nonresidential sector for Universal Wastes.

As part of local stormwater requirements, restrict usage and impose management requirements on Universal Wastes.

Exploration Credit: ***Landfill Mining and Reclamation*** (1-2 points) *Reciprocal*

Intent:

Recover useful materials from existing landfills and clean and restore these areas to non-restricted uses.

Local Government and Industry Requirements:
In consultation with State Agencies and ensuring compliance with RCRA and EPA regulations,

Tier 1 Conduct landfill mining: Recover materials in existing landfills for re-use. Ensure that materials are tested for toxic components. Protect mining operations to avoid air and water releases, Implement stormwater management requirements from PCD Credit 2. Implement worker safety requirements from PCD Credits 6 & 7

Tier 2 Redesign existing landfill to facilitate future mining activities. Ensure that storage areas are protected from rainwater and sealed quickly. Avoid combining organic and inorganic materials in the same storage area.