PILLARS 2&3
SUSTAINABLE OPERATIONS & VALUE CHAINS

9 WASTE

STANDARD

9
WASTE

Commitment

Minimize food loss and waste and packaging waste in the company's operations and value chain, including at the retail and consumer levels.

Biological food waste.
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Waste generated in food systems is a major issue, contributing to climate change, overexploitation of natural resources, and degradation of the planet. An estimated 1.3 billion tons of food, equivalent to one-quarter of all calories produced by global food systems is lost or wasted each year,[1] and 30% of the world's agricultural land is devoted to growing food that will never be consumed.[2] In an attempt to mitigate waste and its ramifications on planetary health and global food security, Target 12.3 of the SDGs sets a global call to action to halve food waste and reduce food loss in production and value chains by 2030. Achieving this target would result in an estimated 6-16% reduction of total environmental pressures from the land usage, water usage, and greenhouse gas emissions that stem from food production.[3]

Food loss and waste are distinct concepts.[a] Food loss refers to a decrease in quantity or quality of food intended for human consumption along the supply chain up to, but not including, retailers and consumers.[4] Food waste, on the other hand, occurs at the retail or consumer level.[5] Along the journey from farm-to-fork, food loss and waste (FLW) occurs for a myriad of reasons including deliberate and inadvertent causes on-farm, during storage and transport, during processing and packaging, at wholesale and retail, and in consumers' homes.[6] Estimates differ based on food category and region, but approximately 14% of food is lost before the retail stage,[7] rendering food companies and their value chains important actors in reducing the detrimental effects of FLW.

FLW negatively impacts planetary health as well as the bottom lines of food companies. The decomposition of FLW results in annual emissions equivalent of 4.4 gigatons of carbon dioxide, which makes up nearly 8% of all greenhouse gas emissions.[8] Producing food that goes unused overexploits natural resources and does not cost companies any less water, land, and resources (i.e., labor, seeds, agrochemicals, etc.) than what is needed to produce food that is consumed. Additionally, companies incur the rising costs of discarding food wastes through landfill and disposal fees.[9] Reducing FLW, therefore, allows companies and actors in their value chains to become more efficient by reducing costs while maintaining productivity and increasing revenue per unit produced. Addressing this issue also opens up new opportunities for companies, such as creating innovative products from food that would otherwise be considered "waste" (e.g., trimmings) or putting resources (e.g., human capital) into addressing other social issues (e.g., poverty).

FLW also holds important implications for current and future food security. The global population is expected to exceed 10 billion by 2050,[10] placing increased pressure on food systems to feed everyone. Consequently, reducing FLW is a necessary step to ensure global food security without significantly expanding agriculture's footprint and furthering biodiversity loss.[11]

Complicating the issue of waste in food systems is the role of packaging because although it extends shelf-lives and prevents premature spoilage of food, it has important environmental costs. The production of packaging contributes to deforestation, as well as the overutilization of natural resources and energy. Additionally, many of the methods used at retail and consumer levels to discard packaging create further harm. Packaging incineration, for example, contributes to greenhouse air pollution, while plastic packaging disrupts marine ecosystems.[12] In the United States, estimates suggest more than one-fifth of all landfill waste comes from food packaging alone.[13] The development of innovative, recyclable, and biodegradable packaging solutions and strategies are, therefore, critical to reducing this waste and protecting natural resources.

While food companies may not have direct control in all the life cycle stages of their products, they can use their leverage to influence producers, suppliers, retailers, consumers, and other stakeholders to reduce food and packaging waste. Overall, by aligning their practices with the SDGs, companies can contribute significantly to mitigating climate change and planetary degradation.

a. It should be noted that there are no universal definitions of food loss and food waste; they are defined differently by organizations and institutions based on their foci of intervention. The definition utilized by this standard is derived from the United Nations FAO conceptual framework. Other organizations consider food waste to be the fraction of edible and inedible parts of food (e.g., peels, skins) that is discarded or disposed of, but could otherwise be utilized or "recovered" or, alternatively, do not distinguish between food loss and waste, aggregating both concepts under "food waste." (Sources: Karin Östergren et al., "FUSIONS Definitional Framework for Food Waste," Reducing Food Waste through Social Innovation, 2014, https://www.eu-fusions.org/phocadownload/Publications/FUSIONS%20Definitional%20Framework%20for%20Food%20Waste%202014.pdf.)

SDG-ALIGNMENT: THIS STANDARD CONTRIBUTES TO ACHIEVING THE FOLLOWING SDGS:

SDG 11 – Sustainable Cities and Communities

Target 11.6: By 2030, reduce the adverse per capita environmental impact of cities, including by paying special attention to air quality and municipal and other waste management.

SDG 12 – Responsible consumption and production

Target 12.1: Implement the 10-year framework of programmes on sustainable consumption and production, all countries taking action, with developed countries taking the lead, taking into account the development and capabilities of developing countries.

Target 12.2: By 2030, achieve the sustainable management and efficient use of natural resources.

Target 12.3: By 2030, halve per capita global food waste at the retail and consumer levels and reduce food losses along production and supply chains, including post-harvest losses.

Target 12.5: By 2030, substantially reduce waste generation through prevention, reduction, recycling, and reuse.

Target 12.6: Encourage companies, especially large and transnational companies, to adopt sustainable practices and to integrate sustainability information into their reporting cycle.

PILLARS 2 & 3

SUSTAINABLE OPERATIONS
SUSTAINABLE VALUE CHAINS

STEPS TO MEET THE COMMITMENT

1. ADOPT A POLICY AND EMBED IT INTO GOVERNANCE AND MANAGEMENT SYSTEMS

1.1. ADOPT A POLICY

The board or the most senior level of SDG-aligned companies adopt a policy aligned with their public commitment to respect the internationally-recognized rights to food, health, and a healthy environment. Companies commit to:

- Minimize FLW in the company's operations and value chain, including through the transportation of goods, processing, and production, and using its leverage with supply chain partners.
- Use leverage to reduce post-production FLW at the retailer, wholesaler, food service establishment, and consumer levels.
- Update marketing, labeling, and packaging design practices to support FLW reductions.
- Provide discretionary support of food recovery and donation programs.
- Minimize packaging waste and environmental impact in the company's operations and post-production, including through its packaging choices (i.e., material, design), shipment policies and materials, and business relationships with wholesalers, retailers, food service establishments, and consumers.

1.2. EMBED THE POLICY INTO GOVERNANCE & MANAGEMENT SYSTEMS

To embed the policy, SDG-aligned companies:

- Communicate expectations for implementing the policy internally and externally to their workforce, shareholders, subsidiaries' governing bodies, and business relationships.
- Integrate the policy into the procurement policy, responsible sourcing policy, contract terms with suppliers, wholesalers, retailers, and other business relationships in the value chain, and partnerships within and beyond the food sector.
- Integrate the policy into by-laws and other governance documents (i.e., Code of Conduct, Code of Ethics).
- Ensure their business practices and the incentives they create do not contradict the policy in form or substance.

2. ASSESS ACTUAL & POTENTIAL IMPACTS

SDG-aligned companies identify and assess the impacts of food loss, food waste, and packaging waste in their operations and value chains. In order to systematically assess such impacts on an ongoing basis, SDG-aligned companies:

- **Evaluate how business decisions and practices, including packaging, sourcing, transportation, processing, distribution, and marketing contribute to excess food and packaging waste**. In particular, companies assess how decisions to maximize profits or realize financial gains may be at odds with their commitment to reducing FLW and packaging waste.
- **Conduct comprehensive assessments to identify areas of high rates of food loss, food waste, and packaging waste in their operations and value chain**. The initial assessment is conducted as accurately and robustly as possible in order to establish baseline FLW and packaging waste metrics against which targets can be set and performance can be tracked. These baseline metrics are revisited and updated as needed as part of the regular and ongoing assessments. The scope of assessments[14] include:
  - **Timeframe:** The period for which the quantity of waste generated is evaluated. This is kept consistent across assessment measures for tracking performance, comparisons, and disclosure.
  - **Material types:**
    - **Food:** Food category (e.g., chicken, dairy, fresh fruit and vegetables) and whether edible or inedible (e.g., banana peels, animal bones).
    - **Packaging:** Material category (e.g., plastic, glass, corrugated cardboard) and level (i.e., primary, secondary, tertiary).[b]
  - **Lifecycle Stages:** The post-harvest/slaughter stages[c] in the supply chain where FLW or packaging waste occurs.

b. Primary packaging is that which is in direct contact with the food or food product. Secondary packaging is packaging that holds multiple units encased in primary packaging and displays the product and branding (e.g., box surrounding 12 cans of sparkling water). Tertiary packaging is used for protection and shipping of products (e.g., large boxes, pallets, crates, etc.). (Source: Katrin Molina-Besch, Fredrik Wikström, and Helén Williams, "The Environmental Impact of Packaging in Food Supply Chains—Does Life Cycle Assessment of Food Provide the Full Picture?," *The International Journal of Life Cycle Assessment* 24, no. 1 (January 1, 2019): 37–50, https://doi.org/10.1007/s11367-018-1500-6.)

c. Pre-harvest/slaughter losses are typically a result of natural events (i.e., crop disease, extreme weather, etc.) and are not included in the standard as they represent a difference between a *theoretical* maximum and actual harvest. The focus of this standard is on food losses that can be mitigated through company actions and policy changes and thus, only food that has entered or is ready to enter the food supply (i.e., crops ready to harvest, animals ready to be slaughtered, eggs already laid, etc.) is included. (Source: Craig Hanson et al., "Food Loss and Waste Accounting and Reporting Standard," n.d.

- **Geographic locations:** Where, geographically, the waste occurs.
- **Destinations:** Where the waste goes when removed from the supply chain (i.e., landfill, animal feed, sewer, aerobic digestion/compost, plowed under/left in the field, environmental dumping, etc.).
- **Direct causes & indirect drivers:**[15] The immediate reasons food leaves the supply chain (e.g., damaged, spoiled or suboptimal quality, superficial appearance issues that affect marketability) or packaging waste is generated, as well as the underlying, structural drivers behind those direct causes of waste[16] including:
  - **Technological drivers:** inadequate or ineffective equipment, poor packaging of the food itself or for protection during transport, inadequate infrastructure (e.g., lack of cold storage).
  - **Managerial drivers:** poor planning, inventory forecasting, or communication with suppliers, retailers, or wholesalers; poor training of employees or lack of knowledge about appropriate storage, handling, and processing of food; inflexible requirements for producers to provide goods to certain standards or without account of seasonal, climactic, or natural variability (e.g., only purchasing lettuce heads of certain dimensions or fullness to appease consumer aesthetic preferences).
  - **Behavioral drivers:** perceptions of producers about marketability (e.g., discard of undesirable fish species in the process of harvesting more desirable species), lack of awareness of food quality and safety parameters (i.e., discard due to perfectly edible items past a freshness premium date and misguided concerns of food safety).
  - **Other structural drivers:** financial considerations, local policies and regulations, lack of alternative destinations for food and packaging (i.e., food donation programs, recycling facilities).
- **Quantity:** an accurate, consistent measurement of waste generated for each material type, preferably recorded as a weight or a conversion to weight from other measures (i.e., unit count, volume).
  - Methods to determine the quantity of FLW and packaging waste may include direct weighing, counting, volume assessment, composition analysis, surveys, statistical modeling, mass loss calculations, and other records.[17]
- **Aggregated percentage (for FLW):**[d] a calculated percentage by weight of food produced that is lost or wasted by lifecycle stage and across all lifecycle stages.
- **"Hotspots:"**[18,19] the areas and activities in the operations and value chains of companies that contribute most to FLW or packaging waste. These are ranked based on their negative environmental impact and/or potential environmental gains to be realized by minimizing waste in this area or activity.
  - Lifecycle assessment methods are used to determine "hotspots" and include calculations of carbon, land, and water footprints; chemical inputs; energy use and efficiency; and financial costs. The company may also use proxy-based calculations of biodiversity impacts (e.g., excess land occupancy or deforestation to grow food that is ultimately lost).[20]
- **Ensure assessments are as accurate as possible by engaging qualified and credible experts and affected stakeholders** to help conduct the on-site, comprehensive waste assessments in their operations and value chain.[21]
- **Partner with wholesalers, retailers, governments, civil society organizations, consumers, and other business relationships** to estimate quantity and assess potential diversions of food and packaging waste stemming from products in the post-production phase (i.e., at retail or in-home, where direct quantification and data collection by the company alone may not be possible).[22]

d. Food loss and waste should be reported as both an absolute quantity and percentage of total produced/used to account for FLW's covariance with total produced. Some loss or waste is inherent in maintaining a stable food supply and plentiful access for entire populations; thus, FLW can be minimized but not feasibly eliminated and FLW will always be in proportion to total food produced. If FLW was assessed solely as an absolute quantity, a decrease may simply reflect a decrease in production, not improvement in FLW management. Utilizing an aggregated percentage gives a measure of FLW relative to total food produced. (Source: FAO, "The State of Food and Agriculture 2019. Moving Forward on Food Loss and Waste Reduction." (Rome, 2019).)

3. INTEGRATE BY SETTING TARGETS & TAKING ACTION

SDG-aligned companies integrate the findings of their comprehensive assessment of FLW and packaging waste outlined in **Step 2** into their business decisions, processes, and functions by **setting targets** and then **taking action** to align with the standard within set target dates.

3.1. SET TARGETS

SDG-aligned companies set specific, time-bound intermediate and long-term targets to prevent and minimize FLW and packaging waste that are ambitious enough to contribute significantly to the SDG's achievement, especially SDGs 11 and 12. In particular, long-term FLW targets align with and help to achieve the SDG Target 12.3. The intermediate targets are relevant for monitoring continuous improvement towards meeting the standard. Wherever possible, these targets are relative, rather than absolute, and express a company's goals in terms of percent-based (e.g., % of total food product produced that is lost or wasted) or unit-based (e.g., tons per unit production) metrics to account for the direct relationship between FLW or packaging waste and production.[23] The following are some examples of performance indicators to track progress over time:

- By 2030, achieve a 50% reduction in food loss relative to baseline.
- By 2030, achieve a < 5% in-field/on-farm food loss.
- By 2030, achieve a 50% reduction in packaging waste relative to baseline.
- By 2025, 100% of packages are updated with standardized labeling.
- By 2030, 40% of packaging is biodegradable.
- By 2025, achieve a 20% reduction in packaging material used per product.

3.2. TAKE ACTION

Where an SDG-aligned company identifies actual or potential areas of excessive FLW and packaging waste it takes appropriate and swift action to cease them to align with the standard, starting with the most critical or impactful "hotspots."[24] Where companies identify opportunities in their value chains, they use leverage to prevent and minimize FLW and packaging waste. SDG-aligned companies also address the ways in which they incentivize negative impacts through FLW and packaging waste within their value chain (e.g., inflexible contract terms about size or appearance of harvested foods) and use their leverage to influence wholesalers, retailers, consumers, policymakers, and other stakeholders to reduce waste. Interventions to minimize FLW and packaging waste depend upon assessment findings, and follow hierarchical prioritization structures:

- **When it comes to FLW, SDG-aligned companies first prioritize utilizing the following two categories of strategies in tandem due to their high impact potential:**
  - **Prevent/reduce source:** reduce the amount of surplus food created at all stages of the value chain.
    - **Sourcing:** Improve purchasing policies and practices to prevent over-purchasing from suppliers by ordering the appropriate quantities needed for specific time frames. Additionally, renegotiate terms with suppliers that may be promoting food loss and waste. This may include making product requirements (e.g., size, color, etc.) more flexible or establishing whole-crop purchasing and subsequent utilization of "imperfect" foods in innovative ways (see "Novel products" below).[25]
    - **Packaging redesign:** Invest in the development of packaging or coatings that extend product shelf life or minimize FLW at the retail and consumer levels (e.g., edible polymer film coatings,[26] resealable packaging,).[27] Also consider redesigning packaging to optimize for reducing waste (i.e., if a package exceeds typical serving size for one sitting) or to provide a greater number of sizing options that fit the needs of consumers (e.g., small/individual *and* family sizes) and encourage the reduction of food waste at the consumer level.
    - **Date labeling:** If not already doing so, implement standardized date labeling that clearly delineates between quality and food safety issues and, when possible, amends dates indicating quality to the maximum possible given food safety parameters.[28]
    - **Consumer education:** Engage in transparent and ethical social marketing practices that acknowledge the mutual contribution of consumers and companies to the issues of FLW, raise awareness of issues surrounding FLW, and provide consumers with strategies to reduce food waste (e.g., recipes, storage tips), without shifting corporate responsibility onto consumers.

- **Optimize production practices and policies:**
  - **Cold-chain and transport improvements:** Improve or upgrade cold-chain management and transport practices to prevent spoilage, bruising, and other damage during storage or transport.[29]
  - **Optimization of manufacturing lines & processes:** Optimize production processes and products to increase efficiency and decrease waste during production (e.g., smaller trimmings, minimizing spillage).[30]
  - **Training:** Ensure that managerial staff and workers are adequately trained to operate equipment to minimize food loss and to divert surplus or degraded food to the least environmentally-harmful destinations (e.g., compost over landfill).
  - **Novel products:** Where possible, invest in research and development to expand product lines to include products made with "imperfect" foods or upcycled, edible byproducts (e.g., fish burgers made from trimmings, chips made from vegetable peels).[31]
  - **Optimization of supply to retailers and wholesalers:** Optimize the distribution of products to retailers and wholesalers in quantities appropriate for the time frame to prevent spoilage or disposal of excess products.
- **Only after exhausting the previous two strategy categories, SDG-aligned companies attempt the remaining four actions, which are listed in the order they should be prioritized:**
  - **Feed people experiencing or at risk of food insecurity by donating excess food that meets nutritional guidelines**[e] to local hunger-relief organizations such as shelters, food banks, and soup kitchens.
    - **Food donation:** Use leverage and partner with suppliers, wholesalers, food service establishments, and retailers to establish or grow relationships with food banks, shelters, and other hunger-relief organizations in order to donate surplus food at various locations along the supply chain.[32]
    - **Contracts & agreements:** Remove any contractual requirements with suppliers or vendors that prohibit the donation of unused food still fit for human consumption or require suppliers and vendors to destroy or dispose of such food.[33]
  - **Animal feed:** Divert food scraps to the production of animal feed.
  - **Divert to industrial uses:** Divert food scraps or used oils to digestive processes or creation of biofuels.
  - **Compost:** Divert food scraps or surplus food to create a nutrient-rich soil addition.
- **SDG-aligned companies work towards minimizing packaging waste by:**
  - **Reducing the amount of primary, secondary, and tertiary packaging they use:** Measures to achieve this may include employing reusable packaging solutions (i.e., reusable pallets, crates, drums, or boxes as secondary/shipping packaging).
  - **Redesigning packaging to require less material:** Packaging changes can result in losses of shelf-life, transport protection, or food safety. Therefore, the environmental benefits to be gained from packaging changes must be weighed against the negative environmental effects from potential increases in losses that result from increased FLW.[34] To appropriately manage this trade-off, SDG-aligned companies engage credible, qualified experts to conduct life-cycle assessments, balance environmental priorities, and determine the most environmentally-friendly packaging for their products.
  - **Investing in research and development of innovative packaging solutions that address both FLW and packaging waste simultaneously** (e.g., active packaging, intelligent packaging[f]).
  - **Replacing packaging materials**[35] with greater negative environmental impacts during their production phase (e.g., virgin paper fiber) or when they degrade after being discarded (i.e., plastic, styrofoam) to packaging that is from recycled or repurposed materials, from sustainably managed sources (e.g., FSC certified[36]), compostable, biodegradable, recyclable, or reusable.[g]

e. Donation of unhealthful foods to those experiencing food insecurity widens inequalities by exacerbating the disproportionate burden of diet-related diseases this population already shoulders; fundamentally, this inhibits, rather than promotes, achievement of the SDGs, especially those concerning hunger and reduction of inequalities (SDG 2 & 10).

f. Active packaging is packaging with additives to the packaging itself that purposefully absorb or release compounds to extend shelf life or preserve the quality of foods. Examples of additions to active packaging include moisture absorbers, ethylene scavengers that prevent overripening, etc. Intelligent packaging is packaging that contains an indicator of freshness or food safety (e.g., color changing label that indicates temperature abuse of meat). (Source: Karleigh Huff, "Active and Intelligent Packaging: Innovations for the Future," n.d., 13.)

g. When utilizing recyclable or reusable packaging, SDG-aligned companies are careful not to a) rely on this alone to justify meeting the standard and utilize this strategy in conjunction with others discussed (e.g., reducing total packaging material needed per product) and b) transfer their corporate responsibility for packaging waste to consumers as the end actors in products' lives.

- **SDG-aligned companies only consider sending waste to landfills, incineration, or sewers, which are the most environmentally-detrimental waste destinations, as last resort options** when the above strategies to minimize FLW and packaging waste have been fully exhausted or are completely unavailable.
- In addition to direct minimization of FLW and packaging waste in their operations and value chains, **SDG-aligned companies use their leverage within and beyond the food sector to promote FLW reduction more broadly** by, for example:
  - **Supporting policy changes** that promote improvements in food donation policies, standardization of product date labels, organic waste management (e.g., centralized composting), etc.[37]
  - **Investing in R&D** to improve and scale practices discussed above and in the development of food recovery technologies (e.g., apps and software platforms to match surplus food sources with hunger-relief organizations).[38]
  - **Participating in industry-wide initiatives** with retailers, consumers, and other stakeholders, especially in developed countries, to highlight and change the association between overproduction, overstocking, and overbuying, and FLW.
  - **Establishing or collaborating in multi-stakeholder initiatives with industry peers, civil society groups, and other stakeholders** to lead a fundamental shift in societal expectations of constant, unblemished, and abundant food choices and a reduction of food waste at the retail and consumer levels. Examples of such initiatives include programs that promote the purchase of slightly blemished, but perfectly edible foods and advocacy campaigns that help consumers understand the impetus for intermittently bare shelves and the environmental benefits of stores changing their overstocking practices.
  - **Supporting policy changes that shift the cost of packaging waste from consumers and municipalities to the producers of packaged goods** (namely, food companies) through direct collection and recycling of their packaging or municipal reimbursement for recycling costs.[39]

h. As defined by the UNGPs' Effectiveness Criteria for Non-Judicial Grievance Mechanisms ("In order to ensure their effectiveness, non-judicial grievance mechanisms, both State-based and non-State-based, should be: (a) Legitimate… (b) Accessible… (c) Predictable… (d) Equitable… (e) Transparent… (f) Rights-compatible… (g) A source of continuous learning… Operational-level mechanisms should also be: (h) Based on engagement and dialogue…" (see UNGP 31 for further information). (Source: United Nations, "Guiding Principles on Business and Human Rights: Implementing the United Nations 'Protect, Respect and Remedy' Framework," 2011, https://www.ohchr.org/Documents/Publications/GuidingPrinciplesBusinessHR_EN.pdf.)

i. Inappropriate or excessive waste generation is considered here to be that which is directly against a commitment to minimize waste (e.g., prioritizing financial gains over commitment to the standard) or results from negligence of a company to uphold its commitment (e.g., through failure to properly train employees in changes to disposal policies or manufacturing process, failure to inspect equipment that results in malfunction and food loss, etc.).

4. ESTABLISH AND PARTICIPATE IN EFFECTIVE GRIEVANCE MECHANISMS & PROVIDE OR ENABLE REMEDY

4.1. ESTABLISH GRIEVANCE MECHANISMS

SDG-aligned companies establish effective grievance mechanisms[h] that are accessible to stakeholders to report excessive FLW and packaging waste[i] generation or improper management. Examples of such practices include: deliberate or inadvertent severe loss of food due to avoidable cold storage or equipment misuse; or excessive levels of surpluses of food at processing or retail levels due to mismanagement of distribution, procurement, or processing operations.

4.2. COOPERATE IN STATE-BASED GRIEVANCE MECHANISMS

SDG-aligned companies cooperate with and support legitimate judicial and non-judicial State-based mechanisms to report and adjudicate excessive FLW and packaging waste generation or improper management. Where State-based mechanisms order sanctions or remedy, the companies comply and use leverage to ensure their business relationships comply.

4.3. PROVIDE OR ENABLE REMEDY

When an SDG-aligned company identifies that it has caused or contributed to excessive waste through its operations or value chain, it acknowledges its part in the harm done and provides for or cooperates in remediation through legitimate processes. When appropriate, SDG-aligned companies engage in formalized after-action reviews to identify the causes and remedy for specific severe impacts.

Remedy for excess waste generation may differ based upon the material type, life cycle stage, and temporal or geographic locations. However, after an instance of excessive or inappropriate waste is identified, SDG-aligned companies attempt, if at all possible, to immediately correct the instance and divert the surplus food or packaging from the most environmentally detrimental destinations (e.g., landfill, incineration, sewer) to less detrimental or beneficial destinations (e.g., composting, recycling, feeding those experiencing or at risk of food insecurity through donation).

Remedy may also include actively carrying out, supporting, or financing natural ecosystem restoration where waste has caused damage (e.g., plastic packaging dumped in marine ecosystems). At the least, companies improve efforts to prevent any such future wastes by altering policies and practices (e.g., date labeling practices, employee training), updating contract terms with suppliers, wholesalers, or retailers (e.g., reducing future inventory to prevent spoilage), investing in infrastructure and equipment improvements, or engaging in other preventative measures.

5. TRACK PERFORMANCE

SDG-aligned companies, track the implementation of actions to meet the standard within their target dates through qualitative and/or quantitative outcome-based performance indicators on an ongoing basis and in partnership with suppliers, retailers, and other actors in their value chain. The following are some examples of performance indicators to track implementation of measures to minimize FLW, packaging waste, and their environmental impact:

- Reduction in FLW relative to baseline (measured as change in percentage of production or change in unit-based metric).
- Percentage of product that becomes FLW across supply chain.[40]
- Percentages of crops purchased from suppliers out of total edible crops harvested (or conversely, percentage of crops left in the field/plowed under).
- Reduction in packaging waste relative to baseline (measured as change in percentage of production or change in unit-based metric).
- Percent of packages updated with standardized labeling.
- Percentage of surplus food (by weight) donated across the supply chain.
- Percentage of food scraps diverted from landfill to other destinations (e.g., animal feed, novel products, compost).
- Percentage of engaged retailers with established relationships with food donation organizations.
- Number of reported incidents of inappropriate or excessive FLW.
- Number of secondary or tertiary packages saved by switching to reusable options.
- Percentage of packaging that is compostable, biodegradable, or recyclable/reusable.
- Percentage of fiber-based packaging from recycled or sustainably managed sources.
- Percent reduction in packaging material per product.

6. DISCLOSE PERFORMANCE

To enable transparency and accountability, SDG-aligned companies communicate publicly on their performance against their waste commitment and targets, particularly when concerns are raised by or on behalf of affected stakeholders. Where relevant, SDG-aligned companies also share aggregate data and high-level findings directly with affected stakeholders and organizations, including human rights organizations and researchers.

Regular public disclosure is accurate, clear, accessible, and third-party verified information about the actual and potential impacts related to FLW and packaging waste in their operations and value chain, their efforts to address these to implement their policy commitment, and performance against targets. Disclosure includes sufficient information to evaluate the adequacy of the company's approach and activities. Formal disclosure includes information on the following:

- **Findings of the FLW and packaging waste assessment**, including absolute and percentage-based quantities of FLW and packaging waste, and identified "hotspots" with the greatest environmental impact in their operations and value chain. Companies also disclose how they assessed their operations and business relationships, any assumptions made, and the limitations of their assessment (e.g., data not fully available for consumer-based food waste).[41]
- **Measures undertaken during the reporting period to minimize FLW and packaging waste**. This includes information on changes in sourcing, contract terms with business relationships (e.g., suppliers, retailers), product lines, transport and production practices, packaging decisions, and marketing.
- **Any measures undertaken in partnership with industry partners, civil society organizations, multi-stakeholder groups, governments, and other stakeholders** to address FLW and packaging waste in a company's larger ecosystem and regions where it operates (e.g., policy change advocacy, support of food donation program establishment).[42]
- **Progress on relevant performance indicators, even when progress is not as good as expected and a company falls short of targets set**.[43] When companies fail to meet their targets, they disclose key learnings and delineate how they are modifying their strategies in order to achieve intermediate and long-term targets to minimize FLW and packaging waste.
    - Disruptions (e.g., COVID-19, weather events) do not excuse companies from the commitments outlined in this standard. SDG-aligned companies attempt to uphold the standard in all circumstances. When disruptions do hinder progress towards the targets set, the companies disclose specific learnings and how they will utilize those to adequately prepare for similar future disruptions and keep their commitments.
- **All instances of inappropriate or excessive FLW or packaging waste in the operations or value chains of the companies**, specifying the material type, supply chain and geographic location of the instance, the quantity of excess waste generated, the direct cause and indirect drivers (e.g., lack of internal capacity, lack of clear expectations for suppliers). Companies also disclose how the instance was identified and any attempts made to divert the waste to destinations with better environmental outcomes (e.g., food donation, compost).[44]

ENDNOTES

1. FAO, "Technical Platform on the Measurement and Reduction of Food Loss and Waste," 2021, https://www.fao.org/platform-food-loss-waste/en/; M. Kummu et al., "Lost Food, Wasted Resources: Global Food Supply Chain Losses and Their Impacts on Freshwater, Cropland, and Fertiliser Use," *The Science of the Total Environment* 438 (November 1, 2012): 477–89, https://doi.org/10.1016/j.scitotenv.2012.08.092.
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3. Marco Springmann et al., "Options for Keeping the Food System within Environmental Limits," *Nature* 562, no. 7728 (October 2018): 519–25, https://doi.org/10.1038/s41586-018-0594-0.
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5. FAO.
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7. FAO, "The State of Food and Agriculture 2019. Moving Forward on Food Loss and Waste Reduction."
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