

UNHCR WASTE MANAGEMENT



From design, procurement, warehousing, distribution to post-consumer disposal

1. Introduction

One of the three priority areas of the UNHCR Operational Strategy for Climate Resilience and Environmental Sustainability 2022-2025 is to improve the sustainability of the end-to-end supply chain. Among the key actions to reduce CO2 emissions, UNHCR aims to minimize and manage the waste generated by its operations. The expected outcome is to incorporate a waste management system to support operations as a standardized activity in Country Operations (full loads, recycling, repurposing, safe disposal)¹ to ensure that goods that have reached the end of their lifecycle are properly managed.

Waste generation is expected to increase with the economic development and growth of the population, as well as the demand for humanitarian aid. With climate change at a critical juncture, it is essential to find immediate solutions to address waste management problems.

Globally, most waste is mismanaged. It is dumped or disposed of in some form of a landfill or incinerated, and in many situations, there are no proper waste sorting, storage, collection and treatment systems (Annex I -Trends in Solid Waste Management, Source: World Bank). This has a serious negative impact on the environment and the health of populations, such as an increase in air, land and water pollution, transmissible diseases, and respiratory infections².

Waste can be prevented and minimized at almost any point along the life cycle of a product through sustainable production, sustainable consumption, and waste management³. There are different management options according to the waste management hierarchy which includes: prevention, minimization, reuse, recycling, recovery, and disposal (Annex II - Waste Management Hierarchy).

To be properly managed and disposed of waste should be first separated according to each type of material composition (organic, plastic, paper, glass, metal, etc.).

The removal, transportation and treatment of waste should be managed locally, to allow efficient collection and appropriate treatment. Local waste management services can also help reduce the transportation of waste and associated emissions while promoting local jobs. Moreover, raising awareness of proper waste sorting practices can create a higher local value addition and support the population's sense of agency.

Environmental risks often materialize in the context of UNCHR's work, such as camps, settlements and other situations where no adequate waste management exists. For example, the uncontrollable burning of waste around refugee camps⁴ increases the risks to the health and safety of forcibly displaced, stateless persons and local communities.

¹ [UNHCR Operational Strategy Climate Resilience and Environmental Sustainability](#)

² <https://www.sciencedirect.com/science/article/pii/S0959652623007254> "Mismanaged waste has been suggested to cause between 400,000 and 1 million disease-related deaths a year in low- and middle-income countries."

³ Global Waste Management Outlook, UNEP

⁴ [Domestic and Refugee Camp Waste Management Collection and Disposal - Oxfam Policy & Practice](#)

Aligning with its overarching environmental strategy, UNHCR is already improving the technical specifications of core relief items (CRIs) by promoting the use of recycled material and avoiding single-use plastic packaging. These are instructions that help reduce the generation of waste and promote sustainable production.

There are also initiatives that have been implemented for recycling and reusing plastic and e-waste in the field through cooperative efforts with other development aid agencies and non-governmental organizations (Annex III - UNHCR Waste Management Initiatives). At the same time, different training related to sustainability will be provided for all staff and specifically for supply colleagues to have a better understanding of ways to become more sustainable in their daily lives, both at work and at home.

The purpose of this concept note is to define and put in place a comprehensive approach to manage the different types of waste that UNHCR generates while fulfilling its protection mandate and to ensure consistent life-cycle management.

2. UNHCR's Approach

This concept note proposes to focus on the management of waste generated by UNHCR's activities related to goods purchased and distributed to assist refugees and IDPs⁵. The origin of where this type of waste is produced should be considered based on the following dimensions (Annex IV - Examples of pre-consumer and post-consumer material):

- 1) The first dimension covers *upstream waste*: related to the production of the items UNHCR procures. This material is generated during the production processes by manufacturing companies, and it does not reach the end-user during its life cycle. This type of waste is not contemplated in this scope since it relates to the waste management system of the supplier but should be considered in their selection process. This aspect is covered through sustainable sourcing and procurement actions, where UNHCR aims to include sustainability assessments as part of its supplier monitoring efforts.
- 2) The second dimension is *downstream waste*: This type of waste is generated both by the practitioners (transportation and distribution service providers, partners and UNHCR staff involved in the storage, distribution and delivery of material) and the end users of items, and it is the material that is discarded after someone uses it. This material relates to the process of storage and distribution, as well as the consumption of the goods purchased to support emergency and non-emergency operations.

A) The first place where this type of waste is generated is where the material reaches UNHCR warehouses⁶ (GSM and local warehouses) and is associated with the packaging of items (e.g., plastic, cardboard boxes, wooden pallets, etc.). This type of waste is relatively clean and can be easily sorted. During the distribution of these items to a specific destination for consumption, the waste generated by the delivery activities is also related to the packaging. In addition to packaging, there is the expired and obsolete inventory that, once its shelf life has been reached, needs to be disposed of⁷.

⁵ Involvement of relevant Clusters will be required in addition to Logistics, such as CCCM, WSH, Health etc.

⁶ Some warehouses are not owned by UNHCR, they are under rental agreements with service providers or partners.

⁷ IOM-099/2012 UNHCR Inventory Management Policy. Inventory Category: tents, bedding materials, construction materials, food and other supplies, household items, medical supplies.

B) The second place is where the items are consumed by individuals after being deployed from warehouses to settlements, refugee camps or other locations, and where many different types of waste are generated (e.g., textiles, plastics, metals, glass, etc.). This type of post-consumer waste is usually mixed, and it requires specific knowledge to be sorted, as its material content is the result of different productions and usages.

The concerted engagement from different Divisions⁸, involved in the waste management of the Organization's activities, is necessary to develop proper tools and build up a functioning system.

The most involved functions in the Bureaux and Operations are:

- Admin: responsible for waste generated related to the activities of the offices
- Programme/Technical units: responsible for waste generated related to the activities of UNHCR's operations. implemented directly or through partnership agreements (e.g. with government entities, international or national NGOs)
- Supply: responsible for the purchase of goods and logistic support to UNHCR parties as well as partners of UNHCR
- Protection/Field: responsible (among others) for community mobilization and engagement

Choosing the correct course of action for the different types of waste and setting global priorities might be difficult to determine due to the different local contexts in which UNHCR operates, local market development, market barriers and lack of available resources. However, it is important to start to design standard waste management practices that can provide guidance on how to deal with waste generated by UNHCR operations at the country level. In addition, it is necessary to ensure that any initiative at the country level is harmonized and coordinated with the actions implemented by other Organizations to promote synergies and optimize resources⁹.

3. Proposed Objectives¹⁰

1. Improve UNHCR understanding of waste management as an essential component of sustainability.
2. Improve and standardize the practices/procedures of waste treatment at UNHCR.
3. Increase the participation and collaboration of different stakeholders (staff, UN Agencies, the people we serve, partners of UNHCR).
4. Incorporate waste management services in country offices and warehouses to reduce the waste that they produce.
5. Establish/improve waste management system in refugee/IDPs camps and settlements and urban settings to reduce environmental and health risks.
6. Mobilize the resources required to achieve the objectives of UNHCR waste management initiative.

⁸ Waste generated in the warehouse (DESS and DFAM), and post-distribution in refugee camps (DESS, DFAM and DRS)

⁹ For example, WREC Project (Waste management and measuring, Reverse logistics, environmentally sustainable procurement and transport, and Circular economy), of the Logistic Cluster, has produced a guidance tool to support humanitarian field practitioners with conducting assessments of companies specialized in waste management. They also provide a list of identified suppliers for some countries and a focal point contact in case of questions.

¹⁰ The timeline of some of these Objectives is by 2025. However, a specific work plan will identify realistic deadlines.

4. Outputs and main activities

| Objectives | Outputs | Activities |
|---|--|---|
| Objective 1: Improve understanding of UNHCR waste management as essential component of sustainability | Output 1.1: Assessment of the current situation of the waste that UNHCR generates in warehouses, camps, settlements and urban settings. Based on existing experiences, define baseline and methodology | <ul style="list-style-type: none"> Identify the different sources, types and the quantity of waste at different operations facilities. Definition and classification of the different type of waste generated by UNHCR Identify and assess the different waste management treatment options/methods/procedures - for each type of category including risks, challenges and possible solutions. Identify the existing methods/ process of waste management of the country offices/ countries and warehouses Understand the national/international legal and operational and regulatory framework Understand the informal sector in waste management in selected countries. |
| | Output 1.2: Raise awareness of the importance of waste management to all staff, particularly at Country Operations level through communications tools and training | <ul style="list-style-type: none"> Develop training materials incorporating concepts and practices (including guidelines, templates, checklists, e-learning) Develop a communication campaign (infographics, case studies, videos) Promote sharing of knowledge and experience between different Country Operations and with other Organizations |
| Objective 2: Improve and standardize the practices/procedures of waste management at UNHCR | Output 2.1: Develop tools to support the design or improvement of a waste management system in warehouses and refugee/IDP camps, settlements and urban settings. | <ul style="list-style-type: none"> Identify gaps in current instruments/tools and propose areas of improvement. Develop guidelines with best environmental management practices for waste management in warehouses and field locations. Establish guidelines for waste management standards through outsourcing services (SOP). Design tools and templates for the procurement of waste management services: terms of reference, evaluation criteria, templates, etc. Provide recommendations and guidelines on the development of a waste management system using digital technology tools already available at UNHCR. |
| Objective 3: Work with and increase the participation and collaboration of different stakeholders (staff, UN Agencies, the forcibly displaced and stateless persons, partners of UNHCR, government and host population) in waste management | Output 3.1: Identify potential local collaboration/ collaborative arrangements in selected target areas, with stakeholders for the provision of waste management services (UN agencies, development actors, governments, NGOs, suppliers etc.) | <ul style="list-style-type: none"> Mapping potential local suppliers. Identify existing frame agreements established by UN agencies for the provision of waste management services. Identify other collaborative initiatives. Participate and engage with different initiatives, including proactive approach to green funding opportunities. |

| | | |
|--|---|--|
| <p>Objective 4: Incorporate waste management services in UNHCR offices and warehouses to reduce the waste they produce</p> | <p>Output 4.1: Develop an action plan for the establishment/improvement of a waste management system in 70 Country Operations and their warehouses in collaboration with functions involved in priority areas</p> | <ul style="list-style-type: none"> • Identification of urgent waste issues and selection of the appropriate waste management options. • Determination of objectives, results, activities and roles and responsibilities at Country level. • Assessment of the main obstacles and potential solutions • Establishment of a timeline • Establishing a monitoring system and set targets for waste reduction |
| <p>Objective 5: Establish waste management system in refugee/IDPs camps settlements and urban settings to reduce environmental and health risks.</p> | <p>Output 5.1: Develop an action plan for the establishment of a waste management system in 10 camps/settlements in collaboration with functions involved in priority areas.</p> | <ul style="list-style-type: none"> • Identification of urgent waste issues and selection of the appropriate waste management options. • Determination of objectives, results, activities and roles and responsibilities at site level. • Assessment of the main obstacles and potential solutions • Establishment of a timeline • Establishing a monitoring system and set targets for waste reduction |
| <p>Objective 6: Mobilize the resources required to achieve the objectives of UNHCR waste management initiative</p> | <p>Output 6.1: Develop an action plan for the mobilization of the resources required to achieve the objectives of UNHCR waste management initiative</p> | <ul style="list-style-type: none"> • Definition and selection of target areas. • Identify and select the technical expertise and any additional human resources necessary • Develop a budget for estimated expenses required to manage and implement the activities and possible funding sources. • Establish a strategy to identify fundraising opportunities to cover the needs not funded |

5. References

[UNHCR Operational Strategy Climate Resilience and Environmental Sustainability](#)

[What a waste 2.0: A global snapshot of solid waste management to 2050](#)

[UNHCR Environmental Guidelines](#)

[UNHCR Emergency Handbook, waste management standards.](#)

[UNEP Global Management Outlook](#)

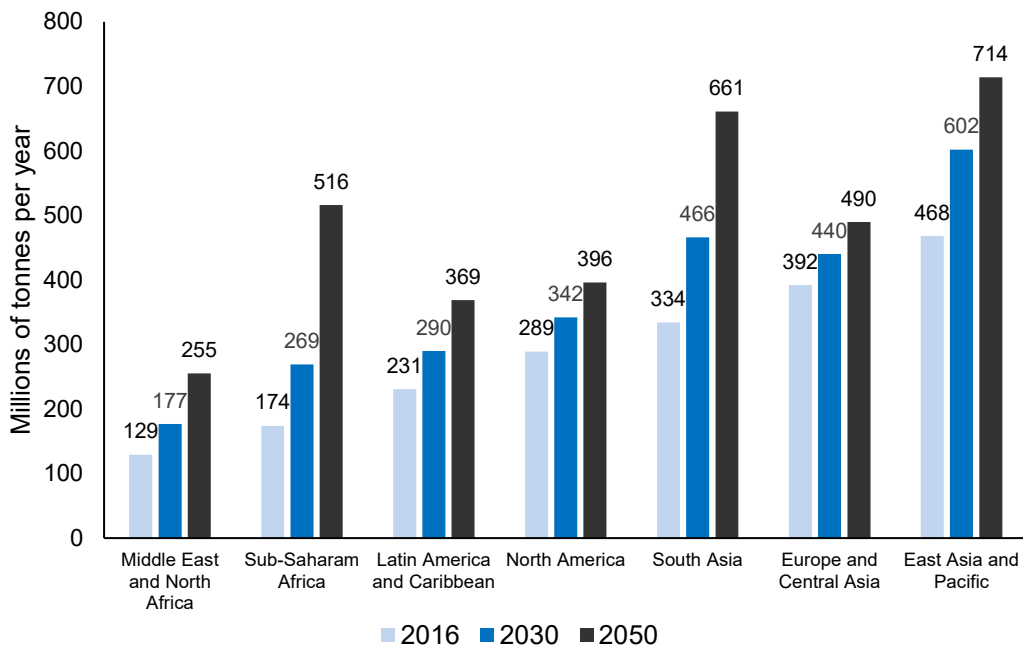
[Oxfam, Domestic and Refugee Camp Waste Management](#)

6. Annex

Annex I - Trends in Solid Waste Management

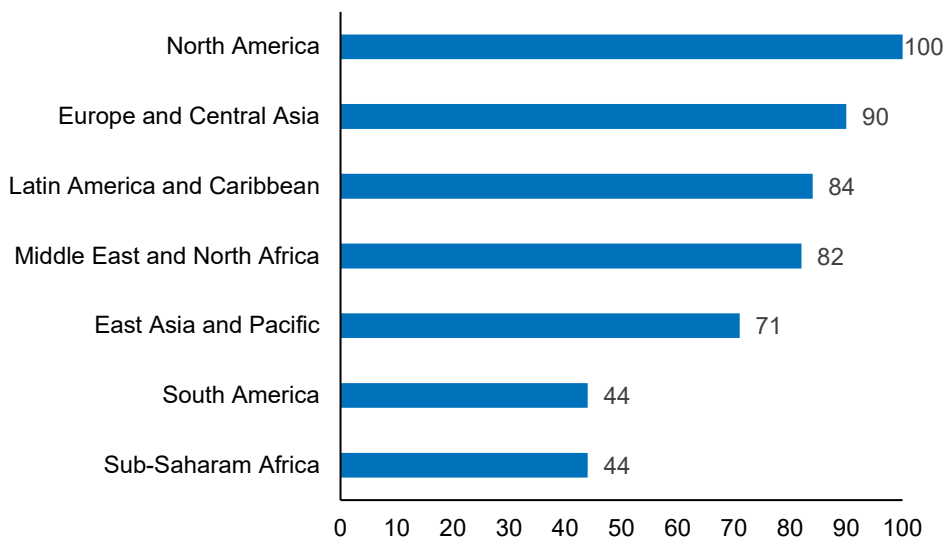
The data reported are predominantly from 2011–17
 Source: [World Bank. What a Waste 2.0](#)

Projected waste generation by region (millions of tons) from 2016 to 2050



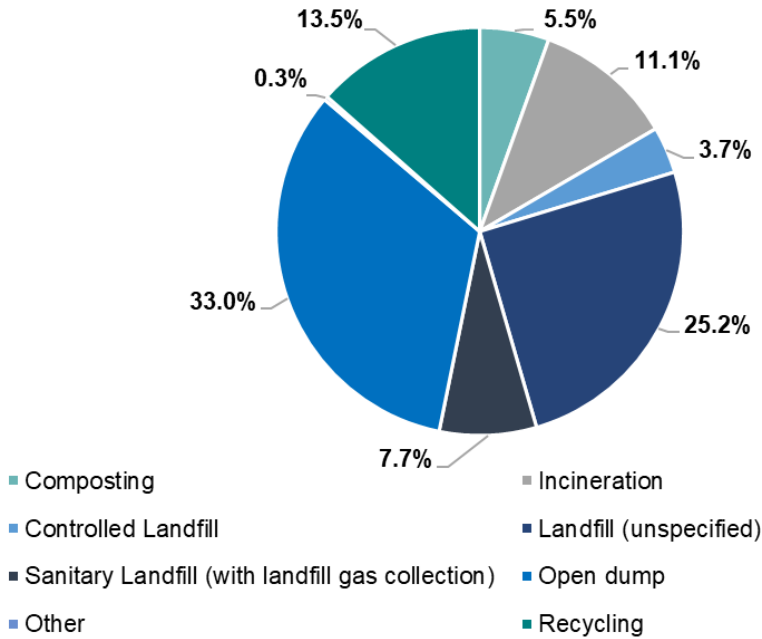
Percentage increase of projected waste from 2016 to 2050: 66,3% in Sub-Saharan Africa, 49,5% in South Asia, 49,4 % in Middle East and North Africa, 37,4% in Latin America and the Caribbean, 34,5% in East Asia and Pacific, 27% in North America and 20% Europe and Central Asia.

Waste Collection rates per region (percent)



Waste collection provided by municipal services in rural and urban areas per region. In rural areas for low-middle-income countries waste collection is approximately 53% less than urban areas.

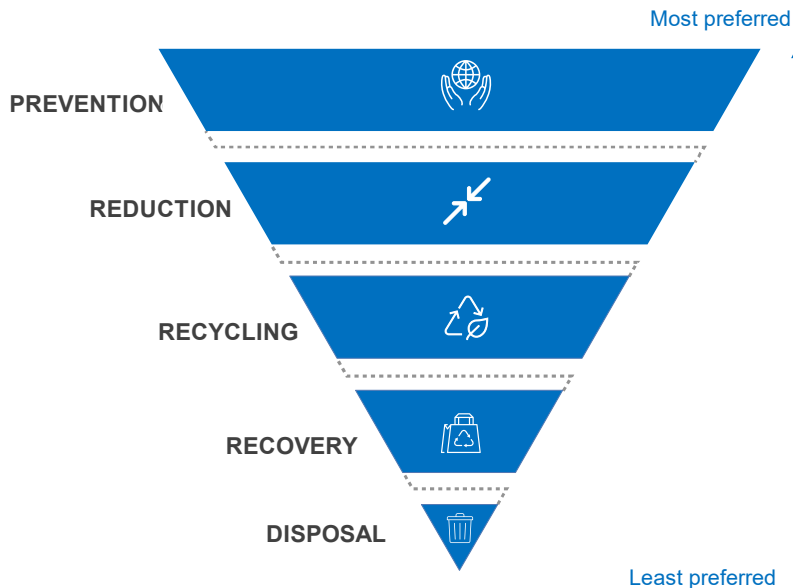
Global treatment and disposal of waste (percent)



36,6% of waste is disposed of in landfills, 33% is openly dumped, 19% goes into recovery (13.5 recycling and 5.5% composting) and 11% is incinerated.

Annex II - Waste Management Hierarchy

Source: UNEP (2011)



There are different versions of the waste management hierarchy, however, they usually reflect the order of priority to prevent and minimize waste. It is also often referred to 3 Rs (Reduce, Reuse, recycle) or 4Rs (Re, Reduce, Reuse, Recycle)

Prevention: is the first option to be prioritized and involves reducing the amount of waste generated through different means, such as product design, manufacturing processes, and consumer behavior.

Reduction: If waste generation cannot be completely avoided, efforts should be made to minimize or reduce the amount of waste produced. This can be done through actions like improving production efficiency, implementing recycling and reuse programs, and promoting sustainable consumption patterns.

Recycling and Reuse: Recycling involves the collection, sorting, and processing of waste materials to manufacture new products or raw materials. Before considering disposal, waste materials that still have value can be reused or repurposed for another use. This can involve repairing, refurbishing, or redistributing products or materials.

Recovery: If waste materials cannot be recycled or reused, they can be used as a source of energy through processes like combustion (controlled burning) or pyrolysis (temperature decomposition of organic material). Resource recovery also includes other methods such as composting.

Disposal: final action, which involves discarding the unwanted material through controlled facilities, where the waste can be disposed of.

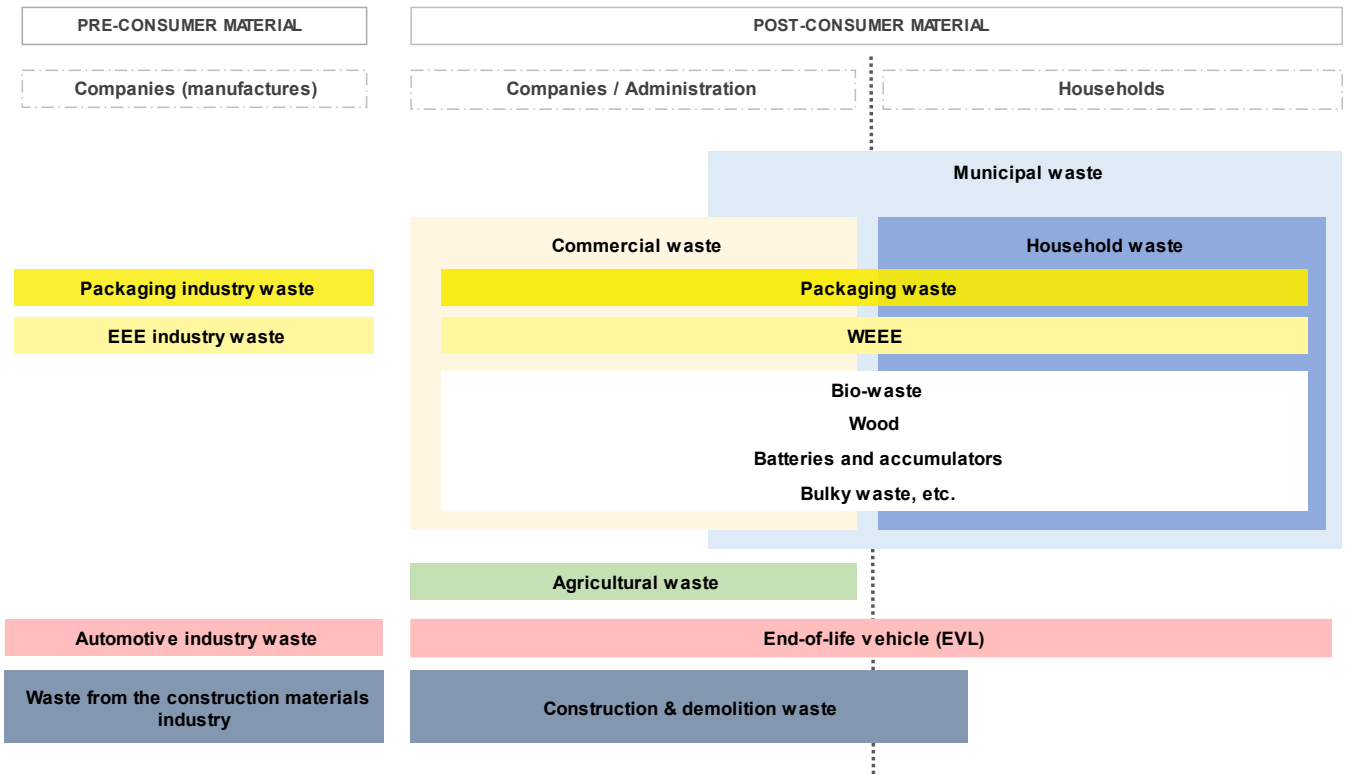
Annex III - UNHCR Waste management initiatives

| No | Organizations | Location | Year | Description |
|----|------------------------------|----------|------|---|
| 1 | UNHCR and Zoa Netherlands | Ethiopia | 2016 | Reuse of plastic shopping bags by refugee women to create useful household products such as table cover. WEB |
| 2 | UNHCR | Algeria | 2017 | Use of discarded plastic bottles that are filled with sand to build houses. WEB |
| 3 | UNHCR and Innovation Norway. | Algeria | 2021 | A workshop in the Sahrawi refugee camps to improve plastic management in the camps, while creating additional income of source for refugees and host communities. |
| 4 | UNCHR, GIZ, UNITAR, WFP, OIM | | 2022 | E-waste task force: a group that works towards joint activities to ensure safe and effective e-waste management in the operations of humanitarian agencies. |

Annex IV- Example of Pre-consumer and Post-consumer material

Source: [Guidance on Waste Definitions, Global Alliance Plastic, September 2021](#)

Pre-consumer material originates from the production of a product, while post-consumer material originates from its use.



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to post-consumer disposal

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COVER PHOTOGRAPH:

Amina Farah Adow moved to the Dagahaley camp in Kenya a few months ago with her children, leaving her husband and other family members behind during the worst drought Somalia has ever seen. ©UNHCR/ Samuel Otieno



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