

Call for proposals

Meta-study on single-use plastic food packaging and its alternatives: Recommendations from Life Cycle Assessments

examining the climate, marine litter, and other environmental impacts from plastic packaging and its alternatives in the food sector

Objective of call for proposal:	The objective of this call for proposals is to select a partner to conduct a meta-analysis of existing LCA studies to assess the contribution to climate change, marine litter, and other environmental impacts of plastic packaging and relevant alternatives (including reusable options where relevant) for 3 food products archetypes (e.g., dry produce such as cereals, pulses, or rice; quickly perishable fruit / vegetables; snacks such as chips and candy with single-use packaging, etc.). The study should provide clear guidance on how to interpret the results and what sort of recommendations these could lead to for LCA practitioners, policy makers, and a general target audience.
Who can apply:	Any qualified organization with Not-for Profit status, including Academia (Research Institutes and Universities) and Non-Government Organisations (NGOs)
Project duration:	13 months (July 2021 –August 2022)
Project budget:	The maximum budget for this project is USD 49,500. Co-funding and/or in-kind contribution to the project are expected from the applicant.
How to apply:	Applicants should submit their proposal including completed application template (Annex A) and all other annexes (see check list in ‘application template’) via email to Claudia Giacobelli (claudia.giacovelli@un.org) with Cc to Angelique Vermeer (angelique.vermeer@un.org)
Selection process and timeline:	<ul style="list-style-type: none"> • Deadline for submission of proposals: 31 May 2021 • Notification of selection: 14 June 2021 • Start of activities: July 2021

Background

Resolution 9 of the fourth United Nations Environment Assembly (UNEA4) in March 2019, on “Addressing Single-use plastic products pollution” ([UNEP/EA.4/R.9](#)), “*encourages member states to take actions, to promote the identification and development of environmentally friendly alternatives to single-use plastic products, taking into account the **full life cycle implications** of those alternatives*”.¹ In addition, the UN Environment Programme was requested by UNEP/EA.4/R.9 to make available existing information on the full life cycle environmental impacts of plastic products compared to products of alternative materials. Guided by this mandate, UNEP studied the environmental impacts of selected single-use plastic products and their alternatives from a life cycle assessment (LCA) perspective. Results are part of a [series of meta-studies](#), each covering widespread single-use plastic products and their alternatives, including shopping bags, bottles, take-away food packaging, beverage cups, tableware, nappies, menstrual products and face masks.

It has been noted time and again, that plastic food wrappers², are among the most commonly found items during beach clean-ups³. While reducing plastic food packaging may help reduce marine litter, it may also have negative effects on food waste and resource use, including increased GHG emissions. Several studies and projects have used LCA methods to understand the environmental impacts of food waste and identify ways to reduce this waste. These include a UN Environment Report, “Waste Not, Want Not: Reducing Food Loss and Waste in North America through Life Cycle-Based Approaches;” FAO’s “The State of Food and Agriculture 2020;” WRI’s “Reducing Food Loss and Waste: Setting a Global Action Agenda;” and the Commission for Environmental Cooperation’s reports and case studies on food loss and waste in North America. The US Environmental Protection Agency (USEPA) has now requested UNEP to commission further study on the environmental impact of single-use plastic food packaging and their alternatives.

Objective

Building on the findings of the LCA meta-studies and existing food waste LCA work, a plastic food packaging LCA report will study more closely the contribution to climate change, marine litter, and other environmental impacts from plastic packaging and relevant alternatives and identify policy recommendations to reduce those impacts. In addition to the full detailed report on findings from the meta-analysis of existing LCA studies of food plastic packaging and its alternatives (including reusable options where relevant), the project will develop a technical guide (targeted for LCA practitioners in industry, consultancies, and academia) on how to determine the lifecycle impacts of different existing plastic food packaging and its alternatives. The technical guide will provide special focus on how to address impacts from marine litter and on the climate, including also other relevant impacts such as water scarcity and pollution; toxicity through air emissions; land use; etc. This will fit under the umbrella of the work on “[addressing single-use plastic products pollution](#)”, led by the Life Cycle team within UNEP.

Expected activities

- **Conduct a meta-analysis** of selected existing LCA studies to assess the contribution to climate change, marine litter, and other environmental impacts of plastic packaging and relevant alternatives (including reusable options) for about 3 food product archetypes (e.g., dry produce such as cereals, pulses or rice; quickly perishable fruit / vegetables; snacks such as chips and candy with single-use packaging, etc.). The applicant should -as part of their response to the call for proposals - suggest an initial proposal of the product archetypes to focus on. The final selection of the 3 food product archetypes will be made in close consultation with UNEP and the USEPA once the project activities

¹ UN Environment (2019), UNEP/EA.4/Res.9, UNEA 4 Resolution: Addressing single-use plastic products pollution, [Proceedings, Report, Ministerial Declaration, Resolutions and Decisions UNEA 4 \(unep.org\)](#)

² Typically, this includes chip bags, candy wrappers, drink pouches, and similar flexible packaging.

³ Ocean Conservancy, Cleanup Report 2020, https://oceanconservancy.org/wp-content/uploads/2020/10/FINAL_2020ICC_Report.pdf

start. The meta-study will take stock of the effect of, for example, different energy mix, transport, use, waste management or end-of-life scenarios. This will demonstrate how the conditions of the product life cycle stages (e.g., end-of-life: incineration vs landfill vs compost) determine the level of impact and thus, may lead to different recommendations.

- **Develop criteria** for the selection of LCA studies to be included in the meta-analysis in close consultation with UNEP Life Cycle team and the USEPA.
- **Identify policy options** to reduce marine litter, climate, and other environmental impacts from packaging for food product archetypes. This could include case studies of national, sub-national, company, or other initiatives/policies/incentives to reduce marine plastic litter from food and packaging waste, or through a particular industry (e.g., the tourist industry.)
- **Organise and facilitate** the review process. This includes the development of a database of potential reviewers, who may be experts from industry, academia, NGOs or NPOs. These stakeholders are contacted to contribute literature to be included in the study and to participate in the peer-reviewing of the publications. The review process is to be conducted in close consultation with the Life Cycle team hosted by UNEP.
- **Develop output products to report on this information** and appropriate supplemental material (e.g., detailed report, executive summary, fact sheet, educational and outreach material, technical guide for LCA practitioners or other innovative products, etc.), and contribute to dissemination events co-organised with the UNEP Life Cycle team and the USEPA (e.g., in the context of the UNEA 5.2 in February 2022 or other relevant fora).

The qualification of the proposal

Proposals should meet the following criteria:

- Have clear objectives and a feasible implementation plan.
- Have a strong technical and science component on developing LCA studies on single-use plastic products and its alternatives.
- Have clear suggestions on interpreting and linking LCA studies to policy recommendations and action.
- Have a clear strategy for communicating the findings to policy makers and a general audience.

Who can apply?

Applicants from Academia (Research Institutes, Universities), Non-Government Organisations (NGOs), Not-for-Profit Organisations (NPOs).

The applying institution shall have proven expertise and experience in:

- Sustainable consumption and production topics, Life Cycle Assessment, life cycle-based indicators and hotspots analysis
- Life cycle assessment of single-use plastic products
- Formulating recommendations based on LCA studies as well as giving guidance on interpreting such recommendations
- Carrying out data collection and literature review
- Publishing high quality reports or peer-reviewed journal papers related to the mentioned topics
- Communication. Fluency in both written and spoken English is required. Ability to create inspiring and innovative communication tools.

For any further information, please contact:

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