

UNIDO's Activities and Initiatives for addressing plastic pollution

The United Nations Industrial Development Organization (UNIDO) addresses plastic leakage to the environment, including marine environment, by promoting circular economy practices in industry.¹

The work includes supporting Member States to develop enabling environments for promoting circular economy practices in industry and society through policy recommendations, technical assistance to industry, including capacity development and technology transfer, and awareness development.

Most of UNIDO plastic circular economy projects aim at designing out waste to retain plastics within the economy and regaining the value embodied in plastics that leaked out of the economy as waste. We work on both on upstream and downstream of value chains, as product designs, for example, should take into consideration recyclability and end of life disposal as well as environmental, social and economic impacts. In product design, the following might be considered: a) scrutinizing the necessity of packaging altogether, including of plastics, b) selection of renewable, bio-degradable and compostable materials and additives that are not or less toxic for essential plastic packaging or single-use plastic products; c) designing for less material use to decrease both amount of input materials as well as waste; d) designing packaging and products that use a single or small number of polymers that are easy to separate during recycling.

Policy measures to incentivize circular economy practices in design could consist of supporting implementation of innovations in design/re-design of new and existing products, and support to innovations and start-ups in particular those related to use of new, biodegradable and compostable materials as well as development of new business models.

Furthermore, support for development of effective infrastructure for collection and separation of waste streams and empowering local authorities with sufficient financial and technical resources could induce product designs for ease of recyclability. Taking measures to include informal collection, separation and recycling operations and improving working conditions for the informal workforce could be one of the objectives to safeguard livelihoods and ensure a just transition.

For more information on how UNIDO supports addressing plastic pollution through circular economy practices can be found here:

UNIDO working paper, "Addressing the challenge of Marine Plastic Litter using Circular Economy methods", 2019

https://www.unido.org/sites/default/files/files/2019-06/UNIDO_Addressing_the_challenge_of_Marine_Plastic_Litter_Using_Circular_Economy_0.pdf

Global Initiatives:

Through collaboration of UNIDO, UNEP and EU, the Global Alliance on Circular Economy and Resource Efficiency (GACERE) was established in February 2021. Bringing together governments and relevant networks and organizations, the GACERE aims to provide a global impetus to initiatives related to the

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circular economy transition, resource efficiency, sustainable consumption and production patterns, and inclusive and sustainable industrialization.

Fifteen countries (Canada, Chile, Colombia, India, Japan, Kenya, Morocco, New Zealand, Nigeria, Norway, Peru, Republic of Korea, Rwanda, Switzerland, and South Africa) and the European Commission on behalf of the European Union have joined the Alliance to date. Mexico and Singapore, maintain observer status.

UNIDO projects:

- **South Africa: “Support for transitioning from conventional plastics to more environmentally sustainable alternatives”:** <https://open.unido.org/projects/ZA/projects/190110>

The project supports pilot production of single-use food containers with alternative biodegradable material, of which sustainability is confirmed by life cycle sustainability assessment. At the same time, it supports strengthening the plastic recycling capacity of South Africa by encouraging implementation of the national guidelines for waste picker integration, and promotion of EPR schemes, in order to increase collection of higher-quality recyclables. It aims to promote inclusive and sustainable green industry development.

- **Egypt: “Supporting the promotion of circular economy practices on single-use plastic value chain”:** <https://open.unido.org/projects/EG/projects/190152>

The project supports the initiative of the Government of Egypt to reduce plastic waste leaking into the environment, particularly by looking into product design stage of single-use plastic products including packaging based on circular economy practices. It will promote eco-design practices in industry and encourage adoption of greener material, products, and production process or greener technology as well as greener business models, with support of enabling policy, regulations or economic tools, while minimizing any adverse impact on the industry.

- **Nigeria: “Promoting sustainable plastic value chains through circular economy practices”:** <https://open.unido.org/projects/NG/projects/210184>

The project has three lines of activities, which interact with each other: 1) Support development of implementation guidelines of the national policy on plastic waste management; 2) Support to strengthening recycling capacity at target municipalities through reinforcing the value chain system, including provision of necessary equipment and pilot implementation of the guidelines on plastic waste management; and 3) demonstration of circular economy and resource efficiency practices, including recycling systems and innovative technologies, at pilot companies or institutions to showcase their benefits.

- **Ghana: “Establishing a circular economy framework for the plastics sector in Ghana”:** <https://open.unido.org/projects/GH/projects/190244>

The project supports strengthening the national capacity of Ghana to transition to a circular economy by 1) realigning legal and institutional frameworks for the plastic and plastic waste sector to encourage circularity; 2) building capacity of the private, informal and public sector to monitor and manage plastic waste by providing training on policies regulations and technical guidelines; 3) funding pilot projects along the plastic value chain that promote circularity in their business models; and 4) strengthening communication and knowledge exchange systems to encourage behavioral changes that lead to a reduction in plastic waste and improved plastic management. The project will address

plastic leakage into the country's oceans and waterways and facilitate sustainable plastics management through operationalizing the National Plastic Management Policy (NPMP) and the National Plastic Action Partnership (NPAP).

- **Ghana: “Ghana Circular Economy Centre”:**

<https://open.unido.org/projects/GH/projects/210154>

The project will enhance circular economy-based inclusive economic prosperity, particularly for women and youth small-scale entrepreneurs in Ghana by providing beneficiaries with improved access to financial and/or business and technology development services. The project will also support the adoption of circular economy technologies and practices in the private and informal sectors by providing pilot project support services and technical capacity building. A Centre will be set-up within a tertiary education institute to be a focal point for the circular economy within the country and support innovations in different sectors including plastic packaging and plastic waste management.

- **Global: “Switch to circular economy value chains”:**

<https://open.unido.org/projects/M0/projects/190161>

The project supports the creation of circular business models in the plastic packaging value chain by providing technical assistance to EU multinationals' suppliers located in developing countries. The project will select a plastics packaging pilot and foster an enabling environment for the pilot and circular value chain transitions more generally by 1) enabling policy and value chain research & public-private dialogues in the target country; 2) provision of capacity building for businesses and service providers; 3) provision of circular economy financing solutions in pilot country finance institutions and 4) conducting communication activities to promote consumer/ stakeholder awareness and knowledge exchange on circular value chain approaches.

- **Africa region: “Study on available sustainable alternative materials to plastics, and innovative packaging and recycling technologies that meet market needs in Africa to reduce plastics leakages to the environment”:** <https://open.unido.org/projects/M2/projects/190137> (Egypt, Kenya, and Nigeria)

Plastic value chain reports in three countries were published on UNIDO marine litter website: <https://www.unido.org/Marine-plastic-litter>

- **Bangladesh: “Integrated approach towards sustainable plastics use and (marine) litter prevention in Bangladesh”:** <https://open.unido.org/projects/BD/projects/190230>

The project supports the Government of Bangladesh on improving waste management through baseline assessments, policy drafting and implementation to reduce littering and reduction in use of plastics by citizens. The project also targets short-lived consumer products that generate micro-plastics (e.g., cosmetics and garments) via a combination of Design for Environment and Resource Efficient and Cleaner Production practices.