

On behalf of:



of the Federal Republic of Germany



**giz** Deutsche Gesellschaft  
für Internationale  
Zusammenarbeit (GIZ) GmbH

THE WAY FORWARD

# Building partnerships for sustainable environmental solutions Made in Germany



# Overview

## The BMUV – Export Initiative Environmental Protection

- As a partner of the "Export Initiative Environmental Protection" (EXI), GIZ is implementing the global project "Environmental Protection Worldwide" on behalf of BMUV
- **Overall objective:** Support sustainable and favourable conditions for the adoption of resource-efficient environmental protection technologies and services from Germany in selected partner countries
- **Partner countries:** Jordan, Thailand, Malaysia, Ukraine, and India
- **Commissioned by:** The German Federal Ministry for the Environment, Nature Conservation, Nuclear Safety and Consumer Protection (BMUV)
- **Project duration:** April 2023 to March 2025

Global environmental and climate protection can only succeed if the required infrastructure as well as legal, political, and administrative framework conditions are in place.

The "Export Initiative Environmental Protection", short EXI, launched in 2016 by the German Federal Ministry for the Environment, Nature Conservation, Nuclear Safety and Consumer Protection (BMUV), aims at exporting green tech know-how available in Germany to support sustainable development efforts worldwide. EXI promotes technology applications and harmonized environmental standards, and finally, to create suitable conditions for the successful and sustainable use of environmental technologies "Made in Germany".

The Export Initiative projects make an important contribution to protecting the environment, improving the efficient use of resources, and reducing greenhouse gas emissions, in line with the sustainable development goals (SDGs) of the 2030 Agenda.

## GIZ and global impact as project partner of the EXI

GIZ implements selected projects of the "Export Initiative Environmental Protection" worldwide on behalf of the German Federal Ministry for the Environment, Nature Conservation, Nuclear Safety and Consumer Protection (BMUV).

Project measures focus on building up technical and institutional know-how as well as laying the groundwork for the introduction and use of environmental and climate protection technologies with challenging or complex framework conditions. To help make a long-lasting contribution to achieving the UN's sustainable development goals (SDGs), the focus is on knowledge transfer, pilot projects, sustainable business models, capacity building, environmental education and awareness raising.

The country measures are implemented in cooperation with bilateral projects of GIZ in the partner countries as well as in global modules. The supported activities are embedded in the strategies of the target countries. They support key environmental solutions in areas such as circular economy, sustainable consumption and production, and environmentally friendly mobility.

Watch the video and get an insight into GIZ's activities as part of the EXI:

<https://www.youtube.com/watch?v=L0IKUDFO3aQ>







# Overview of project activities

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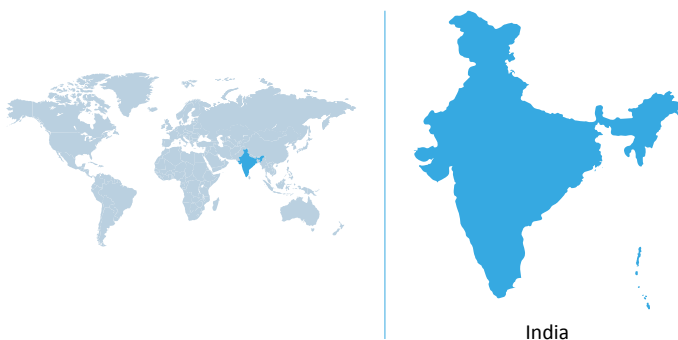
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# Management of Organic Waste in India



## Background

India generates 62 million tonnes of municipal solid waste each year, of which 75% of this volume is collected. Only 20% of the collected waste is treated, about 80% is dumped in landfills.<sup>1</sup> Inadequate waste management practices lead to public health risks, environmental degradation, and economic losses.<sup>2</sup> There is an urgent need to adopt sustainable waste management methods.

The "Swachh Bharat Mission Urban" (Clean India Mission) launched in 2014 by the Indian Ministry of Housing and Urban Affairs (MoHUA), provided a framework to tackle two of the country's key urban challenges: the management of municipal solid waste, and sewage. The objective of the second phase of the Clean India Mission 2.0 is to create waste-free cities with targeted waste treatment in all 4041 urban facilities across the country.

In the previous project on behalf of the BMUV EXI (2021 to 2023), in collaboration with the Indian Ministry of Housing and Urban Affairs, the University of Rostock and the Indian organisation Saahas Zero Waste, state strategies and city action plans were developed for organic waste management in the cities of Kanpur, Kochi and Port Blair and the states of Uttar Pradesh, Kerala and the Andaman and Nicobar Islands.

## Aim of the cooperation



The objective of the project module is to establish integrated methods for a sustainable management of organic waste in selected cities and states.

The module is set up to make a direct contribution to the UN Sustainable Development Goal of making cities and human settlements inclusive, safe, resilient, and sustainable (SDG 11, target 11.6).

- 1 Central Pollution Control Board (CPCB) (2017-18). Annual report. Ministry of Environment, Forest, and Climate Change. Government of India
- 2 Ministry of Urban Development (2016). Municipal Solid Waste Management Manual. Government of India

## What we do

As a partner of the Export Initiative Environmental Protection, GIZ is implementing the global project "Environmental Protection Worldwide" on behalf of BMUV.

**Exchange of knowledge and capacities in research and partner institutions:** We enable the exchange of knowledge between institutes and companies in India and Germany for the effective management of organic waste, including topics such as biogas plants, bio-CNG, digestate utilization, as well as by-products and their utilization.

### Available communities of practices on the GreenTech Knowledge Hub:

Register here:

<https://greentechknowledgehub.de/>

**Policy advice:** At the national level, we provide policy advice to our partner, the Ministry of Housing and Urban Affairs (MoHUA), for the implementation of sustainable bio-waste management. We conduct training and capacity-building activities. Additionally, we develop awareness campaigns for bio-waste management at the city and state levels, along with standard operating procedures.

**Integration of city and state action plans:** We support our partners to integrate the developed measures and recommendations from the city action plans and state strategies into their city and state policies on organic waste management.

**Pilot measures:** Following a detailed examination, we support our partners to design, develop and implement improved systems, at state and city level, for managing organic waste.



### Organic waste



## Expected results

- We enable the transfer and exchange of technical expertise on proven standards in the field of biogas and composting. Through dedicated collaboration, both Germany and India will benefit from insights and innovations in organic waste management, making a significant contribution to sustainability and environmental protection.
- In close cooperation with the political partner in India, we develop capacities in the sustainable management of organic waste at both the state and city levels.
- We contribute to the implementation of measures for sustainable management of organic waste by decision-makers.

## Project and Cooperation Partners

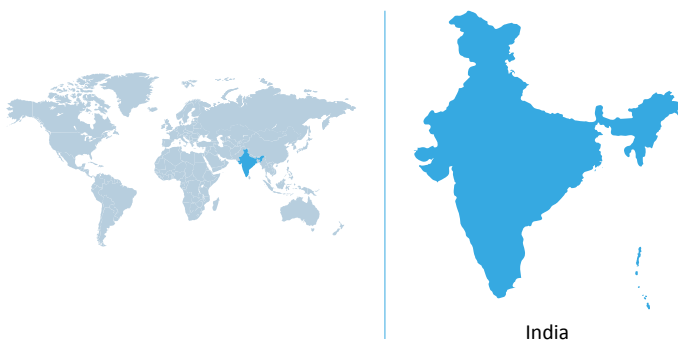
- Indian Ministry of Housing and Urban Affairs
- Partner cities: Kochi, Kanpur & Port Blair
- Partner states: Kerala, Uttar Pradesh and Nicobar and Andaman Islands
- Regional Centre for Urban and Environmental Studies
- Kerala Institute of Local Administration







# Best Available Techniques for Selected Industry Sectors



## Background

The Central Pollution Control Board (CPCB) is the apex regulatory body in India for prevention and control of pollution. As a part of its mandate, CPCB has developed sector-specific Comprehensive Industry Documents (COINDS). These COINDS documents for the industry sectors provide guidance to the authorities on developing environmental directives and to the industries on how to comply with the directives.

In Europe, environmental legal standards for industrial installations are based on Best Available Techniques (BAT). These BATs are identified through an information exchange process between all relevant stakeholders, including the industry and are described in reference documents (so called BREF) for each specific industrial sector. The BREF process adopted by the EU has a longstanding experience in various countries. In 2019, CPCB decided to develop a new COINDS document for the textiles sector.

In the previous project on, behalf of the BMUV EXI (2019 to 2023), we supported our partners to:

- Develop a guideline on procedures for the preparation of environmental standards that promote environmentally friendly production processes tailored to the Indian context, in close cooperation with the responsible authorities and the German Environment Agency (UBA).
- Train partner's experts on the content and use of the guide.
- Develop a first draft of the textile BREF Gujarat, in cooperation with UBA.

## Aim of the cooperation



The module's objective is the development of adapted BAT reference documents (BREFs) for selected industrial sectors in India.

The module is set up to make a direct contribution to building resilient infrastructure, promoting inclusive and sustainable industrialisation, and fostering innovation (SDG 9).

## What we do

As a partner of the Export Initiative Environmental Protection, GIZ is implementing the global project "Environmental Protection Worldwide" on behalf of BMUV.

**Technical advice and capacity development:** In cooperation with UBA, we help our partners (environmental authorities at the national and state levels) to develop the necessary knowledge and capacities for:

- The development of the BAT reference documents for the textile sector at the national and at the Gujarat state level.
- The development of legally binding environmental directives and guidelines on strengthening compliance with the environmental standards in the textile sector.
- The implementation of directives and guidelines to improve compliance with environmental standards in the textile sector and therefore contribute to reducing environmental pollution.

**Knowledge exchange:** We foster the exchange of information between UBA, CPCB, the State Pollution Control Boards and other interest groups addressing the transfer of the BAT information sheets to additional industry sectors.

## Expected results

- We support developing BAT reference documents for the textile sector at national level through CPCB.
- We support developing BAT reference documents for the textile sector at State level in Gujarat through GPCB.



- We support knowledge strengthening and capacity building of CPCB, GPCB and other stakeholders for preparing BREF documents.
- We assist in developing environmental directives or guidelines based on the BREF document for the textile sector at national level and at State level in Gujarat.
- We contribute to the internalization of the BREF approach in the selected environmental agencies, CPCB and GPCB so that they can apply the gained knowledge and capacities for strengthening environmental compliance in industries in India.

## Project and Cooperation Partners

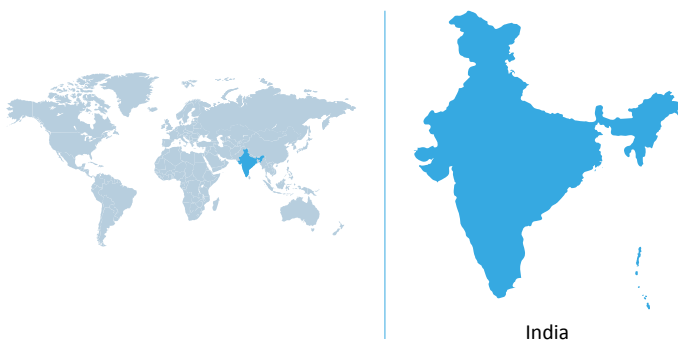
- Indian Ministry of Environment, Forest and Climate Change
- Indian Central Pollution Control Board
- Gujarat Pollution Control Board
- German Federal Environmental Agency







# Reducing Urban Air Pollution



India



## Background

Air pollution poses a significant challenge in Indian cities, profoundly impacting the health and well-being of millions of citizens. To address this issue, the Indian government launched the "National Clean Air Programme" (NCAP) through the Ministry of Environment, Forest and Climate Change (MoEFCC) in January 2019. This programme aims to reduce particulate matter (PM<sub>10</sub> and PM<sub>2.5</sub>) levels in identified cities by 40% by 2026 as compared to 2019, serving as a national strategy to combat air pollution.

In the first project (August 2019 to March 2023) within the framework of the BMUV funded Export Initiative Environmental Protection, we supported our partners to enhance the administration and monitoring of the national clean air programme by developing a digital tool called PRANA (Portal for Regulation of Air Pollution in Non-Attainment Cities). Since March 2022, national authorities are using the PRANA portal for all communications and updates related to NCAP.

## Aim of the cooperation



The module's objective is to develop the necessary personnel and institutional capacities for the effective implementation of the NCAP at the national level and in selected cities.

The module is set up to make a direct contribution to the sustainable design of cities and communities (SDG 11), especially target 11.6: by 2030, reduce the adverse per capita environmental impact of cities, including by paying special attention to air quality, municipal and other waste management. It also supports measures to combat climate change and its impacts (SDG 13), especially target 13.2: integrate climate change measures into national policies, strategies, and planning.



## What we do

As a partner of the Export Initiative Environmental Protection, GIZ is implementing the global project "Environmental Protection Worldwide" on behalf of BMUV.

**Policy advice:** In line with the National Clean Air Programme, we support our political partner in India to optimise the PRANA portal and expanding the array of technological solutions. We leverage German and international expertise and knowledge networks to sustainably promote the efforts of the Indian government, selected states, and municipal administrations in addressing their air quality challenges.

**Knowledge Management:** We develop knowledge products and promote the exchange of success stories, best practices, and knowledge transfer within the framework of the Indo-German cooperation.

### Available communities of practices on the GreenTech Knowledge Hub:

Register here:

<https://greentechknowledgehub.de/>

**Capacity Building:** Together with our political partner in India, we are developing customised training programmes for selected target groups at national, state, and municipal levels.



## Expected results

- To contribute to the National Clean Air Programme in achieving the desired reduction in air pollution, we support our partners to enhance the PRANA portal and national-level monitoring systems. This includes strengthening the operationalization, monitoring and communication of the programme.
- We document and share good practices, case studies, guidelines and lessons learned in the PRANA portal and the GreenTech Knowledge Hub.
- We support the training of our partner the Central Pollution Control Board (CPCB) as well as state and municipal authorities in the effective use of the PRANA portal. This encompasses the application of the system for NCAP management, monitoring, city report generation, financial management, and related areas.



**Reduction of  
Air Pollution**

## Project and Cooperation Partners

- Indian Ministry of Environment, Forest and Climate Change
- Indian Central Pollution Control Board





# Implementation of an Extended Producer Responsibility system for packaging



Jordan



## Background

The population in Jordan has more than doubled from 5 to 11 million over the past two decades.<sup>1</sup> The waste management system in the country is facing several challenges to deal with the approximately 3 million tonnes of municipal waste generated each year, where only 7-15% of materials are recycled.<sup>2</sup> In Jordan, 407,500 tonnes of post-consumer packaging material were used in 2022. Plastic packaging accounts for nearly 40% and lightweight packaging represents half of the total volume.<sup>3</sup>

In 2020, the Jordanian Ministry of Environment introduced the notion of the Extended Producer Responsibility (EPR) system in the Framework Law on Waste Management. In the previous project on behalf of the BMUV Export Initiative Environmental Protection (2019 to 2023), together with the consultancy firm cyclos GmbH, in consultation with relevant stakeholders, we supported our political partner, the Jordanian Ministry of Environment, in developing the instructions for an EPR-system for packaging materials. These instructions were adopted in August 2022 with the goal to implement an EPR-system to be operational from 2025 onwards. A nationwide mandatory EPR system, which involves companies paying fees

for introducing packaging materials to the Jordanian market, can ensure long-term financing of the collection, sorting and recycling of packaging waste.

The Jordanian EPR system will be steered by representatives from the Ministry of Environment and the Ministry of Industry and Trade, as well as private sector stakeholders. In 2023, the Producer Responsibility Organisation (PRO) has been established by the Ministry of Environment with the purpose of implementing the EPR system in close coordination with the private sector and suitable entities mandated by the steering board.

## Aim of the cooperation



The aim of the module is to support the Jordanian Ministry of Environment in implementing the legal framework for the EPR system for packaging materials by creating the necessary structures and processes in the organisations involved.

The module is set up to make a direct contribution to the Sustainable Development Goal on sustainable cities and settlements (SDG 11), in particular target 11.6: "By 2030, reduce the adverse per capita environmental impact of cities, including by paying attention to air quality and municipal and other waste management".

<sup>1</sup> Jordan Overview: Development news, research, data | World Bank

<sup>2</sup> Jordan's journey towards recycling success | Jordan Times

<sup>3</sup> Gesellschaft für Verpackungsmarktforschung (GVM) 2023. Packaging Market Volume and Top Consumer Good Distributors in Jordan



## What we do

As a partner of the Export Initiative Environmental Protection, GIZ is implementing the global project "Environmental Protection Worldwide" on behalf of BMUV.

**Administrative framework:** We support the Jordanian Ministry of Environment to establish a PRO to manage the EPR system according to the adopted EPR instructions. The project involves a multi-stakeholder approach including the private sector and municipalities who will perform essential functions in the EPR system.

**Policy advice:** We support the Jordanian Ministry of Environment in building the necessary institutional and human resource capacities to implement its tasks as the central supervisory authority for the registration and oversight of the EPR system.

**Knowledge management:** We analyse and process the knowledge and experiences gained during implementation, to be actively shared and discussed with international experts and partners with the objective of making practical knowledge available to interested parties and to promote their exchange and collaboration.

### Available communities of practices on the GreenTech Knowledge Hub:

Register here:

<https://greentechknowledgehub.de/>

## Expected results

- We train staff at the Jordanian Ministry of Environment to implement the EPR-system and provide the steering committee with a sound concept for the fee-structure and their utilization.



- We support the set-up of an EPR registration tool for producers and importers to support transparent fee collection.
- We support increasing the level of awareness and knowledge on EPR of all relevant institutions in Jordan to facilitate adaptation to the new system and fostering compliance with the EPR system.
- Together with our partners, we develop pilot projects to showcase the feasibility of the EPR system.
- A mobile app called "Sort it Right" has been developed to promote separate collection of packaging waste and to find the nearest collection point.



EPR for  
Packaging

## Project and Cooperation Partners

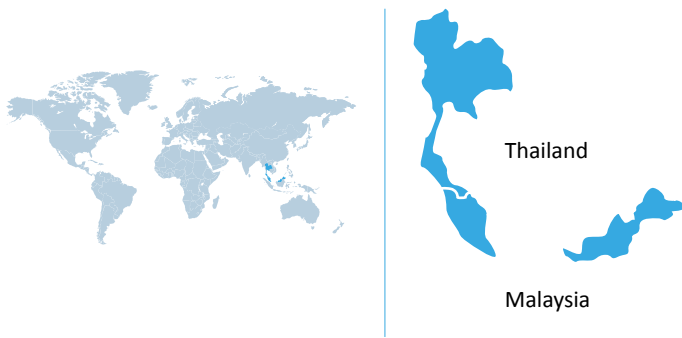
- Jordanian Ministry of Environment
- Greater Amman Municipality
- Chamber of Industry
- Chamber of Commerce
- Petra Development and Tourism Region Authority
- cyclos GmbH
- Ambient Innovation GmbH
- SynoptiCons Deutschland GmbH







# Collaborative Action for Single-Use Plastic Prevention in Southeast Asia



## Background

The widespread use of single-use plastics (SUP) is one of the world’s most urgent environmental problems with large amounts of waste sent to landfills or dumped in rivers and oceans. The production of these items from “virgin” sources is also a large source for greenhouse gas emissions. The increasing volume of plastic waste is linked to factors such as the low costs of certain raw materials, counter-productive incentive structures, limited public awareness, and the absence of feasible alternatives.

Thai and Malaysian policymakers have acknowledged that incorporating circular economy principles within the waste management hierarchy (beginning with prevention, re-use, recycling, recovery, and disposal) can provide a crucial solution. However, the emphasis on prevention strategies has only recently begun to garner attention.

The modul was designed to be support Malaysia’s Plastics Sustainability Roadmap (2021-2030) and Thailand’s Plastic Roadmap (2018-2030), which aims at reducing or banning SUP products by replacing these with durable, repairable, and more environmentally friendly alternatives.

## Aim of the cooperation



The module aims at improving the enabling conditions to reduce single-use plastics and packaging waste in Thailand and Malaysia. In Malaysia, the module provides additional policy advice on Extended Producer Responsibility (EPR) systems.

The module contributes directly to the Sustainable Development Goal to ensure sustainable production and consumption patterns (SDG 12), especially Target 12.5 “By 2030, substantially reduce waste generation through prevention, reduction, recycling and reuse”.

## What we do

As a partner of the Export Initiative Environmental Protection, GIZ is implementing the global project "Environmental Protection Worldwide" on behalf of BMUV.

**Policy Advice:** We provide policy recommendations to our local partners on best practices to avoid single-use plastics.

In Thailand, together with our partner the Bangkok Metropolitan Administration (BMA), we develop measures to avoid single-use plastics through local reusable and/or deposit systems at the city level, especially in schools, public events, or festivals. In addition, we support the development of a precondition study for establishing the deposit systems for PET bottles at the city level. We also support the development of recommendations for the use and maintenance of public refill stations.

In Malaysia, together with Oeko-Institut, we help establishing a legal framework for existing minimum design standards for various products (e.g., plastic packaging). We also provide technical support to the Ministry of Local Government Development (KPKT) in the development of a legal framework for Extended Producer Responsibility (EPR) systems.

**Pilot Projects:** We design and implement pilot projects aiming at single use plastic reduction with local municipalities, businesses, and industry pioneers.

**Knowledge Management:** We analyse and collect lessons learnt and disseminate good practices to relevant institutions. We also develop technical guidelines with local partners and share those with relevant stakeholders.

**Available communities of practices on the GreenTech Knowledge Hub:**



**EPR for Packaging**



**Single-Use Plastic Prevention**

Register here: <https://greentechknowledgehub.de/>



### Expected results

- In Thailand, we support our partner BMA to implement effective measures to avoid single-use plastics through local reusable and/or deposit systems at the community level, especially in schools and public events or festivals, as well as to develop a precondition study for establishing the deposit systems at the city level. We also support the development of recommendations for the use and maintenance of refill systems.
- In Malaysia, we provide technical support to the EPR system operator (Malaysian Recycling Alliance -MAREA) in their piloting of an EPR scheme.

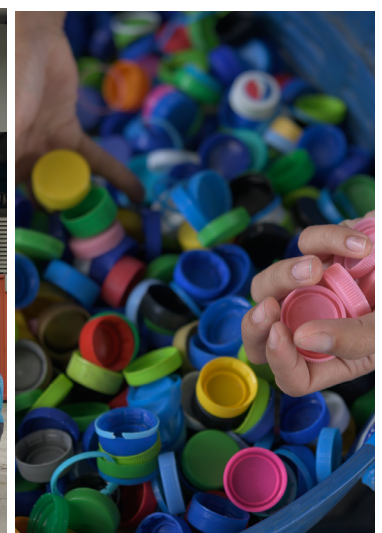
### Project and Cooperation Partners

Thailand:

- Bangkok Metropolitan Administration

Malaysia:

- Ministry of Housing and Local Government Development
- Oeko-Institut e.V.







# Introduction of separate municipal waste collection in the Poltava region



Ukraine



## Background

In Ukraine, most of the municipal waste is disposed of in open dumpsites, which in most cases, lack adequate sealing, gas recovery systems, and leakage infrastructure. Only a few cities have separate collection for recyclables, which often do not function properly. Not all population is connected to a public waste disposal network.

Municipal waste management is usually managed by public-private partnerships or private waste management companies. However, there is a lack of sound recycling tariffs that allow waste disposers to collect and recycle waste separately. As part of the decentralisation process in the country, some authority and responsibility has been transferred to regions and municipalities, a process that requires the means to cope with their new roles and functions.

With support of the German Development Cooperation, a national waste strategy was developed for Ukraine. It was put into force by the Ukrainian government in 2017. The strategy provides for the reform of municipal waste management and the introduction of regional waste management plans. In July 2023, the Law "On Waste Management" came into effect, which significantly amends the waste management system and promotes its approximation to EU-standards.

In the previous project on behalf of the BMUV Export Initiative Environmental Protection (2019 to 2023) we supported our partners

to develop a regional waste strategy for the Poltava region. This work included the formalisation of cooperation between municipalities, the development of a regional strategy and municipal plans, as well as awareness raising and training activities. The timeline of cooperation in the Poltava region is available on the [GreenTech Knowledge Hub](#).

Based on the inter-municipal cooperation agreement signed between the four partner municipalities Grebinky, Novoorzhysia, Pyriatyn, Chornukhy in November 2022, we supported our partners to establish a municipal waste association called "EcoService-2022". Necessary technical equipment was procured in Ukraine and Germany and provided by GIZ on behalf of BMUV, including a mobile sorting line, a waste collection vehicle, a loader, a baler, 470 containers and other tools and instruments.

Despite the Russian war of aggression against Ukraine, the project activities continue in close coordination with our partners.

## Aim of the cooperation



The aim is to improve waste management through intermunicipal cooperation and to introduce separate collection and recycling of waste in four municipalities.



The module is set up to make a direct contribution to the development of sustainable cities and settlements (SDG 11), in particular to 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".

### What we do

As a partner of the Export Initiative Environmental Protection, GIZ is implementing the global project "Environmental Protection Worldwide" on behalf of BMUV.

**Policy advice:** We support our local partners in establishing a separate collection system and in rehabilitation of uncontrolled dumpsites.

**Capacity building:** Together with German and Ukrainian partners, we support the development of institutional and human capacities at various administrative levels.

**Pilot projects:** We make use of implemented pilot projects to actively discuss the feasibility of the proposed measures with relevant stakeholders.

**Knowledge management:** We support our partners in raising public awareness about measures to collect various types of waste and incentives to promote behavioural change. In the long term, we encourage professional exchange with German waste management companies.

### Available communities of practices on the GreenTech Knowledge Hub:

Register here:

<https://greentechknowledgehub.de/>



**EPR for Packaging**

### Expected results

- We support our partners in implementing a strategy to introduce a separate collection system based on inter-municipal cooperation. This strategy includes the operationalisation of the joint enterprise "EcoService 2022".



- We encourage and conduct public awareness campaigns.
- We build up the necessary personnel and institutional capacities in cooperation with German waste companies through targeted knowledge transfer.
- We process and transfer results and experiences from pilot projects/technology to relevant public and private institutions (ministries, authorities, operators).

### Project and Cooperation Partners

- Ministry for Communities, Territories and Infrastructure Development of Ukraine
- Poltava Oblast Military Administration
- Local self-governing authorities of the Poltava region (Grebinky, Novoorzhytsia, Pyriatyn, Chornukhy)
- Bergischer Abfallwirtschaftsverband
- German RETech Partnership
- Resources and Waste Advisory Group
- National University "Yuri Kondratyuk Poltava Polytechnic"
- Social Project "Ecoltava"
- Ukrainian Centre for European Policy
- Ukrainian Ecological Alliance
- Zero Waste Kharkiv



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of the Federal Republic of Germany