



# Contribution to the Sustainable Development Goals (SDGs)

GIZ Global Project: “Environmental Protection Worldwide”  
as part of the Export Initiative Environmental Protection (BMUV)

2<sup>nd</sup> SDG report 2019 - 2024

# Table of Contents

1	Background of the global GIZ project as part of the Export Initiative Environmental Protection Worldwide	3
2	Scope and Approach	4
3	How did the GIZ global project contribute to SDG targets in the first phase and what is expected until the project ends?	5
	3.1. Reducing air pollution in three cities in India	6
	3.2. India: Improving environmental standards in the textile sector	9
	3.3. India: Managing organic waste	11
	3.4. Ukraine: Improving regional cooperation/ Introducing separate collection systems of municipal waste in the Poltava region	13
	3.5. Jordan: Implementing an Extended Producer Responsibility system or packaging materials	15
	3.6. Egypt: Preparing for an Extended Producer Responsibility in the tourism sector	17
	3.7. Thailand and Malaysia: Fostering collaborative action for single-use plastic prevention in Southeast Asia	19
	3.8. Middle East/North Africa (MENA Region) and India: Compendium of best practices and technologies for industrial wastewater treatment	21
	3.9. Cooperation with the Global Solution Initiative	23
4	Key challenges, lessons learned and future contribution	25
	Imprint	26

# 1 Background of the global GIZ project as part of the Export Initiative Environmental Protection Worldwide

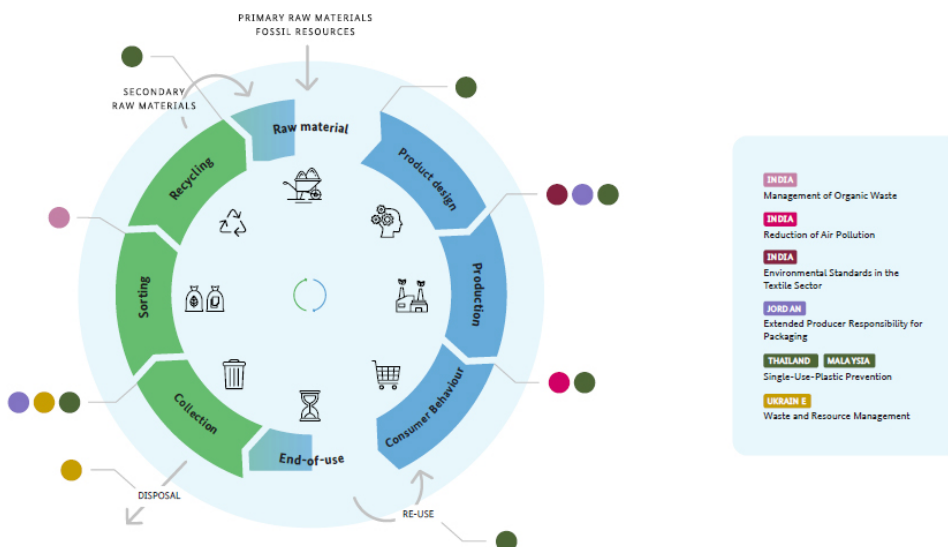
The Federal Ministry for the Environment, Nature Conservation, Nuclear Safety and Consumer Protection (BMUV) launched the Export Initiative Environmental Protection (EXI) in 2016. The main goal of this Initiative is to promote that the know-how available in Germany can support sustainable development efforts worldwide, promote technology applications and harmonised environmental standards, and create suitable conditions for the successful and sustainable use of green technologies.

On behalf of BMUV, GIZ implements selected projects of the Export Initiative Environmental Protection. In 2019 GIZ was commissioned by BMUV with the global project “Support of the Export Initiative Environmental Protection” and in 2023 with the global project “Environmental Protection Worldwide”. The second project builds upon processes and achievements in the first project and continues with the implementation of key activities.

GIZ supports the development of framework conditions that enable the introduction of environmental approaches and technologies in cooperation with partner countries. The activities conducted by GIZ are implemented in Egypt, India, Malaysia, Indonesia, Jordan, Thailand and Ukraine and also in global modules.

The projects at country level (hereafter referred to as modules) are embedded in the national strategies of the partner countries and contribute to solving key environmental problems such as plastic pollution, poor waste management, air and water pollution. Project activities build technical and institutional know-how and foster green knowledge and technology transfer, raise environmental awareness, thereby contributing to the transition to more circular and sustainable economies in line with the sustainable development goals (SDGs) of the 2030 Agenda.

GIZ has conducted activities in a [first global project](#) from August 2019 until March 2023. In a [second project](#), from April 2023 until March 2025, GIZ is continuing to support partner countries to implement environmental protection measures and green technologies.



**Figure 1:** Thematic focus of the GIZ global project by country (2023 – 2025)

## 2 Scope and Approach

This report uses the baseline information collected by the different project modules in 2021 ([link to SDG report](#)) and targets set at that point in time. Each project team has assessed the extent of achievement of the SDG targets initially set in 2021. We note that during the first project, two major events restricted project implementation considerably. The first is related to the COVID pandemic and the second related to the Russian invasion of Ukraine, especially since February 2022.

Each team within a project module has reflected on lessons learned and progress made in the first project phase and their plans to continue contributing to SDG targets in the second project. This document includes new elements related to SDG targets that are complementary to those in the first project and one additional project in India related to the management of organic waste that was not considered in the previous report. The project team will undertake a final progress review by the end of the second global project in 2025.

### 3 How did the GIZ global project contribute to SDG targets in the first phase and what is expected until the project ends?

This section presents project modules in India, Ukraine, Jordan, Egypt, Thailand and Malaysia and the MENA Region. Each module includes a summary of the main thematic areas, activities, partners, baseline information and targets set in February 2021. This includes a reflection on the contribution of each project module to specific SDG targets during the first project (2019 – 2023).

Projects and SDG targets		
<b>India</b> <ul style="list-style-type: none"> <li>• Reducing air pollution in three cities</li> <li>• Improving environmental standards in the textile section</li> <li>• Managing organic waste</li> </ul>	  	
<b>Ukraine</b> <ul style="list-style-type: none"> <li>• Improving regional cooperation</li> <li>• Introducing separate collection systems of municipal waste in the Poltava region</li> </ul>		
<b>Jordan</b> Implementing an Extended Producer Responsibility system for packaging materials		
<b>Egypt</b> Preparing for an Extended Producer Responsibility in the tourism sector		
<b>Thailand and Malaysia</b> Fostering collaborative action for single-use plastic prevention in Southeast Asia		
<b>Middle East and North Africa (Mena Region) and India:</b> Compendium of best practices and technologies for industrial wastewater treatment		
<b>Cooperation with the Global Solution Initiative</b>		

## 3.1. Reducing air pollution in three cities in India



### Background

Air pollution poses a major environmental health risk that is affecting the well-being of millions of citizens in India. 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 fine particulate matter (PM<sub>10</sub> and PM<sub>2.5</sub>) levels in cities with the highest levels of air pollution by 40% until 2026 as compared to 2019.

### Key activities

In the [first project](#), we supported our partners to improve the management 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 have been using the PRANA portal for all communication related to the national programme.

We supported the review of city Air Action Plans (CAAP) of Surat, Pune and Nagpur and suggested measures to strengthen the city CAAPs, to enable them to achieve the NCAP target of a 20% to 30% reduction in pollution. We provided five coordinated strategies for the reduction of air pollution to cities. This includes two strategies for establishing Low Emission Zones & improving parking management systems; two strategies for solid waste (organic) management & textile waste management (Surat); one coordinated strategy for Gujarat state to reduce air pollution in various sectors through a Gujarat State Action Plan. In addition, we developed a draft guidance document on best practices and viable solutions for the brick kiln industry in India.

In the [second project](#), this module is supporting the development of necessary capacities in air pollution management for the effective implementation of the National Clean Air Programme at the national level and in the selected cities.



### Partners

Our main partners are the Ministry of Environment, Forest and Climate Change (MoEFCC), responsible for the implementation of the National Clean Air Programme in 131 cities and the Central Pollution Control Board (CPCB) who support the operation of this Programme.

The State Pollution Control Boards are responsible for monitoring and implementing city clean air action plans along with Urban Local Bodies, city administrators and various sectoral departments. Therefore, they are important stakeholders responsible for the implementation of project activities.

### **Contribution to SDGs**

This project module makes a direct contribution to the sustainable design of cities and communities (SDG 11). Moreover, it also supports action to combat climate change and its impacts (SDG 13).

SDG targets	Baseline and target values set in February 2021	Progress during the first project and key contributions expected
<p data-bbox="210 220 524 288"><b>India: Reducing air pollution in three cities</b></p> <p data-bbox="210 331 524 552"><b>SDG Target 11.6:</b> By 2030, reduce the adverse per capita environmental impact of cities, including by paying special attention to air quality and municipal and other waste</p>  <p data-bbox="210 751 524 874"><b>SDG Target 13.2:</b> Integrate climate change measures into national policies, strategies and planning</p> 	<p data-bbox="555 220 1099 603"><b>Baseline (2021):</b> Action plans for improving air pollution in Indian cities face several limitations, including a lack of sound emission inventories, source pollution studies and air quality monitoring data. Furthermore, action plans do not have a legal mandate, associated funding plans, transboundary coordination and clear targets and accountability mechanisms. There are few concrete technical solutions related to inventories, air quality monitoring and control of emissions in the transport, waste and industry sectors.</p> <p data-bbox="555 639 1099 922"><b>Target (related to 11.6):</b> By March 2023, MoEFCC has gained technical knowledge on how to improve and strengthen City Air Action Plans in the 3 cities and on the implementation of feasible technical solutions in the areas of sensor-based air quality monitoring, technical testing of vehicles, urban traffic and transport, modern technologies in brick kilns and decentralised waste management and separation.</p> <p data-bbox="555 959 1099 1114"><b>Baseline (2021):</b> Information on action plans related to air quality is scattered in various institutions, which hinders an effective implementation of the National Clean Air Programme.</p> <p data-bbox="555 1150 1099 1305"><b>Target (related to 13.2):</b> By March 2023, the Indian National Clean Air Portal has been launched, which consists of a platform for collecting all key information related to the National Clean Air Programme.</p>	<p data-bbox="1122 220 2022 411"><b>Contribution to SDG Target 11.6:</b> Until March 2023, we supported the review of the city air action plans of the three selected cities (Surat, Nagpur and Pune) including activities to reduce air pollution in the selected sectors. These solutions were part of the policy support to our partners, MoEFCC and CPCB, for the implementation of India's National Clean Air Programme.</p> <p data-bbox="1122 448 2022 635"><b>Contribution to SDG Target 13.2:</b> We supported our partner in developing the <b>Portal for Regulation of Air Pollution in Non-Attainment Cities (PRANA)</b> to track the physical and financial status of city air action plan implementation. This portal provides a sound foundation to project partners for effectively overseeing the implementation of the National Clean Air Programme.</p> <p data-bbox="1122 671 2022 858">We suggested measures to strengthen the city air action plans to help our partners to achieve their pollution reduction targets under NCAP. We developed concepts for establishing Low Emission Zones in hotspots in cities and for textile waste management in Surat. We supported the development of a State Action Plan for Gujarat state to reduce air pollution in various sectors. Finally, we developed a guidance document on best practices and viable solutions for the brick kiln industry in India.</p> <p data-bbox="1122 895 1373 922"><b>Ongoing contributions</b></p> <p data-bbox="1122 959 2022 1082"><b>Technical support:</b> We leverage German and international expertise and knowledge networks to promote the efforts of the Indian government, selected states and municipal administrations in addressing their air quality challenges.</p> <p data-bbox="1122 1118 2022 1241"><b>Knowledge transfer:</b> We are developing knowledge products and promote the exchange of success stories and best practices within the framework of the Indo-German cooperation.</p> <p data-bbox="1122 1278 2022 1369"><b>Capacity building:</b> Together with our political partner in India, we are developing customised training programmes for selected target groups at national, state and municipal levels.</p>



## 3.2. India: Improving environmental standards in the textile sector

### Background

Industrial growth plays an important role in India's development strategies. The textile sector is one of the largest employers in India with more than 45 million people employed directly. This sector is water-intensive and can lead to high levels of pollution due to wastewater and waste generated in the process of producing textiles.

The Central Pollution Control Board (CPCB) is the regulatory body in India for preventing and controlling pollution. As a part of its mandate, CPCB has developed sector-specific Comprehensive Industry Documents (COINDS). These COINDS documents provide guidance to the authorities on how to develop 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. In 2019, CPCB decided to develop a new COINDS document for the textiles sector in India.

### Partners

Our main partners are the Indian Ministry of Environment, Forest and Climate Change (MoEFCC), the Central Pollution Control Board (CPCB) and the Gujarat Pollution Control Board (GPCB). We also rely on the expertise provided by the German Environment Agency (UBA).




### Key activities

In the [first project](#), 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).

In the [second project](#), we are supporting our partners in developing a Best Available Technology reference document for the textiles sector at national level through CPCB and at state level in Gujarat through GPCB.

### Contribution to SDGs

This project module makes a direct contribution to building resilient infrastructure, promoting inclusive and sustainable industrialisation and fostering innovation (SDG 9), specifically target 9.4: "By 2030, upgrade infrastructure and retrofit industries to make them sustainable, with increased resource use efficiency and greater adoption of clean and environmentally sound technologies and industrial processes, with all countries taking action in accordance with their respective capabilities".

SDG targets	Baseline and target values set in February 2021	Progress during the first project and key contributions expected
<p data-bbox="210 220 439 360"><b>India: Improving environmental standards in the textile sector</b></p> <p data-bbox="210 405 474 847"><b>SDG Target 9.4:</b> By 2030, upgrade infrastructure and retrofit industries to make them sustainable, with increased resource-use efficiency and greater adoption of clean and environmentally sound technologies and industrial processes, with all countries taking action in accordance with their respective capabilities</p> 	<p data-bbox="517 220 696 244"><b>Baseline (2021):</b></p> <p data-bbox="517 252 981 823">The Central Pollution Control Board (CPCB) has developed Comprehensive Industry Documents (COINDS) for several key industry sectors including the textile sector, including the manufacturing processes, effluents/emissions, pollution control technologies available, environmental standards. They also aim to facilitate environmental compliance of industries. CPCB plans to revise the COINDS documents for the textile sector (formulated in 2000) following the process applied in the development of the European BREF documents. Similarly, The Gujarat Pollution Control Board also intends to develop BREF document for textile sector for the state of Gujarat where current no such document exists.</p> <p data-bbox="517 863 763 887"><b>Target (related to 9.4):</b></p> <p data-bbox="517 895 981 1046">By March 2023, Best Available Techniques Reference Documents” (BREFs) have been developed for the Indian context that allow the CPCB to improve the control and prevention of emissions from this sector.</p>	<p data-bbox="1005 220 1350 244"><b>Contribution to SDG Target 9.4:</b></p> <p data-bbox="1005 252 2022 376">By March 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. This was developed in cooperation with the responsible authorities and experts from the Federal Environment Agency (UBA).</p> <p data-bbox="1005 411 2022 472">We also trained our partner’s experts on the use of the guide and supported the development of a first draft of the textile BREF Gujarat, in cooperation with (UBA).</p>   <p data-bbox="1005 831 1252 855"><b>Ongoing contributions</b></p> <p data-bbox="1005 895 1207 919"><b>Technical support:</b></p> <p data-bbox="1005 927 2022 987">We are supporting our partners to develop a BAT reference document for the textiles sector at national level through CPCB and at state level in Gujarat through GPCB.</p> <p data-bbox="1005 1023 1200 1046"><b>Capacity building:</b></p> <p data-bbox="1005 1054 2022 1147">We are supporting knowledge strengthening and building capacities of CPCB, GPCB and other stakeholders for preparing BREF documents and developing environmental directives at national and state levels.</p>

## 3.3. India: Managing organic waste

### 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. Inadequate waste management practices lead to public health risks, environmental degradation and economic losses. 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.

### Partners

Our main partners are the Indian Ministry of Housing and Urban Affairs (MoHUA), the cities of Kochi, Kanpur & Port Blair and the states: Kerala, Uttar Pradesh and Nicobar and Andaman Islands.




### Key activities

In the [first project](#), we supported the development of state strategies and city action plans to improve the management of organic waste in the cities of Kanpur, Kochi and Port Blair and the states of Uttar Pradesh, Kerala and the Andaman and Nicobar Islands. This was in collaboration with the Indian Ministry of Housing and Urban Affairs (MoHUA), the University of Rostock and the Indian organisation Saahas Zero Waste. We conducted Training of trainers on various topics of organic waste such as composting methods and biogas technologies for partner states and cities.

In the [second project](#), we are actively supporting the implementation of technical measures to enhance sustainable organic waste management schemes in partner cities and states. As part of this effort, a demonstration project is being implemented at both household level and in schools, serving as a pilot initiative in Port Blair.

### Contribution to SDGs

This project makes a direct contribution to the sustainable design of cities and communities (SDG 11, target 11.6).

SDG targets	Baseline and target values set in February 2021	Progress during the first project and key contributions expected
<p data-bbox="203 217 436 284"><b>India: Managing organic waste</b></p> <p data-bbox="203 328 436 643"><b>SDG Target 11.6:</b> 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.</p> 	<p data-bbox="448 217 887 501"><b>Baseline (2021):</b> India generates 62 million tons of municipal waste each year (CPCB Annual Report 2017-2018); 75% of this waste is collected and only 20% is recycled. Most of the collected waste (~80%) is disposed at landfills and this contributes substantially to environmental pollution.</p> <p data-bbox="448 539 887 919"><b>Target (related to 11.6):</b> With a focus on integrated waste management, the project aims at improving sustainable organic waste management practices in the three cities of Kanpur, Kochi and Port Blair (municipalities) and respective partner states. By March 2023, we expect urban organic waste management action plans and strategies in addition to supporting the process of enhancing knowledge on this topic in partner institutions.</p>	<p data-bbox="896 217 2033 309"><b>Contribution to SDG Target 11.6:</b> Together with our partners, we prepared 3 state strategies and 3 action plans and conducted 8 training of trainers to build capacities for partners.</p> <p data-bbox="896 347 1639 373">A guidebook on organic waste was released by our partner ministry.</p>   <p data-bbox="896 764 1155 790"><b>Ongoing contributions</b></p> <p data-bbox="896 828 2033 920"><b>Technical Cooperation:</b> We are enabling the exchange of knowledge between institutes and companies in India and Germany for the effective management of organic waste.</p> <p data-bbox="896 959 2033 1147"><b>Policy advice:</b> At the national level, we are providing policy advice to our partner, the Ministry of Housing and Urban Affairs (MoHUA), for the implementation of sustainable bio-waste management. Additionally, we are conducting capacity-building trainings and awareness campaigns. We are supporting 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.</p> <p data-bbox="896 1185 2033 1307"><b>Pilot measures:</b> We are supporting our partners to design, develop and implement improved systems, at state and city level, for managing organic waste. City of Port Blair has extended crate composting with the support of this project.</p>

## 3.4. Ukraine: Improving regional cooperation/ Introducing separate collection systems of municipal waste in the Poltava region

### Background

In Ukraine, most of municipal waste is dumped in open dumpsites, which in most cases, lack adequate sealing, gas recovery systems and leakage infrastructure. Only a few cities have separate collection systems for recyclables, which often do not work 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 in 2017 to reform municipal waste management and to introduce regional waste management plans. In July 2023, the Law on “Waste Management” entered into force, which significantly amends the waste management system and promotes its alignment to EU standards.

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

### Partners

Our main partners are the Ministry for Communities, Territories and Infrastructure Development of Ukraine, the Poltava Oblast Military Administration, the local self-governing authorities of the Poltava region (Grebinky, Novoorzhytsia, Pyriatyn, Chornukhy) and the Bergischer Abfallwirtschaftsverband.


### Key activities

In the [first project](#), we supported our partners to develop a regional waste strategy for the Poltava region and to improve waste management based on enhancing cooperation between municipalities.

In the [second project](#), we are supporting our partners to introduce separate collection and recycling systems in four municipalities.

### Contribution to SDGs

This project module makes 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”.

SDG targets	Baseline and target values set in February 2021	Progress during the first project and key contributions expected
<p data-bbox="203 220 430 547"><b>Ukraine: Improving regional cooperation/ Introducing separate collection systems of municipal waste in the Poltava region</b></p> <p data-bbox="203 580 430 895"><b>SDG Target 11.6:</b> 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</p> 	<p data-bbox="448 220 958 568"><b>Baseline (2021):</b> Solid municipal waste from the 4 municipalities where the project operates generated 27,639 tonnes in 2020 [In the whole Poltava oblast region solid waste generation in 2020 was 561,726 tonnes]. 750 illegal dump sites were found in the Poltava region in 2020. According to the “National Waste Management Strategy until 2030” (approved in 2017) all regions must develop Regional Waste Management Plans until 2030.</p> <p data-bbox="448 603 958 759"><b>Target 1:</b> By March 2023, at least 15% of the total volume of solid waste generated by municipalities in 4 municipalities (project area) has been averted from landfills.</p> <p data-bbox="448 794 958 1110"><b>Target 2:</b> By March 2023, municipal solid waste collection and management in the Poltava region has been improved with a strategic regional plan until 2030 that guides action towards achieving the following regional goals to improve collection coverage, eliminate illegal dump sites and increase recycling of glass and plastic and promote the composting of household waste.</p>	<p data-bbox="958 220 2033 376"><b>Contribution to SDG Target 11.6:</b> By March 2023, we supported our partners to develop a regional waste strategy for the Poltava region. This work included formalising the cooperation between municipalities, developing a regional strategy and municipal plans, as well as awareness raising and training activities. Link to the main project milestones</p> <p data-bbox="958 411 2033 568">Based on the inter-municipal cooperation agreement signed between four partner municipalities Grebinky, Novoorzhytsia, Pyriatyn, Chornukhy in November 2022, we supported our partners to establish a municipal waste association called “EcoService-2022”. We acquired the necessary technical equipment in Ukraine and Germany, including a mobile sorting line, a waste collection vehicle, a loader, a baler, 470 containers and other tools and instruments.</p> <div data-bbox="972 587 1496 871"> </div> <div data-bbox="1509 587 2024 871"> </div> <p data-bbox="958 890 2033 919"><b>Ongoing contributions</b></p> <p data-bbox="958 954 2033 1046"><b>Technical support:</b> We are helping our partners to implement a strategy to introduce a separate collection system based on the operation of the joint enterprise “EcoService 2022”.</p> <p data-bbox="958 1082 2033 1142"><b>Raising awareness:</b> We are encouraging and conducting public awareness campaigns.</p> <p data-bbox="958 1177 2033 1270"><b>Capacity building:</b> Together with German and Ukrainian partners, we are supporting the transfer of knowledge and the development of capacities at various administrative levels.</p> <p data-bbox="958 1305 2033 1398"><b>Pilot projects:</b> We are preparing to report on the results and experiences of pilot projects and are actively introducing them to relevant stakeholders.</p>

## 3.5. Jordan: Implementing an Extended Producer Responsibility system for packaging materials

### Background

The population in Jordan has more than doubled from 5 to 11 million over the past two decades. The waste management system in the country is facing several challenges to deal with the 3 million tonnes of municipal waste generated each year, where only 7-15% of materials are recycled. 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.

In 2020, the Jordanian Ministry of Environment introduced the concept of the Extended Producer Responsibility (EPR) system in the Framework Law on Waste Management. In 2022, this Ministry developed legal instructions to implement an EPR system for packaging materials 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.

### Partners

Our main partners are the Jordanian Ministry of Environment, Petra Development and Tourism Region Authority and the Greater Amman Municipality.

### Key activities




In the [first project](#), together with the consultancy firm cyclos GmbH, we supported the Jordanian Ministry of Environment, in developing the legal instructions for an EPR system for packaging materials. During this project phase, detailed instructions for the implementation and introduction of an EPR system were adopted by the Jordanian Prime Ministry.

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, a Producer Responsibility Organisation (PRO) unit was established by the Ministry of Environment with the purpose of implementing the EPR system in close coordination with the private sector and relevant entities mandated by the steering board.

In the [second project](#), we are supporting the Jordanian Ministry of Environment in implementing the legal framework for the EPR system for packaging materials by creating the necessary structures, human resource capacities and processes in the organisations involved in running the system.

### Contribution to SDGs

The module makes a direct contribution to the Sustainable Development Goal on the development of 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”.

SDG targets	Baseline and target values set in February 2021	Progress during the first project and key contributions expected
<p><b>Jordan: Implementing an Extended Producer Responsibility system for packaging materials</b></p> <p><b>SDG Target 11.6:</b> 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</p> 	<p><b>Baseline (2021):</b> No system for the separate collection and management of packaging waste is in place in Jordan.</p> <p><b>Target (related to 11.6):</b> Administrative and operational conditions for a functioning Extended Producer Responsibility (EPR) system to manage packaging materials are in place by March 2023. This includes establishing a legal framework for introducing an EPR system for packaging in Jordan, a system operator that fulfills the basic operational responsibilities and duties of a system operator and a pilot project that recovers packaging waste and promotes its recycling.</p>	<p><b>Contribution to SDG Target 11.6:</b> By March 2023, together with the consultancy firm cyclos GmbH, we assisted the Ministry of Environment in developing the instructions for an EPR system for packaging material in Jordan. We also supported this Jordanian Ministry to establish a system operator unit to manage the EPR system according to the adopted EPR instructions. The first staff members were recruited by this Ministry in early 2023.</p> <p>We supported the development of a digital platform for reporting companies' packaging materials entering the Jordanian market. We also supported the development of an app "Sort it Right" to help raise awareness and promote the separate collection of packaging waste in collection points in Amman.</p> <p>We have commissioned Al Jaar Consulting and cyclos GmbH to carry out a Waste Sorting Analysis in Amman to identify the waste composition and the type of existent packaging. We have also commissioned the "Gesellschaft für Verpackungsmarktforschung" (GVM) to conduct a volume analysis of the packaging market for private households in Jordan in the food, beverages, detergents, cleaning agents and personal care sectors to provide an estimation of the overall amount of post-consumer packaging materials used in Jordan, identify the most important consumer goods companies, packaging structure and their contribution towards the overall packaging market.</p>   <p><b>Ongoing activities</b> We are training the staff at the Jordanian Ministry of Environment and supporting the steering committee with a sound concept for a fee structure and their use for the EPR system implementation.</p> <p>We are supporting the set-up of an EPR registration tool for producers and importers to support a transparent fee collection.</p> <p>We are raising awareness on EPR systems in all relevant institutions in Jordan to facilitate the adoption of the EPR system.</p>



## 3.6. Egypt: Preparing for an Extended Producer Responsibility in the tourism sector

### Background

With a population of around 100 million inhabitants, Egypt has an economy dependent on agriculture, tourism and cash remittances. The service sector provides most of the employment for the working population and contributes to the largest share of Egypt's gross domestic product. The tourism sector on the Red Sea and the Nile also makes a significant contribution to Egypt's economy. With more than 20 million tonnes of municipal solid waste generated each year, the existing waste management infrastructure and services are unable to deal with these increasing amounts. Given that around 60 per cent of the waste generated is collected and less than 20 per cent of this is properly disposed of or recycled, a considerable proportion of waste ends up in canals, rivers, roads and in open areas, causing negative environmental and health impacts. This also has negative consequences in economic sectors, especially tourism.

### Partner

Our main partner is the Egyptian Ministry of Environment, Waste Management Regulatory Authority (WMRA).

### Key activities

Together with the consultancy firm Black Forest Solutions GmbH / Landbell AG, we supported our partner to promote an extended producer responsibility (EPR) system for packaging in the tourism sector.

### Contribution to SDGs

[The module](#) makes a direct contribution to the Sustainable Development Goal on the development of 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".

SDG targets	Baseline and target values set in February 2021	Progress during the first project and key contributions expected
<p><b>Egypt: Preparing for an Extended Producer Responsibility in the tourism sector</b></p> <p><b>SDG Target 11.6:</b> 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</p> 	<p><b>Baseline (2021):</b> No system for the collection and management of packaging waste from the tourism sector is in place.</p> <p><b>Target (related to 11.6):</b> A strategy for introducing an EPR system for packaging waste in the tourism sector has been set with the political partner by March 2023.</p>	<p><b>Contribution to SDG Target 11.6:</b> By March 2023, together with the consultancy firm Black Forest Solutions/Landbell, we conducted a baseline study for a potential introduction of an “Extended Producer Responsibility scheme for packaging waste in Egypt”.</p>  <p>Based on this report’s findings, we supported the development of a study with the objective to help the development of the institutional set up for an EPR scheme for packaging materials in Egypt. The recommendations took into account the draft waste framework law in Egypt and the roles and responsibilities of public and private stakeholders, the required local infrastructure, and proposed a roadmap for implementation in a pilot area (tourist area along the Red Sea) and its expansion plan at the national level.</p>

## 3.7. Thailand and Malaysia: Fostering collaborative action for single-use plastic prevention in Southeast Asia

### Background

The widespread use of single-use plastic products is a serious problem resulting in large amounts of waste in landfills or dumped in rivers and oceans. The production of these products from “virgin” sources is also a large source of greenhouse gases. The increasing volume of plastic waste is linked to factors such as the low costs of certain raw materials, counterproductive incentive structures, limited public awareness and the absence of feasible alternatives. Thai and Malaysian policy makers have recognized that the introduction of circular economy principles along the waste hierarchy (i.e. starting by the prevention, re-use, recycle, recover, disposal) can be an essential solution, although the focus on prevention strategies has only recently started to gain attention.

The project was designed to be supportive of 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.

### Partners

Our partners in Thailand in the first project were the National Metal and Material Technology Center/ National Science and Technology Agency, The Office of National Higher Education Science Research and Innovation Policy Council, the Thai Environmental Institute, the Pollution Control Department, the Thai Business Council on Sustainable Development, the Thai Industrial Standards Institute.

In the second project, the partner is the Bangkok Metropolitan Administration. Our partners in Malaysia are the Ministry of Economy, the Ministry of Natural Resources Environment and Climate Change, the Ministry of Housing and Local Government, the Malaysian Green Technology and Climate Change Centre and the Standard and Industrial Research Institute of Malaysia.

### Key activities

In the [first project](#), together with the ÖKO Institut e.V. and ENVIU, we supported our partners in efforts to reduce single-use plastic waste through strategies to prevent these products in the first place while also promoting re-use approaches. We have also provided, with the support of cyclos, policy advice on circular economy and extended producer responsibility (EPR) in Malaysia.

In the [current project](#), we are supporting our partners’ strategies (Malaysia’s Plastics Sustainability Roadmap 2021-2030 and Thailand’s Plastic Roadmap 2018-2030) to improve the conditions to reduce single-use plastics and packaging waste in Thailand and Malaysia. This goes along replace these products with durable, repairable, and more environmentally friendly alternatives. In Malaysia, we are also providing policy advice on Extended Producer Responsibility (EPR) systems.

### Contribution to SDGs

The project 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”.

SDG targets	Baseline and target values set in February 2021	Progress during the first project and key contributions expected
<p><b>Thailand and Malaysia: Collaborative action for single-use plastic prevention in Southeast Asia</b></p> <p><b>SDG Target 12.5:</b> By 2030, substantially reduce waste generation through prevention, reduction, recycling and reuse</p> 	<p><b>Baseline (2021):</b> Few options and tools on the reduction of single-use plastics besides bans are known in Thailand and Malaysia.</p> <p><b>Targets:</b> By March 2023,</p> <ul style="list-style-type: none"> <li>policy makers have gained relevant knowledge on available options to prevent and reuse single use plastic in Thailand and Malaysia.</li> <li>the conditions to stimulate the market for plastic recycling in Thailand and Malaysia have been improved by the identification of product standards-related barriers and options for its removal.</li> <li>guidelines for eco-design and design for recycling product criteria in Thailand and Malaysia have been developed.</li> <li>business strategies for tackling single use plastic prevention and reuse in Thailand and Malaysia have been promoted in pilot projects.</li> <li>capacities of political partners around the implementation of an Extended Producer Responsibility (EPR) system for packaging in Malaysia have been strengthened with continuous discussion and experience exchange with various relevant experts, stakeholders in other countries and sectors</li> </ul>	<p><b>Contribution to SDG Target 12.5:</b> By March 2023, we supported policy makers at a national and local levels to gain knowledge to prevent and reuse single use plastics in Thailand and Malaysia.</p> <ul style="list-style-type: none"> <li>We supported the development of comprehensive policy recommendations on upstream measures for single-use plastic and packaging reduction in Thailand.</li> <li>With Öko Institut e.V., we published background studies on upstream single use plastic policy options to disseminate knowledge and good practices (including design for recycling, biobased and biodegradable plastics, choices for environment-friendly packaging design, recycled content in packaging applications).</li> <li>We provided capacity building opportunities for our partners through in-depth training programmes on key policy instruments and tools for upstream single use plastic prevention.</li> <li>We supported the dissemination of reuse solutions by reuse start-ups with our partner ENVIU, which were launched in the Malaysian market (Tapaware: a reusable food container for food delivery, FlexiFill: a refill solution for household cleaning products).</li> <li>We designed and implemented pilot projects to reduce single use plastics in restaurants, markets, malls and hotels together with local municipalities in Thailand (Phuket), Malaysia (Shah Alam) and Indonesia (Jakarta).</li> </ul> <div style="display: flex; justify-content: space-around;">   </div> <p><b>Ongoing activities</b> In Thailand, we are supporting our partner, the Bangkok Metropolitan Administration, to implement effective measures to avoid and reduce single-use plastics by developing guidelines and supporting the setup of local reusable and/or deposit systems, especially in local schools and public events or festivals. We are also developing a precondition study for establishing a deposit system at the city level and supporting recommendations to increase public confidence for the use and maintenance of refill systems.</p> <p>In Malaysia, we are providing technical support to the EPR system operator (Malaysian Recycling Alliance -MAREA) in their piloting of an EPR scheme.</p>

## 3.8. Middle East/North Africa (MENA Region) and India: Compendium of best practices and technologies for industrial wastewater treatment

### Background


Industries require an abundant supply of freshwater for cooling products or equipment and other processes. The wastewater from these industrial processes contains high concentrations of specific pollutants. If released untreated or inadequately treated, this wastewater causes serious environmental pollution posing risks for public health. The solutions, technology, and knowledge around the treatment, recycling, and reuse of industrial water are available, but not widespread in many regions of the world. Decision makers in India and in the Middle East/North Africa (MENA region) need solid criteria to assess and apply the best available industrial water treatment technologies which consider both ecological and economic aspects.

### Key activities

Our partner, the German Water Partnership e.V., developed a [guidance document for the identification and application of Best Available Techniques \(BAT\) for the management and treatment of industrial wastewater in key industrial sectors relevant for India and the MENA region](#).

### Contribution to SDGs

This [work](#) contributed directly to the Sustainable Development Goal 6 on clean water and sanitation, specifically target 6.3: “By 2030, improve water quality by reducing pollution, eliminating dumping, and minimising release of hazardous chemicals and materials, halving the proportion of untreated wastewater and substantially increasing recycling and safe reuse globally”.

SDG targets	Baseline and target values set in February 2021	Progress during the first project and key contributions expected
<p><b>MENA region and India:</b>  <b>Compendium of best practices and technologies for industrial wastewater treatment</b></p> <p><b>SDG Target 6.3.:</b>            By 2030, improve water quality by reducing pollution, eliminating dumping and minimizing release of hazardous chemicals and materials, halving the proportion of untreated wastewater and substantially increasing recycling and safe reuse globally</p> 	<p><b>Baseline (2021):</b>            A guideline on best available techniques for the management and treatment of industrial wastewater in India and the MENA region does not exist.</p> <p><b>Target:</b>            By June 2022, a comprehensive handbook on Best Available Techniques including main challenges in key industrial sectors and industrial wastewater treatment solutions from Germany is available in German, English, French and Arabic. This handbook should support local knowledge for implementers in India and the MENA region on best practices to treat industrial wastewater by sector</p>	<p><b>Contribution to SDG Target 11.6:</b>            By June 2022, our knowledge partner the German Water Partnership e.V. (GWP) developed and published a compendium of technologies for industrial water treatment in India and the MENA region <a href="https://greentechknowledgehub.de/publications/industrial-water">https://greentechknowledgehub.de/publications/industrial-water</a> (available in English, French, German and Arabic). This document is a compilation of German technology providers with case studies showing the effectiveness and functionality of their solutions.</p> <p>Experts in industrial wastewater treatment from Germany, India and the MENA region shared their know-how and experience in online workshops held to discuss status quo, challenges and solutions.</p>

## 3.9. Cooperation with the Global Solution Initiative

### Background

The Global Solutions Initiative (GSI) is a global, non-profit collaborative platform composed of a network of think tanks that propose research-based policy measures to the G20 and the G7, groups of the world's major economies. It advances global economic, environmental, and social prosperity by connecting thought leaders and decision makers, visionaries and pragmatists.

The policy recommendations and strategic visions are developed through a disciplined research program in collaboration with leading think tanks and scientific organizations and refined in policy dialogues among decision-makers from academia, politics, business and civil society. Complementary to G7/G20 thematic priorities, concepts on global challenges and issues such as circular economy and sustainable supply chains are developed by think tanks. The resulting policy recommendations also aim to be relevant for emerging and developing countries.

### Partners

Our partner is the Global Solutions Initiative (GSI). This project also engaged think tanks in Asia, including the Council on Energy, Environment, and Water -CEEW (India), Economic Research Institute for ASEAN and East Asia -ERIA (Indonesia), Asian Development Bank Institute -ADBI (Japan), The Energy and Resources Institute -TERI (India) and National Institute of Urban Affairs -NIUA (India). In addition, we collaborated with the following institutions:


- adelphi consult GmbH to support content creation on a dialogue deep dive series on global value chains of batteries and a scoping study on international developments related to sustainable value chains.
- OP Jindal University to organize and implement a winter school for students in the field of circular economy.
- Ökoinstitut e.V. to conduct a study on circular design in the Information, Communication, Technology (ICT) sector in Malaysia was provided.

### Key activities

We disseminated green knowledge and technology approaches from the [GIZ global project](#) to partner countries and a wider group of policy makers, think tanks and civil society organisations.

### Contribution to SDGs

This project module made a direct contribution to foster global partnerships for sustainable development (SDG 17), enhance North-South, South-South and triangular regional and international cooperation on access to technology and knowledge sharing.

SDG targets	Baseline and target values set in February 2021	Progress during the first project and key contributions expected
<p><b>Cooperation with the Global Solution Initiative</b></p> <p><b>SDG Target 17.6:</b> Enhance North-South, South-South and triangular regional and international cooperation on and access to science, technology and innovation and enhance knowledge sharing on mutually agreed terms, including through improved coordination among existing mechanisms, in particular at the United Nations level, and through a global technology facilitation mechanism</p> 	<p><b>Baseline:</b> Limited exchange of experiences in the field of green solutions and lessons learned between partner countries.</p> <p><b>Target:</b> By March 2023, four triangular cooperation formats on environmental approaches and technologies (incl. North-South, South-South) took place involving key stakeholders of partner countries of the global project</p> <ul style="list-style-type: none"> <li>• By March 2023, 6 number of circular economy solutions dialogues (CESD) with our international partners we carried out, where project measures from partner countries were discussed</li> <li>• Experiences from the global project were brought into the G20/T20 process via panel presentations at the GSI Summits (once a year throughout the project phase – May 2021, May 2022).</li> <li>• By March 2023, policy briefs in key topics of the global project were provided and made available through the GSI network to scale up the project's impact.</li> </ul>	<p><b>Contribution to SDG Target 17.6:</b> By March 2023, in cooperation with the Global Solutions Initiative (GSI), we designed and convened a series of the “Circular Economy Solutions Dialogues” (CESD on three main topics: prevention of single-use plastics; circular economy and global supply chains as well as “urban metabolism” (material cycle in cities). These expert panels included insights from the GIZ global project’s main themes related to circular economy. Other products included:</p> <ul style="list-style-type: none"> <li>• Three volumes of the GSI e-publication INTERSECTING on: 1. plastic value chains 2. global value chains 3. urban metabolism. The publications contain contributions from project members and CESD participants.</li> <li>• GSI Journal: Article on GSI journal in May 2021; Title: Extended Producer Responsibility (EPR): A key catalyst for the transition to a circular economy: The case of Jordan, by the Secretary General Dr. Khashashneh (Ministry of Environment, Jordan)</li> <li>• Two T20 policy briefs: As part of T20 Italy and Indonesia, two policy briefs were co-developed with think thanks: “Localising the circular economy imperative in a post COVID-19 era: place, trade and multilateralism” and Embedding the Circular Economy in Global Value Chains: Strategies and Frameworks for a Just and Effective Transition.</li> <li>• Circular economy as a key topic has been emphasized in the final communiqué from the T20 to the G20.</li> </ul>



## 4. Key challenges, lessons learned and future contribution

All activities supported by the BMUV Export Initiative Environmental Protection contribute to the sustainable development agenda and its goals. This Initiative has been instrumental in enabling GIZ global project to support our local partners to advance circular economy efforts and contribute to the sustainable development agenda in our partner countries. Specifically, GIZ has been supporting the achievement of sustainable development goals related to clean water and sanitation (SDG 6), industry, innovation, and infrastructure (SDG 9), sustainable cities and communities (SDG 11), responsible consumption and production (SDG 12), climate action (SDG 13), and partnership for the goals (SDG 17). This report shows the concrete and direct contributions that we have been fostering since the start of the global project in 2019. The basis of this work is how we have been building technical and institutional know-how and fostering green knowledge and technology transfer and raising environmental awareness on key topics. All these efforts are contributing to the transition to more circular and sustainable economies in line with the sustainable development goals (SDGs) of the 2030 Agenda. Key to this work is also to align project activities with the priorities of our partner countries and involving strategic partners from the public and private sector.

During this reporting period, there have been two major events with significant implications in the project implementation. The global COVID pandemic brought travel and mobility restrictions limiting the workflow and physical implementation of project activities. In addition, the Russian aggression in Ukraine brought several problems and complications that also restricted the physical implementation of activities.

Despite these restrictions, our project teams have been successfully dealing with challenges and we have identified important lessons learned to be successful in managing key issues inherent to the implementation of this project. We experience constant shifts in the political environment and priorities at both national and regional levels. Some include changes of political leadership, the re-structuring of ministries, the delay in the adoption of national legislation related to relevant topics. We depend on political decision-making processes and the commitment of individual political representatives and on the structure and human resources available in partner countries.

We have learned to deal with these challenges and succeed by leveraging existing global GIZ structures (e.g. strong and committed cooperation partners in government institutions, academia, and business and synergies with relevant projects). We are in continuous contact with BMUV and strategic partners in Germany and abroad to inform and coordinate ongoing activities and identify cooperation opportunities. We promote the knowledge exchange between project partners and companies, universities, and institutions working in the field of green technologies and solutions. The involvement of private sector institutions and other external experts and professionals in various exchange formats has helped us provide industry insights during project implementation.

We also foster an integrated approach in project activities that combine long-term policy advice, capacity building efforts, awareness raising campaigns, local pilot projects, among others. It is important for us to involve key national, regional and local implementation partners and help the exchange of experience between them. We also promote integrating local country actions with global and multilateral agendas, such the sustainable development agenda and world circular economy fora.

While we acknowledge the ongoing challenges, our consistent efforts have yielded positive outcomes in partner countries. Our partners' engagement and support empowers us to actively contribute to fostering circular and sustainable economies.

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