Waste and Scraps Management

Waste Management is a critical focus area for the Company, and we diligently manage it in accordance with legal requirements and authorized regulatory bodies. Our approach aligns with the fundamental principles of the 3Rs: Reduce, Reuse, and Recycle. These practices are consistently applied both domestically and internationally to mitigate environmental impacts stemming from waste disposal. Our ultimate goal is to transition waste from production processes to a continuous cycle of responsible disposal, minimizing adverse effects.

The Company meticulously segregate waste management methods based on their origin—whether from production processes or maintenance activities. Each category is documented and quantified through our Waste Management Application. This system allows us to monitor waste generation within the Company and track waste disposal through the Controlled Waste Transportation Document (commonly known as the Manifest or Form KOR.2). Our primary focus remains on minimizing waste generation, striving for the least possible disposal. As part of our ongoing efforts, we have evolved from the foundational 3Rs to embrace the 5Rs and 7Rs in our waste management practices as follows:

Reject

Reject usage of chemicals or materials that are harmful to the environment

Recovery

Recovery of the valuable resources from waste to utilize, such as extracting and recovering metals from spent catalysts totaling 49.08 tonnes, regenerating from spent activated carbon totaling 15.34 tonnes, and treating spent caustic by neutralizing acid/base totaling 1,019.85 tonnes.

Rethink

Rethink of overall utilization of wastes before disposal, such as oil quality inspection for lubricants that can be treated to improve quality instead of disposal totaling 20.30 tonnes.

Repurpose

Repurpose used materials by utilizing in other purposes, such as using wood pellets in gardening within the projects.

Moreover, the Company has an excellent raw material procurements, resulting in minimum wastes since the beginning to the end of the supply chain since sourcing authorized waste disposal entities that is compliant with the laws and regulations with the commitment to advance the Circular Economy as our primary objective. Moreover, we conduct annual site inspections of our waste management partners to verify adherence to established standards.

In 2023, one of our oil refineries achieved certification under the Standard for Zero Waste to Landfill, as endorsed by the Department of Industrial Works since 2021. This ongoing commitment extends beyond industrial waste management to encompass waste handling within our offices. We are actively transitioning these office spaces toward zero-waste practices, guided by the principles of the 3Rs with activities such as

- **Making awareness in good waste management practices,** publish and motivate the waste categorization in waste bins, stop using styrofoam boxes, reduce single-use plastic, and reduce paper usage, etc.
- **"Cups for Saplings" Project** of Inthanin coffee shops, a brand from Bangchak, is motivating the zero waste practice such as reducing beverage price for employees who bring their own cups, the project was initiated in 2019 by giving discounts for those who bring back Inthanin cup at the stores, encouraging the responsibility on waste management instead of it going to landfills. The returned cups are, then, given to the Royal Forest Department for planting saplings.
- **Clothes Swap Project** for the employees to exchange used clothes and bags for donation to underprivileged groups, with incentives to motivate and invite employees to participate in.
- **Green Shelter Project** by collecting UHT beverage boxes to recycle as roofing, eco-brick, and building materials to help the victims. Bangchak established this project in 2019, and it is still ongoing until today with the total amount of 1 ton of UHT boxes.
- **Khaya Kampra Project,** where Bangchak partnered with N15 technology to buy non-recyclable waste materials such as plastic food containers, snack wrappers to utilize as an alternative fuel instead of coal in cement kilns. The project includes waste collection points and bins specifically for this washing and disposal. N15 Technology weekly collects wastes from not only the Bangchak refineries and headquarters office buildings, but also expanded to four service stations in Bangkok and its vicinity. In 2023, Bangchak contributed 6,207 kilograms of waste to the project.
- **The Office Paper Waste Management Project** commenced in 2020 through the collaboration with Thailand Responsible Business Network (TRBN). As part of this initiative, we segregate paper waste from our offices and exchange it for new A4 paper. From 2020 - 2023, we successfully collected 6,890 kilograms of unused paper from the Bangchak refinery offices, resulting in over 100 reams of fresh new paper.

In 2023, Bangchak further promoted office waste management, achieving a landfill diversion rate of 46%. Our commitment to continuous improvement drives us toward the ultimate goal of Zero Waste to Landfill across all sectors by efficient management according to the 3Rs principle of the refinery.

Strategy

- Waste management under 3Rs principle
- Compliance with related laws and regulations

2023 Target

- Zero wastes to landfills
- Control and maintain waste management practices under 3Rs principle continuously

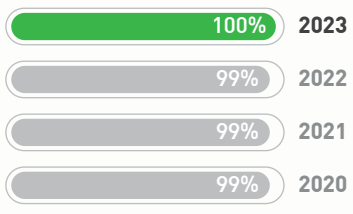
Operating Results in 2023

Waste Quantity from the Production Process in 2023

- Hazardous Waste : **3,435.37** tonnes or **27%**
- Non-Hazardous Waste : **9,288.39** tonnes or **73%**

The Company manages wastes under 3Rs principle, 100% of total wastes can be further utilized.

Waste Management in the Production Process under 3Rs Principle (Percentage)



Zero Waste incineration without energy recovery (not including recycle or reuse, or incineration with energy recovery) totally 0.00 tonnes (incineration and landfills)

2025 Target

- **Zero** wastes to landfills (production process)
- Waste incineration without energy recovery (not including recycle or reuse, or incineration with energy recovery) totaling **0** tonne (production process)
- Control waste generation intensity of waste generated per production unit, reduce by **3%** from a normal business operation in 2025, comparing with the baseline year.