# Ziraat Towers

## TRUE Zero Waste Transformation Strategy and Recommendations Report



Ziraat Bank

NOVEMBER 2026

163.year

We have More Than That

Ziraat Bank

163 .year

We have More Than That

TRUE

# Ziraat Towers

## TRUE Zero Waste Transformation Strategy and Recommendations Report

From the first TRUE pre-certification in Türkiye's financial sector to measurable circularity and climate performance: **a framework for measurement, organic waste management and transition to full certification at Ziraat Towers.**

Prepared by **Assoc. Prof. Dr. Duygu Erten** on behalf of **CIRCULARTR** and **TURKECO**.

# About This Report

## Purpose and Scope

This Strategy and Recommendations Report examines the zero waste transformation of Ziraat Towers, the first project in Türkiye's financial sector to achieve TRUE pre-certification. It jointly evaluates the management foundation established through pre-certification, waste performance measured for August 2026, the climate impact of organic waste, and the credit portfolio intended for full TRUE certification. The intended audience comprises senior management, facility management, procurement, human resources, sustainability and corporate reporting teams.

The argument is strategic and evidence-based. Pre-certification is not an endpoint but an intermediate stage demonstrating that governance, infrastructure and data capacity have been established for full certification. Accordingly, this document clearly distinguishes verified certification status, measured monthly results, modeled emissions estimates and prospective credit targets.

TRUE is a facility-level zero waste program administered by Green Business Certification Inc. References to TRUE in this report describe Ziraat Towers' pathway to improved performance and its management framework. Certification decisions are subject to applicable program requirements and independent review.

***A commercial building demonstrates its climate responsibility not only through its energy consumption but also through the way it procures, uses, preserves the value of, and recovers resources.***





# Contents


| Section | Coverage | |
|---|---|---|
| **Abbreviations and Acronyms** | Technical terminology and methodological explanations | **4** |
| **Foreword** | Circular economy approach in corporate operations | **7** |
| **Executive Summary** | Key results and strategic implications | **8** |
| **1** | Materials-focused transformation | **11** |
| **2** | Ziraat Towers and TRUE | **15** |
| **3** | Organic waste and climate impact | **21** |
| **4** | Compliance and performance agenda | **27** |
| **Conclusion** | Findings and priority areas for progress | **—** |
| **5** | Transition to full certification and credit portfolio | **35** |
| **Appendix A** | Targeted TRUE credits | **39** |
| **Appendices** | Methodological notes and references | **41** |

# Abbreviations and Acronyms

This section defines the abbreviations and technical concepts used throughout the report within a common frame of reference. The definitions have been prepared by considering the applicable TRUE program documents together with the report's methodological and calculation boundaries.

| Abbreviation | Meaning |
|---|---|
| **USA** | United States of America |
| **$CO_2e$** | Carbon dioxide equivalent; a common unit for greenhouse gas climate impacts. |
| **EPA** | United States Environmental Protection Agency |
| **GBCI** | Green Business Certification Inc., the TRUE technical review and certification body |
| **IMM / İBB** | Istanbul Metropolitan Municipality |
| **IPCC** | Intergovernmental Panel on Climate Change |
| **kg** | Kilogram |
| **KPI** | Key Performance Indicator |
| **LCA** | Life Cycle Assessment |
| **OECD** | Organisation for Economic Co-operation and Development |
| **SDGs** | Sustainable Development Goals |
| **t** | Metric tonne; 1,000 kg |
| **$tCO_2e$** | Metric tonnes of carbon dioxide equivalent |
| **TRUE** | Total Resource Use and Efficiency; a facility-level zero waste rating and certification program administered by GBCI |
| **UNEP** | United Nations Environment Programme |
| **USGBC** | U.S. Green Building Council |
| **WARM** | Waste Reduction Model; the EPA model for comparing life-cycle greenhouse gas impacts of waste management scenarios |
| **v16** | Version 16 of the WARM model used in this report |

# Key Terms and Definitions

| Term | Definition and limits of use |
|---|---|
| **Waste hierarchy** | Approach prioritizing prevention, reuse, recycling and other recovery options ahead of disposal. |
| **Waste prevention / source reduction** | Reducing consumption, quantities or unnecessary use before a material becomes waste. |
| **Baseline year** | Initial reference period against which changes in performance can be tracked. |
| **Biogas** | Gas mixture, mainly methane and carbon dioxide, generated as organic materials decompose under anaerobic conditions. |
| **Biomethanization** | Controlled biological process in which microorganisms break down organic material without oxygen, producing biogas and digestate; also called anaerobic digestion. |
| **Digestate** | Residual solid or liquid organic material after anaerobic digestion; any beneficial-use claim requires verification of product quality and actual end use. |
| **Emissions factor** | Greenhouse gas emissions or comparative effects per unit of activity or material. |
| **Material-specific data** | Waste amounts recorded separately by streams such as paper, plastic, metal, glass and organics. |
| **Residual/general waste** | Materials that cannot be routed to reuse, recycling, composting or another appropriate recovery pathway. |
| **Recycling** | Processing waste into a new product or raw material; distinct from prevention and reuse. |
| **Upcycling** | Converting a waste material or by-product into an input or product of higher functional or economic value. |
| **Comparative screening estimate** | Preliminary comparison of alternative routes using average model coefficients, not a site-verified emissions result. |
| **Contamination** | Mixing unsuitable materials into a separately collected stream; applicable TRUE limits must be verified. |
| **Credit** | Optional performance item evaluated against a defined practice and evidence set under the TRUE rating system. |
| **Credit portfolio** | Working plan of targeted credits, points, responsibilities and evidence; target points are not earned points. |
| **Corporate GHG inventory** | Classification and reporting of emissions within an organization's stated reporting boundaries under accepted accounting rules. |
| **Mass balance** | Reconciliation of generated, diverted, stored and non-diverted material quantities within a period and system boundary. |

| Term | Definition and limits of use |
|---|---|
| **End market / final route** | Last verifiable facility or use where a material is actually reused, processed, recovered or disposed of. |
| **Organic waste** | Biodegradable food, kitchen, canteen, coffee grounds and similar carbon-containing material streams. |
| **Pre-certification** | Intermediate program status showing establishment of policy, infrastructure, responsibilities and data systems; not full TRUE certification or completed 12-month verification. |
| **Project / operational boundary** | Buildings, areas, activities, users and material streams included in calculations and certification evidence. |
| **Source separation** | Separation by material type at the point of generation and prevention of later mixing. |
| **Full TRUE certification** | Certification following GBCI verification of applicable requirements, reporting-period performance and targeted credits. |
| **Reuse** | Using a product or component again for the same or a different purpose without significant reprocessing. |
| **Annualized scenario** | Estimate assuming a monthly result continues unchanged for twelve months; not a measured or verified annual result. |
| **Diversion** | Routing material away from landfill, incineration or uncontrolled release to TRUE-eligible prevention, reuse, recycling, composting or other productive-use pathways. |
| **Diversion rate** | Diverted material / (diverted + non-diverted material); August 2026: 52,440 / 57,597.5 = 91.05%. |
| **Upstream** | Raw-material extraction, farming, production, packaging and transport before a product or service reaches the facility. |

## How to Interpret the Results

- **Measured result:** amount recorded through weighing, transfer, acceptance or operational records, or a ratio directly calculated from these records.
- **Modeled result:** applying factors from a model such as WARM to activity data; not directly measured greenhouse gas reduction. A negative model factor indicates a comparative life-cycle credit, not absolute carbon negativity.
- **Monthly performance** applies only to the stated month; the reporting period required for full TRUE certification must be separately verified.
- **Percentage versus percentage points:** 91.05% diversion exceeds the 90% threshold by 1.05 percentage points.





# Foreword



**Assoc. Prof. Dr. Duygu Erten**

PE, LEED AP BD+C, True Waste Advisor, WELL Faculty

## A Measurable Commitment to the Circular Economy

Climate objectives depend not only on energy consumption but also on how institutions manage demand for materials, product lifetimes and waste generation. Large commercial properties receive food, packaging, paper, technology, maintenance and cleaning materials every day. A substantial proportion becomes waste in a short time. Zero waste therefore means more than removing materials from buildings: it entails preventing unnecessary demand, retaining product value and directing remaining materials to reliable routes.

As the first project in Türkiye's financial sector to achieve TRUE pre-certification, Ziraat Towers has institutionalized this approach through policy, infrastructure, data and daily operations. The status implies not merely the availability of waste containers but the identification of material streams, assignment of responsibilities and establishment of a measurable implementation program toward full certification. August 2026 data demonstrate a monthly diversion rate of 91.05%.

This report focuses exclusively on Ziraat Towers' operational boundary. It examines the institutional meaning of pre-certification, the organic waste system, modeled climate impact and how the targeted zero waste portfolio should be managed during the transition to full certification.

# Executive Summary

## Main result

Ziraat Towers is the first project in Türkiye's financial sector to obtain TRUE pre-certification. Of the 57,597.5 kg of material reported in August 2026, 52,440 kg was routed away from landfill and incineration. The calculated monthly diversion rate was 91.05%. Organic waste totaled 26,474.5 kg, representing 45.96% of all material and 50.49% of diverted material.

| Key finding | Measured or calculated outcome | Management implication |
|---|---|---|
| **Diversion performance** | 91.05% | Monthly performance exceeding the 90% TRUE threshold |
| **Organic waste** | 26,474.5 kg | 50.49% of all diversion |
| **Biomethanization** | 25,750 kg | 97.26% of organic material |
| **Coffee-ground upcycling** | 724.5 kg | 2.74% of organic material |
| **Comparative climate effect** | 15.42 $tCO_2e$/month | Screening estimate for biomethanization instead of landfill |
| **Annualized scenario** | 185.0 $tCO_2e$/year | Assumes August performance remains constant for twelve months |

These findings show that source separation of organic materials and shipment to controlled final routes are essential to sustaining monthly performance above 90%. The targeted full-certification portfolio comprises 31 credits across 13 categories, worth a total of 34 points. These points have not yet been earned; each credit requires valid period-specific evidence and independent review. The essential condition is to substantiate a single month of performance with complete twelve-month material records and maintain annual diversion above 90%.



TRUE

# 1.

## Materials-Focused Transformation

Zero waste is part of the climate agenda because commercial buildings substantially influence the demand for, use of and recovery of materials.

163 year

Ziraat Bank

# 1. Context

## Material Use and the Climate Transition

Discussions of buildings and climate change often focus on operational energy and embodied carbon. Yet a building is also a continuously operating material system. Food, packaging, paper, electronic equipment, furniture and maintenance supplies enter this system and, at the end of their useful lives, are directed toward reuse, recovery or disposal.

The circular economy literature challenges the linear model in which value begins with raw-material extraction and ends with disposal. It emphasizes demand reduction, keeping products in use and retaining materials in high-value loops (Geissdoerfer et al., 2017; Kirchherr et al., 2017). The built environment plays a particularly significant role, combining long-lived assets with everyday consumption flows (Pomponi and Moncaster, 2017).





## Academic Foundation

The waste hierarchy positions prevention and reuse ahead of recycling. This is not merely an environmental principle: it directs management attention to decisions made before a material becomes waste. Procurement specifications, portion design, service models, maintenance, repairs and reuse arrangements determine much of the environmental impact before material reaches a waste collection point.

This connection is even more pronounced for organic waste. Food requires resources during cultivation, processing, refrigeration, transport and preparation. Preventing food waste avoids upstream burdens as well as end-of-life treatment. Source separation of unavoidable organic waste and its diversion to biomethanization can reduce methane associated with landfill conditions.

When a commercial building is viewed as a material system, success cannot be reduced to a single recycling rate. Measurement should jointly evaluate prevention, reuse, stream quality, contamination, the reliability of final routes and data traceability throughout the process.




163 year

TRUE

# 2.

## Ziraat Towers and the First TRUE Pre-Certification

The TRUE framework brings together policies, infrastructure, data and daily practices within a measurable facility management system.

Ziraat Bank

# 2.1 A Facility-Level Management System

TRUE is a facility-level framework for reducing non-hazardous solid waste and increasing resource efficiency. It integrates prevention, reuse, recycling, redesign, employee engagement, procurement and data management within a single performance system. USGBC's 2026 discussion presents TRUE as a means of creating value through smarter systems, resource responsibility and continuous improvement rather than simply managing waste.

Ziraat Towers' achievement as the first TRUE pre-certified project in Türkiye's financial sector indicates that independent program review accepted the establishment of this system within the project boundary. Full certification remains conditional on verification of the latest twelve-month performance and separate evidence for each targeted credit.

The operational foundation consists of defined collection locations, separated storage areas, dedicated waste streams, daily visual inspections, weighing and transfer records, and assigned responsibilities. The system is designed to provide a traceable chain from material generation to final destination, not simply to register waste amounts.




| Management element | Current practice | Contribution |
|---|---|---|
| **Source separation** | Separate organic, packaging, paper, glass, metal and other waste streams | Preserves material quality and recoverability |
| **Operational control** | Daily visual checks and contamination tracking | Identifies sorting errors early |
| **Measurement** | Weighbridge, receipt, acceptance and transfer records | Supports verification of monthly quantities |
| **Final route** | Licensed or documented service providers and receiving facilities | Demonstrates that diversion actually occurs |
| **Management** | Policy, responsibilities and continuous improvement | Creates a lasting system rather than a one-off campaign |

# 2.2 TRUE and Circular Economy Alignment Pillars

TRUE's relationship with the circular economy extends beyond recycling percentages. The official program approach seeks to keep resources at their highest and best use, manage facility-wide material streams and substantiate performance with measurable evidence. Five principal alignment pillars can be identified.

| Alignment pillar | TRUE approach | Ziraat Towers application |
|---|---|---|
| **Upstream systemic redesign** | Prioritizes redesign, reduction and reuse beyond post-generation treatment | Paperless processes; durable serviceware; reuse of office materials; food-waste prevention |
| **Comprehensive material flow** | Examines generation points, back-of-house areas, workers, storage and final destinations | Review of nine generation areas; right-sized equipment; material flow diagrams |
| **Explicit exclusion of non-diversion routes** | Landfill, waste-to-energy incineration and uncontrolled release do not count toward diversion | Monthly mass balance; separate general-waste reporting; documented biomethanization and recycling |
| **Measurable data and independent assessment** | Most recent 12 months with at least 90% average diversion, seven minimum requirements and at least 31 points | Twelve-month material-specific data, baseline, contamination controls, annual submission, evidence for credits |
| **Global and sectoral adaptability** | Suitable for facilities, events and construction and aligned with SDGs, particularly 8, 9, 11, 12 and 13 | Resource efficiency; employee training; sustainable purchasing; organic energy recovery; climate impacts |

## Linear Waste Management Compared with the TRUE Circular Approach

| Dimension | Linear / conventional practice | TRUE circular alignment |
|---|---|---|
| **Primary objective** | Effective removal of waste | Total resource efficiency and prevention at source |
| **Accepted outcome** | Some approaches count waste-to-energy as diversion | Landfill and waste-to-energy incineration excluded from diversion |
| **Operational scope** | Emphasis on bins, waste rooms and haulage | Redesign, procurement, suppliers, use, reuse and final destinations managed together |
| **Value perspective** | Disposal and transport costs | Reduced consumption, retained material value and verified secondary loops |
| **Performance evidence** | Collected waste or periodic recycling rate | 12-month mass balance, contamination control, minimum requirements and credit evidence |

## Importance of Early Decisions in the Built Environment

Sector analysis links TRUE's upstream influence to early coordination of purchasing and planning, stressing that zero waste design principles must continue into building operations (Kightlinger, 2024). For Ziraat Towers this means facility management, procurement, catering, information technology and human resources jointly making decisions when requirements for materials and services are first defined, not after waste has arisen.

## The Role of Standards in Circular Transformation

Flynn and Hacking (2019) show that voluntary standards can coordinate material flows, reduce uncertainty and build quality and trust in secondary material markets. They also warn that transformative potential may be limited when standards merely follow existing market relationships and cost takes priority over material quality. TRUE's contribution therefore lies not in the label alone but in embedding the standard in purchasing, operations, training, data and supplier relationships. Any claim of full certification must await independent review of twelve-month performance, minimum requirements and credit points.

## Global Context of TRUE Results

USGBC's 2026 program indicators report more than 8.87 million tonnes of material diverted, more than 7.02 million metric tonnes $CO_2e$ of avoided emissions and a 15% reduction in disposal costs across the TRUE project portfolio. These aggregated figures must not be attributed to Ziraat Towers or added to the monthly 15.42 $tCO_2e$ model estimate presented here. They are contextual evidence of the environmental and economic outcomes that measurable materials management can generate.





## Operational Infrastructure





***Figure 1*** *in the source report shows examples of separate collection and controlled storage facilities at Ziraat Towers. The photographs illustrate operational capacity, but cannot alone establish a diversion percentage or*

TRUE

# 3.

# Organic Waste and Climate Impact

Organic waste is the largest stream contributing to the diversion performance of Ziraat Towers and one of the principal climate levers for carbon reduction.

163 year

Ziraat Bank

# 3. Organic Waste and Climate Impact

## Organic Waste Focus

This study evaluates Ziraat Towers' August 2026 waste records with a focus on organics. Its core finding is a 91.05% monthly diversion rate, calculated by dividing the 52,440 kg diverted by the 57,597.5 kg of total material. Because organics account for approximately half of diverted material, this stream is crucial both to sustaining zero waste performance and reducing methane-related climate effects. Recorded project results are distinguished from modeled climate outcomes; the emission figures are not a corporate greenhouse gas inventory.

## Section Scope

The following sections detail the measured organic waste streams, the comparative model used to assess climate effects, alignment with Türkiye's policies, and the indicators required to convert performance into twelve-month management.

| Indicator | Calculation | Interpretation |
|---|---|---|
| **Monthly diversion** | 52,440 / 57,597.5 | 91.05%; 1.05 percentage points above the 90% TRUE threshold |
| **Organics / total generated** | 26,474.5 / 57,597.5 | 45.96% |
| **Organics / diverted** | 26,474.5 / 52,440 | 50.49% |
| **Biomethanization / organic stream** | 25,750 / 26,474.5 | 97.26% |
| **Coffee grounds / organic stream** | 724.5 / 26,474.5 | 2.74% |

Although the August result is above the threshold, full TRUE certification requires verification of the most recent twelve-month period. The report therefore does not claim that annual diversion over 90% has been verified. Instead, monthly evidence provides the basis for a twelve-month performance management program.





# 3.1 Measured Performance of Organic Waste

August 2026 amounts are supported by weigh tickets, delivery documentation, receiving-facility records and operational tracking tables. Organic material follows two value-preserving routes: biomethanization of biodegradable kitchen and canteen waste, and upcycling of coffee grounds as an input to new products.

| Material stream | Quantity (kg) | Share of total generation | Management route |
|---|---|---|---|
| **Biodegradable kitchen/ canteen waste** | 25,750 | 44.71% | Istanbul Metropolitan Municipality biomethanization facility |
| **Coffee grounds** | 724.5 | 1.26% | Wastespresso upcycling |
| **Total organic waste** | 26,474.5 | 45.96% | Two separate controlled routes |
| **Other diverted materials** | 25,965.5 | 45.08% | Recycling and other diversion |
| **Municipal general waste** | 5,157.5 | 8.95% | Non-diverted stream |

Separating organic waste at the point of generation, without mixing it with general waste, safeguards data integrity, protects the quality of feedstock entering biomethanization, reduces contamination risk and creates an auditable chain based on shipment records. Physical waste audits also recorded the separation of organics. Because the organic stream represents 50.49% of all diversion, continuity of its collection is critical to the resilience of the overall rate.

## Performance Sensitivity

The margin above the 90% threshold in the current month is 602.25 kg. In other words, if total waste generation remains unchanged, shifting more than 602.25 kg of diverted material to general waste would cause the diversion rate to fall below 90%. Since the organic waste stream accounts for 50.49% of total diversion, maintaining the continuity of the organic waste collection system is a critical control point for the resilience of the overall diversion rate.

- Monitor monthly organic waste quantity and the number of shipments together.
- Report biomethanization and coffee-ground upcycling in separate lines.
- Link contamination, rejected loads and route changes to monthly records.
- Do not claim annual diversion of 90% or more until rolling twelve-month totals have been published.

# 3.2 Why Organic Waste Matters for the Climate

Controlled anaerobic decomposition of organic materials generates methane-rich biogas and digestate.

- Climate benefits depend not merely on sending waste to a facility but on avoiding landfill methane, displacing other energy sources, limiting fugitive emissions and responsibly managing digestate.

Although biomethanization ranks above disposal in the waste hierarchy, it ranks below preventing food waste.

Preventing a tonne of food waste avoids both end-of-life emissions and the resource and energy burdens associated with agriculture, processing, refrigeration, transport and preparation.

## Prioritization Matrix

| Priority | Practice | Climate and circularity rationale |
|---|---|---|
| **1. Prevention** | Demand forecasting, portioning, menu and procurement optimization | Avoids both production and end-of-life burdens |
| **2. Redistribution** | Use of edible surplus subject to food safety | Preserves food as food |
| **3. Material value** | Conversion of homogeneous streams such as coffee grounds into products | Extends material use; requires product-specific LCA |
| **4. Biomethanization** | Source-separated kitchen and canteen organics | Reduces landfill methane through controlled biogas generation |
| **5. Disposal** | Residual non-recoverable stream | Last resort |





# 3.3 Quantitative Evaluation of Emissions Reduction

The screening calculation uses the average "Food Waste" category in EPA Waste Reduction Model (WARM) v16. The model uses a landfill factor of 0.5528 $tCO_2e$ per model ton and a wet biomethanization factor of −0.0459 $tCO_2e$ per model ton. The difference between the two routes is 0.5987 $tCO_2e$ per metric tonne after conversion. WARM coefficients are comparative life-cycle assumptions, not site-specific measured emissions.

| Parameter | Value | Source / calculation |
|---|---|---|
| **Landfill factor** | 0.5528 $tCO_2e/t$ | EPA WARM v16 |
| **Wet anaerobic digestion factor** | −0.0459 $tCO_2e/t$ | EPA WARM v16 |
| **Difference between pathways** | 0.5987 $tCO_2e/t$ | 0.5528 − (−0.0459) |
| **August material sent to biomethanization** | 25.75 metric tonnes | Facility acceptance records |

**August 2026 comparative result** **15,42 $tCO_2e$** **25.75 × 0.5987**

Diverting 25.75 metric tonnes of organics from landfill to biomethanization gives a comparative monthly life-cycle reduction screening estimate of 15.42 $tCO_2e$. If the same quantities and routes were maintained for twelve months, the annualized scenario would be 185.0 $tCO_2e$. This is not a measured annual outcome, but a comparison based on August remaining constant.

## Prevention Scenario

WARM v16 gives an upstream production-stage source-reduction benefit of 4.034 $tCO_2e$ per metric tonne for average food waste. Preventing just 5% of the August biomethanization stream at source would mean 1.2875 tonnes less waste per month, with a modeled upstream benefit of approximately 5.19 $tCO_2e$ per month, or 62.3 $tCO_2e$ per year if the same performance continued for twelve months. The value illustrates the additional benefit of choosing prevention over treatment; actual effects can vary markedly with the types of food purchased.

| Scenario | Organic amount | Estimated climate effect | Reporting status |
|---|---|---|---|
| **Current biomethanization** | 25.75 t/month | 15.42 $tCO_2e$ reduction/month | Comparative screening estimate |
| **Same performance for 12 months** | 309.0 t/year | 185.0 $tCO_2e$ reduction/year | Annualized scenario |
| **5% prevention at source** | 1.2875 t/month less generation | 5.19 $tCO_2e$ upstream benefit/ month | Target scenario |
| **10% prevention at source** | 2.575 t/month less generation | 10.39 $tCO_2e$ upstream benefit/ month | Target scenario |

TRUE

# 4.

## Compliance and Performance Agenda

The next stage is to convert monthly success into verified twelve-month performance, prevention targets and reliable climate data.

163 .year

Ziraat Bank

# 4.1 Alignment with Turkish Policy

Ziraat's practices translate Türkiye's zero waste principles—source separation, recovery, reduction of landfill disposal and traceability—into facility operations. The National Waste Management Strategy and Plan 2025–2035 sets a goal of raising the national recovery rate to 60% by 2035. Ziraat's monthly diversion rate of 91.05% does not use the same calculation boundary and should therefore be regarded as alignment in direction rather than a direct numerical comparison.

The National Circular Economy Strategy and Action Plan 2025–2028 was incorporated into the national policy framework through Presidential Circular No. 2025/17, published in the Official Gazette of 18 October 2025, No. 33051. Its priorities—resource efficiency, integrated waste management, reintegrating secondary resources into the economy, and building data and monitoring capacity—relate directly to the organic waste system at Ziraat Towers.

| Policy direction | Ziraat practice | Area for strengthening |
|---|---|---|
| **Prevention of waste generation** | Separate collection and data infrastructure make prevention opportunities visible | kg/meal indicators by meal, menu, procurement and service station |
| **Source separation** | Kitchen and canteen organics separated from general waste | Contamination and rejected-load rates |
| **Biological waste recovery** | 25,750 kg diverted to biomethanization | Document biogas yield, methane leakage and digestate use |
| **High-value loops** | 724.5 kg of coffee grounds used as a product input | Product-specific substitution and LCA evidence |
| **Data and traceability** | Weighing and transfer records reconciled monthly | Rolling 12-month analysis, external verification and data-quality protocol |

Against Türkiye's 2053 net-zero objective, methane abatement from waste is a short- and medium-term lever that complements energy and industrial transformation.

Diverting organics from landfill is therefore an operational climate-management indicator as well as a waste metric.

# 4.2 Contribution to National Circular Economy Targets through TRUE

Türkiye's National Circular Economy Strategy and Action Plan 2025–2028 brings together efficient and sustainable use of natural resources, prevention of waste at source, economic use of secondary raw materials, circular products and procurement, institutional capacity and reliable monitoring systems. Zero Waste is also identified as a national strategic priority.

The first TRUE pre-certification in Türkiye's financial sector helps translate this national direction into facility operations. TRUE is not a substitute for national public policy. Rather, it is a voluntary, independent framework that makes resource efficiency, prevention, reuse, separate collection, green procurement, training and data assurance measurable in daily operations.





The contribution has two levels: direct operational results—including 52,440 kg diverted in August 2026, separate management of 26,474.5 kg of organic waste and specifications favoring recycled-content products—and institutional capacity established through management targets, training, monthly data, physical audits and verification of final routes.

The Organisation for Economic Co-operation and Development (OECD) notes that, although circular economy policies are mostly developed at the national level, they have strong connections with trade and cross-border supply chains, and that green procurement, environmental labels, product responsibility and standards are among the principal instruments of policy alignment (Yamaguchi, 2021). This finding supports the procurement credits within Ziraat's TRUE program. Supplier declarations, technical product sheets, recycled-content percentages and end-market letters are not merely evidence for credits; they are governance instruments that establish consistency across the material chain.

| National objective | Ziraat TRUE activity | Contribution mechanism | Suggested indicator |
|---|---|---|---|
| **Resource efficiency and waste prevention** | Reduce, Reuse and Redesign credits; food-waste prevention target | Less paper, disposables, excess food and unnecessary material demand | kg or units prevented; kg/meal; paper use |
| **Separate collection and recovery** | Separate organic and recyclable streams | Preserves material quality and reduces landfill | kg by stream; contamination; rejected loads |
| **Secondary resources in the economy** | Coffee-ground upcycling; recycled-content specifications; final-market checks | Creates product inputs and reduces virgin-resource demand | Product output; displaced material; recycled-content share |
| **Sustainable production and consumption** | Environmentally preferable purchasing; durable products and serviceware | Applies life-cycle and durability criteria to procurement | Compliant purchases; reuse frequency; product life |
| **Data, monitoring and verification** | Monthly material reporting; audits; third-party route documents | Produces comparable, traceable business data | 12-month mass balance; documentation completeness; diversion rate |
| **Supply-chain alignment** | Procurement standards and supplier/end-market documents | Extends circular economy policy along product chains | Verified suppliers and end markets |
| **Capacity and behavior** | Management target; orientation; periodic communications; TRUE Advisor | Embeds circular principles in responsibilities and routines | Training access and participation; leadership reviews |

# 4.3 Contribution to Corporate Goals

Ziraat's practices translate Türkiye's zero waste principles—source separation, recovery, reduction of landfill disposal and traceability—into facility operations. The National Waste Management Strategy and Plan 2025–2035 sets a goal of raising the national recovery rate to 60% by 2035. Ziraat's monthly diversion rate of 91.05% does not use the same calculation boundary and should therefore be regarded as alignment in direction rather than a direct numerical comparison.

The National Circular Economy Strategy and Action Plan 2025–2028 was incorporated into the national policy framework through Presidential Circular No. 2025/17, published in the Official Gazette of 18 October 2025, No. 33051. Its priorities—resource efficiency, integrated waste management, reintegrating secondary resources into the economy, and building data and monitoring capacity—relate directly to the organic waste system at Ziraat Towers.

| Corporate objective | Contribution of organic waste system | Suggested KPI |
|---|---|---|
| **Full TRUE certification** | Largest material stream supports maintaining diversion above 90% | Verified rolling 12-month diversion rate |
| **Emissions reductions** | Avoidance of landfill methane and biogas generation | $tCO_2e$/month; verified site-specific LCA or project factor |
| **Resource efficiency** | Identifies drivers of food-waste generation | kg organic waste/meal; kg/employee |
| **Circular procurement** | Informs contracts and menus based on over-purchasing and service losses | Purchased-food loss rate |
| **Risk and compliance** | Documented transportation, acceptance and final route chain | Share of documented shipments; verified final routes; rejected loads; unauthorized route changes |

## Recommended Twelve-Month Management Targets

- Maintain a targeted rolling twelve-month diversion rate of at least 90% and track the monthly margin.
- Report organic contamination and rejected loads as distinct indicators.
- Establish product-specific mass balance and virgin-material substitution evidence for upcycled coffee grounds.
- Optimize total organic-waste intensity per meal and per employee.
- Within the first year, characterize preventable food waste and establish an at-least-5% prevention target against the selected baseline.
- Obtain from the biomethanization facility data on biogas production, energy use, fugitive methane controls and final uses of digestate.

These indicators extend management beyond waste exit points to the entire material chain, from procurement decisions through kitchen operations to final treatment.





# 4.4 Measurement and Verification Framework

For an auditable climate study, activity data, system boundary and emission factor must be matched to the same period and management route. The structure below defines the minimum dataset needed to move from a screening calculation to corporate reporting.

| Data field | Minimum evidence | Quality control |
|---|---|---|
| **Organic waste generated** | Daily or shipment-specific net kilograms | Calibrated scales; gross weight distinguished from tare weight |
| **Waste type** | 20 01 08 and operational subcategories | Edible/inedible; kitchen/service distinction |
| **Transport** | Vehicle, distance, fuel and shipment | Reconciliation of carrier and receipt records |
| **Biomethanization** | Accepted kilograms, biogas/methane yield, energy output | Periodic facility performance report |
| **Leakages and digestate** | Fugitive methane measurement or assumption; final use | Methodology and uncertainty record |
| **Upcycling** | Kilograms of input, product output, substituted material | Mass balance and product life-cycle assessment |
| **Corporate reporting** | Target twelve-month result | Approvals, versions and changes |

## Reporting Principles

- Measured quantities, calculated ratios and modeled emissions results must be labeled with different statuses when presented in the same table.
- A negative emissions factor must not be interpreted as a 'carbon-negative activity'; it is a comparative life-cycle credit.
- When monthly data are annualized, the result must be explicitly identified as a scenario.
- Where national targets and facility performance have different system boundaries, no direct comparison of superiority should be made.
- When an emissions factor is updated, the historical series must be recalculated and revised with the methodology version stated.



# 4.5 Organic Waste and Compliance Assessment

August 2026 shows strong monthly zero waste performance, with diversion of 91.05%. Organic waste, at 26,474.5 kg, represents 45.96% of generated material and 50.49% of diverted material. Source separation, regular deliveries to biomethanization and separate use of coffee grounds are therefore central supports of performance above 90%.

A comparative calculation based on EPA WARM v16 suggests approximately 15.42 $tCO_2e$ of avoided emissions in August by routing 25.75 tonnes of kitchen and canteen waste to biomethanization instead of landfill. Maintaining the same monthly amount throughout a year suggests an annualized scenario of 185.0 $tCO_2e$. Without verification using site-specific process data, this must not be reported as a corporate GHG inventory result.

The next performance threshold is not only recovering more waste but preventing organic waste from arising. Preventing 5% of the existing biomethanization stream could yield an additional modeled upstream benefit of around 5.19 $tCO_2e$ per month. This links waste management with resource efficiency, purchasing and climate strategy in line with Türkiye's policies.

In conclusion, Ziraat should turn its monthly performance above 90% into verified twelve-month performance, refine organic-waste climate impacts with site-level information and translate the prevention target into operational KPIs.

TRUE

# 5.

## Transition to Full Certification

The system established through pre-certification must be translated into twelve-month verification and continuous improvement.

163 .year

Ziraat Bank

# 5. Academic Review of the Targeted Credit Portfolio

The working matrix for full certification identifies a target portfolio of 31 credits in 13 categories, totaling 34 points. For nine credits, evidence was uploaded during pre-certification or existing evidence was expected to be updated. The remaining credits call for new practices, periodic records or third-party verification. Beyond accumulating points, the portfolio seeks to integrate prevention, reuse, procurement, training, leadership and data management into a unified facility-level system.

The credit matrix is a planning tool. Targeted points must not be construed as certification results. Eligibility depends on documentation matching the reporting period and Ziraat Towers project boundary, proof that practices are actually operating, and GBCI independent assessment.

| Workstream | TRUE categories | System objective | Key full-certification evidence |
|---|---|---|---|
| **Governance and culture** | Leadership; Training | Maintain leadership commitments and employee behavior | Monthly management review, four quarterly communications, formal appointment |
| **Prevention and reuse** | Reduce; Reuse | Reduce demand for paper, office supplies and disposables | Paperless function, default duplex printing, reuse records, durable serviceware |
| **Organic and recyclable streams** | Compost; Recycle | Secure source separation and verified final routes | Eligibility of biomethanization, receiving-facility and end-market letters |
| **Purchasing and closed loop** | Zero Waste Purchasing; Closed Loop | Favor durable and recycled-content products | Signed policy, product sheets, invoices and supplier declarations |
| **Data and assurance** | Reporting; Diversion; Analysis | Make performance measurable, traceable and auditable | 12 months of material-specific data, annual 90%+ diversion, physical audits and corrective actions |
| **Special-waste controls** | Hazardous Waste Prevention | Manage hazardous and universal waste appropriately | Three-year record retention, transfers of batteries, lamps, e-waste and toner |





# 5.1 Critical Verification Conditions

## Twelve-month diversion:

The 91.05% recorded for August 2026 is a single-month result. A complete twelve-month dataset by commodity must be compiled, with total diverted materials divided by total diverted plus non-diverted material to verify diversion above 90%. The principal data risk is presenting monthly performance as annual performance.

## Organic treatment credit mapping:

Biomethanization offers a strong environmental pathway for keeping organic waste out of landfill. Yet eligibility for Compost Credit 4 depends on the program definition of the technology and final use of outputs. Obtain a signed declaration from the provider concerning process, biogas use, digestate treatment and final product. If necessary, identify an eligible alternative organic-processing credit.

## Evidence of implementation:

Policy documents are not, by themselves, evidence of operation. Purchasing credits require technical sheets and invoices; training credits require evidence of employee access and participation; paperless processes require transaction volumes and avoided-paper calculations; reuse requires inventory and movement records; and recycling requires verified end-market letters.

| Priority | Critical issue | Relevant TRUE credit | Risk | Closure criterion |
|---|---|---|---|---|
| **1** | 12-month material-specific data | Reporting 1; Diversion 1.1 | Critical | Complete monthly mass balance and annual 90%+ result |
| **2** | Verification of final organic process | Compost 4 | High | Receiving process and output-use letter; alternative-credit check |
| **3** | Regular management evidence | Leadership 2 | Medium–high | Monthly reports and meeting minutes |
| **4** | Continuity of employee communications | Training 3 | Medium–high | Dated communications for all four quarters |
| **5** | TRUE Advisor qualification | Training 9 | Conditional high | Valid credential; do not rely on point if absent |
| **6** | End markets and universal waste | Recycle 2; Hazardous Waste Prevention 3 | Medium | Link transfer records to final receiving/treatment documentation |

# 5.2 Management and Measurement Roadmap

The credit portfolio will be implemented through four sequential management cycles. In the first cycle, the project boundary, responsibilities, data owners and evidence formats are fixed. In the second, every material stream is monitored monthly and third-party opinions are completed. In the third, transaction volumes and environmental outcomes of prevention, reuse and procurement activities are calculated. In the final cycle, an internal audit is performed for each TRUE credit, and missing, inconsistent or out-of-period documents are resolved.

| Control area | Element monitored | Minimum record | Frequency |
|---|---|---|---|
| **Governance** | Credit owner, data owner and approving authority | Signed responsibility matrix; monthly management agenda | Monthly |
| **Activity data** | Weight, transaction count, user or purchasing quantity | Source-system output; weighing and transfer documents | Monthly |
| **Final route** | Carrier, receiving facility, process and output | Acceptance record; licence; final processing or market letter | Per shipment and annual confirmation |
| **Behaviour and training** | Access, participation, communication and field compliance | Training completion records; field checklist | Monthly or periodic |
| **Internal assurance** | Mass balance, document period, project boundary and duplicate records | TRUE credit-based evidence index and corrective-action list | Periodic and before application |

## Conclusion

Ziraat Towers' achievement of the first TRUE pre-certification in Türkiye's financial sector demonstrates that facility-level zero waste management can be integrated with corporate governance. August 2026 data show the decisive role of organic waste in diversion above 90%. For academically and certification-defensible conclusions, however, monthly performance must be verified with twelve-month records, target credits supported by evidence of actual implementation, and modeled climate benefits reported separately from corporate greenhouse gas inventories.

Success means more than diverting additional materials. Reducing preventable food waste, scaling paperless processes and reuse, aligning purchasing standards with closed-loop principles, and substantiating each claim with traceable evidence form the management foundation for full certification.





# Appendix A. Targeted TRUE Credits

The following list translates the targeted portfolio from the October 2026 working matrix. Statuses indicate planning stages rather than independent certification decisions or points already awarded.

| Category | Credit | Target practice | Points | Planning status |
|---|---|---|---|---|
| **Redesign** | 1 | Right-size collection equipment and service levels | 1 | Pre-certification evidence available; update required |
| **Redesign** | 3 | Assess nine waste generation points | 1 | Pre-certification evidence available for five points; expand |
| **Reduce** | 4 | Conduct at least one main office function without paper | 1 | New credit; evidence required |
| **Reduce** | 5 | Set duplex printing as default on all printers | 1 | New credit; evidence required |
| **Reuse** | 4 | Office supplies reuse program | 1 | New credit; evidence required |
| **Reuse** | 5 | Durable reusable serving equipment | 1 | New credit; evidence required |
| **Compost** | 1 | Collect organic materials separately from other streams | 1 | New credit; baseline evidence available |
| **Compost** | 4 | Off-site processing of food scraps and soiled paper | 4 | New high-value credit; eligibility check required |
| **Recycle** | 2 | Identify final markets for recyclable materials | 1 | New credit; final-destination letters required |
| **Zero Waste Reporting** | 1 | Document diversion by material/ waste type | 1 | Full certification; 12 months of data needed |
| **Diversion** | 1.1 | 90.1–94.9% diversion performance | 1 | Full certification; performance currently projected |
| **Zero Waste Purchasing** | 1 | Environmentally preferable purchasing policy | 1 | Pre-certification evidence available; policy review |
| **Zero Waste Purchasing** | 2 | Include preference for durable products in purchasing policy | 1 | Full certification; policy and implementation proof |
| **Zero Waste Purchasing** | 3 | Prefer sustainable paper and wood products | 1 | Full certification; policy and product sheets needed |
| **Leadership** | 1 | Senior-management-level zero waste objective | 1 | Pre-certification evidence available; update required |
| **Leadership** | 2 | Monthly management review of diversion activities | 1 | Full certification; evidence needed |
| **Training** | 1 | Communicate zero waste objective and policy to all staff | 1 | Pre-certification evidence available; update required |
| **Training** | 2 | Include zero waste in employee induction | 1 | Full certification; evidence needed |
| **Training** | 3 | Communicate zero waste activities quarterly | 1 | Full certification; evidence needed |
| **Training** | 4 | Clearly label all collection equipment | 1 | Full certification; strong visual evidence available |
| **Training** | 7 | Assign at least one zero waste leader | 1 | Full certification; evidence needed |
| **Training** | 8 | Provide all employees access to zero waste training | 1 | Full certification; evidence needed |

| Category | Credit | Target practice | Points | Planning status |
|---|---|---|---|---|
| **Training** | 9 | TRUE Advisor | 1 | Full certification; credential required |
| **Zero Waste Analysis** | 1 | Annual physical waste audit | 1 | Pre-certification evidence available; update required |
| **Zero Waste Analysis** | 2 | Analyze annual audit findings and implement recommendations | 1 | Pre-certification evidence available; update required |
| **Zero Waste Analysis** | 3 | Annual physical audit of recyclable materials | 1 | Pre-certification evidence available; update required |
| **Hazardous Waste Prevention** | 1 | Proper management of hazardous materials | 1 | Pre-certification evidence available; update required |
| **Hazardous Waste Prevention** | 2 | Retain records for at least three years | 1 | Full certification; retention evidence needed |
| **Hazardous Waste Prevention** | 3 | Reuse or recycle universal waste | 1 | Full certification; transfer records required |
| **Closed Loop** | 1 | At least 30% post-consumer recycled content in office paper | 1 | Full certification; product proof needed |

# Methodological Notes

Diversion rate = diverted material / (diverted material + general waste). For August 2026: 52,440 / (52,440 + 5,157.5) = 91.05%.

Organic stream = 25,750 kg biomethanization + 724.5 kg coffee-ground upcycling = 26,474.5 kg. Organics account for 45.96% of total generation and 50.49% of diverted materials.

The WARM comparison uses the difference between average-food-waste landfill and wet anaerobic-digestion factors: 0.543129 $tCO_2e$/US short ton × 1.10231 short tons/metric tonne = 0.5987 $tCO_2e$/metric tonne; 25.75 × 0.5987 = 15.42 $tCO_2e$.





# Uncertainties

The Waste Reduction Model (WARM) is a comparative life-cycle assessment tool developed using assumptions and average conditions representative of the United States. As the project is located in Türkiye, differences in electricity grid emission factors, waste-treatment efficiencies, transportation distances, fugitive methane emissions, and digestate management practices may affect the applicability of the results. Therefore, the estimated greenhouse gas emission impacts should be interpreted as indicative, screening-level estimates rather than site-specific outcomes. Potential climate benefits from coffee-ground upcycling were not quantified due to the absence of a product-specific life-cycle inventory.

# References


*Ziraat Bank. (2026). August 2026 Waste Tracking and Diversion Data. AUGUST_2026_REVISED.xlsx.*

*Ziraat Bank. (2026). TRUE Narrative August 2026 Waste Data. APPLICATION-NARRATIVE.docx.*

*Ziraat Bank. (2026). Zero Waste Analysis Narrative Credit 2. 01-ZERO-WASTE-ANALYSIS-NARRATIVE-Credit2.docx.*

*Green Business Certification Inc. TRUE Rating System and current program addenda. https://true.gbci.org/resources*

*U.S. Environmental Protection Agency. (2023). Waste Reduction Model WARM Version 16. https://www.epa.gov/waste-reduction-model*

*U.S. Environmental Protection Agency. (2026). Documentation for the Waste Reduction Model. https://www.epa.gov/waste-reduction-model/documentation-waste-reduction-model*

*Republic of Türkiye. (2025). Presidential Circular No. 2025/17 on the National Circular Economy Strategy and Action Plan 2025–2028. Official Gazette, October 18, No. 33051.*

*Republic of Türkiye, Ministry of Environment, Urbanization and Climate Change. (2025). National Waste Management Strategy and Plan 2025–2035.*

*United Nations Environment Programme. (2024). Food Waste Index Report 2024. Nairobi: UNEP.*

*IPCC. (2019). 2019 Refinement to the 2006 IPCC Guidelines for National Greenhouse Gas Inventories, Volume 5: Waste.*

*Ziraat Bank. (2026). TRUE BASIC Credit Upload Matrix. Internal working matrix, October 2026.*

*Green Business Certification Inc. TRUE About: Sustainable Resource Management. https://true.gbci.org/about*

*Green Business Certification Inc. TRUE Certification for Zero Waste: Eligibility and Certification Requirements. https://true.gbci.org/true-certification-zero-waste*

*U.S. Green Building Council. (2026). Zero waste is the next frontier: Inside TRUE certification. July 7. https://www.usgbc.org/articles/zero-waste-next-frontier-inside-true-certification*

*Flynn, A., & Hacking, N. (2019). Setting standards for a circular economy: A challenge too far for neoliberal environmental governance? Journal of Cleaner Production, 212, 1256–1267. https://doi.org/10.1016/j.jclepro.2018.11.257*

*Yamaguchi, S. (2021). International trade and circular economy: Policy alignment. OECD Trade and Environment Working Papers No. 2021/02. https://doi.org/10.1787/ae4a2176-en*

*Kightlinger, D. (2024). Transforming Waste Management: The TRUE Certification Initiative in Construction. Built by Bluebeam, March 19. https://blog.bluebeam.com/com-true-zero-waste-construction/*

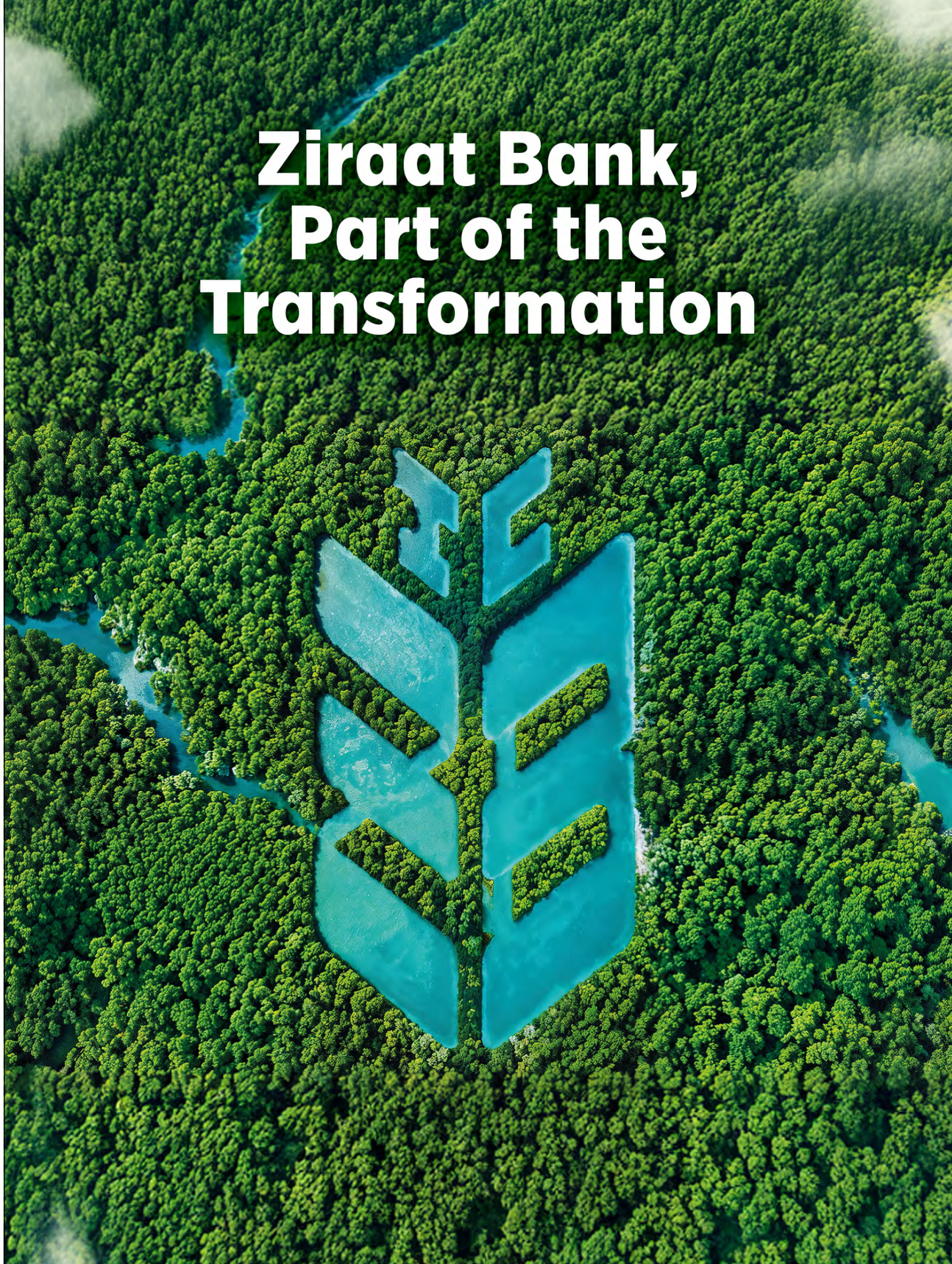
*U.S. Green Building Council. (2026). Experience Greenbuild with USGBC: TRUE by the Numbers. https://www.usgbc.org/greenbuild*

*Geissdoerfer, M., Savaget, P., Bocken, N. M. P., & Hultink, E. J. (2017). The Circular Economy: A new sustainability paradigm? Journal of Cleaner Production, 143, 757–768.*

*Kirchherr, J., Reike, D., & Hekkert, M. (2017). Conceptualizing the circular economy: An analysis of 114 definitions. Resources, Conservation and Recycling, 127, 221–232.*

*Pomponi, F., & Moncaster, A. (2017). Circular economy for the built environment: A research framework. Journal of Cleaner Production, 143, 710–718.*



Ziraat Bank

163.year

We have More Than That

