CONCEPT

Solid Waste Management and Circular Economy: Composition Studies, Recycling and Zero Waste

15 – 19 March 2027
Dubai - Five-star CBD venue



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Ref: 126_9810 **Date:** 15 – 19 March 2027 **Location:** Dubai - Five-star CBD venue **Fees:** 19500 SAR

Introduction:

Cities and businesses generate more refuse every year while landfill airspace, cleansing budgets and public tolerance shrink, and few organisations can state what they discard, where it goes or what it costs. Solid waste management and circular economy practice answers this by measuring material flows, keeping products and materials in use and paying only for residuals that cannot be avoided. This Core Concept course equips practitioners to run composition studies, redesign source separation and kerbside services, work with secondary material markets and apply circular business models. Participants leave with a Circularity and Resource Roadmap built from real tonnage data.

Course Objectives:

- Run a municipal solid waste composition study and build a baseline of generation rates, material fractions and handling costs for a district, campus or building
- Design source separation, container systems, kerbside rounds and transfer arrangements that raise capture of clean dry recyclables and food organics
- Compare MRF sorting, composting, anaerobic digestion, waste-to-energy and sanitary landfill options using a prevention-first decision ladder
- Apply circular economy business models such as product-as-a-service, leasing, take-back, reuse and remanufacture using ISO 59004 and ISO 59010 guidance
- Set zero-waste-to-landfill targets, circularity indicators and KPIs aligned with ISO 59020 and report progress credibly
- Produce a Circularity and Resource Roadmap with prioritised actions, costs, owners and KPIs

Target Audience:

- Managers responsible for municipal cleansing, kerbside services and recycling programmes
- Facilities and property managers accountable for refuse contracts in malls, campuses, hotels and office portfolios
- Sustainability managers who set circularity and landfill diversion targets
- Contract managers who procure and oversee haulage, MRF and composting service providers
- Operations managers in retail, hospitality and manufacturing who aim to cut packaging, food loss and single-use items

Course Outline:

Day 1: Material Flows, Refuse Baselines and the Circularity Case

- Municipal Solid Waste and Commercial Refuse Fractions: Residual, Dry Recyclables, Food and Garden Organics
- Take-Make-Dispose Versus Circular Material Loops and the Global Circularity Gap
- Waste Hierarchy as a Prevention-First Decision Ladder: Reduce, Reuse, Recycle, Recover, Landfill
- Full Cost Accounting for Discards: Haulage, Gate Fees, Landfill Levies and Lost Material Value
- Municipal and Corporate Circularity Maturity Scan

Day 2: Circular Economy Standards, Metrics and Composition Studies

- ISO 59004 Circular Economy Vocabulary, Principles and Implementation Guidance
- ISO 59010 Business Model and Value Network Transition Guidance
- ISO 59020 Circularity Performance Measurement: Inflows, Outflows and Data Quality
- Composition Study Method: Sample Sizing, Sort Categories and Tonnage Extrapolation
- Extended Producer Responsibility and Pay-As-You-Throw Tariff Models in General Terms

Day 3: Source Separation, Kerbside Logistics and Secondary Material Markets

- Source Separation Schemes: Colour-Coded Bins, Signage, Behaviour Nudges and Contamination Spot Checks
- Kerbside Round Optimisation, Fleet Utilisation and Transfer Station Bulking
- Materials Recovery Facility MRF Sorting Lines, Bale Specifications and Rejects Handling
- Secondary Raw Material Offtake Contracts and Commodity Price Volatility
- Composting and Anaerobic Digestion for Food and Garden Organics

Day 4: Residual Treatment, Circular Business Models and KPI Scorecards

- Waste-to-Energy and Sanitary Landfill: Overview, Trade-Offs and Airspace Planning
- Product-as-a-Service, Leasing and Take-Back Business Model Canvas
- Reuse Hubs, Repair Networks and Remanufacture Partnerships
- Zero-Waste-to-Landfill Targets, Diversion Rate Pitfalls and Tonnage Data Verification
- KPI Scorecard: Kilograms per Capita, Capture Rate, Contamination and Cost per Tonne

Day 5: Case Work and the Circularity and Resource Roadmap

- Municipal District Case Study: Redesigning Household Kerbside and Organics Services
- Shopping Mall and Hotel Case Study: Commercial Composition Study Findings
- Circularity and Resource Roadmap Drafting
- Action Costing, Ownership Matrix and KPI Targets
- Peer Challenge Panel and Roadmap Defence

Skills You Will Gain:

- Composition Study Design
- Source Separation Scheme Design
- Kerbside Logistics Optimisation
- Secondary Material Market Assessment
- Organics Diversion Planning
- Circular Business Model Design
- Circularity Measurement
- Diversion Target Setting

Why Attend This Course:

- Return with a Circularity and Resource Roadmap built from tonnage data and tested through peer challenge
- Cut landfill and haulage spend by diverting clean dry recyclables and food organics
- Spot contaminated bales, inflated diversion figures and weak tonnage records before they undermine targets
- Compare circularity practice with peers from municipalities, property, hospitality, retail and manufacturing

Conclusion:

Reducing discards depends on knowing what is generated, keeping materials clean and matching each fraction to a market or treatment route. This course moves from material flows, the full cost of refuse and the circularity gap, through ISO 59000 standards and composition studies, to source separation, kerbside logistics, MRFs and organics, and then to residual treatment, circular business models, zero-waste targets and KPI scorecards. The final day turns municipal and commercial cases into a Circularity and Resource Roadmap that guides budgets, contracts and targets.