Innovative Plastic Waste Management and Circular Economy Training Course



21 - 25 Dec 2026

Düsseldorf

5900 € (Per Person)

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Course Introduction / Overview:

The global plastic waste crisis presents one of the most pressing environmental challenges of our time, demanding innovative solutions and a fundamental shift in how we produce, use, and manage plastics. This course provides a comprehensive exploration of sustainable plastic waste management, moving beyond traditional disposal methods to embrace the principles of a circular economy. Participants will gain a deep understanding of the entire plastic lifecycle, from polymer science to end-of-life management. Drawing on insights from leading academics like Dr. Roland Geyer, whose work highlights the staggering scale of plastic production and waste, the curriculum delves into both the problems and the pioneering solutions. We will examine concepts discussed in seminal texts such as "Plastic Waste and Recycling," which covers the technical and economic aspects of creating a closed-loop system. BIG BEN Training Center has designed this program to equip professionals with the strategic knowledge and practical skills needed to lead the transition towards a sustainable plastics future, transforming a linear "take-make-dispose" model into a regenerative one. This training is essential for any organization aiming to reduce its environmental footprint, comply with emerging regulations, and capitalize on the economic opportunities within the circular economy.

Target Audience / This training course is suitable for:

- Environmental Managers and Sustainability Officers.
- Waste Management Professionals and Recycling Plant Operators.
- Corporate Social Responsibility (CSR) and ESG Specialists.
- Product and Packaging Designers and Engineers.
- Supply Chain and Operations Managers.
- Government Regulators and Environmental Policy Makers.
- Entrepreneurs in the green technology and recycling sectors.
- Consultants specializing in environmental and waste management.
- Research and Development (R&D) personnel in the plastics and consumer goods industries.

Target Sectors and Industries:

- Plastics Manufacturing and Conversion.
- Packaging and Fast-Moving Consumer Goods (FMCG).
- Waste Management and Recycling Services.
- Retail and E-commerce.
- Municipal and Governmental Environmental Agencies.
- Environmental Consulting and Advisory Services.
- Automotive and Electronics Manufacturing.
- Textile and Apparel Industry.
- Hospitality and Food Service.

Target Organizations Departments:

- Sustainability and Corporate Social Responsibility (CSR).
- Environmental, Health, and Safety (EHS).
- Research and Development (R&D).
- Operations and Production Management.
- Supply Chain and Logistics.
- Procurement and Sourcing.
- Product Design and Development.
- Legal and Regulatory Compliance.
- Marketing and Corporate Communications.

Course Offerings:

By the end of this course, the participants will have able to:

- Analyze the complete lifecycle of plastics and identify key intervention points for circularity.
- Differentiate between various recycling technologies, including mechanical and advanced chemical methods.
- Develop strategies for designing products and packaging for recyclability and reuse.
- Implement and manage Extended Producer Responsibility (EPR) schemes effectively.
- Evaluate the potential of bioplastics and other alternative materials.
- Formulate corporate sustainability strategies that align with circular economy principles.
- Navigate the complex landscape of international and local plastic waste regulations.
- Assess the economic viability and business models for plastic recycling initiatives.
- Communicate the value of sustainable plastic management to internal and external stakeholders.
- Lead projects aimed at reducing plastic waste and improving resource efficiency within their organization.

Course Methodology:

The training methodology at BIG BEN Training Center is designed to be immersive, interactive, and highly practical, ensuring that participants can translate theoretical knowledge into actionable strategies. We employ a blended learning approach that combines expert-led presentations with hands-on, collaborative activities. The course is built around real-world case studies from leading global companies that have successfully implemented circular economy models for plastics. Participants will engage in group workshops to analyze complex waste management challenges and brainstorm innovative solutions. Interactive sessions, facilitated discussions, and problem-solving exercises encourage active participation and peer-to-peer learning. We will utilize strategic frameworks and decision-making tools to help participants assess different recycling technologies and sustainable material choices for their specific contexts. Feedback is a continuous process, with structured Q&A sessions and expert guidance provided throughout the five days. This dynamic and engaging learning environment ensures that attendees leave not just with information, but with the confidence and competence to drive meaningful change in their organizations.

Course Agenda (Course Units):

Unit One: The Global Plastics Challenge and the Circular Economy Framework

- The history and chemistry of common polymers.
- Understanding the scale of the global plastic pollution crisis.
- Introduction to the principles of the circular economy.
- Contrasting linear vs. circular economic models for plastics.
- The role of stakeholders in the plastics value chain.
- Life Cycle Assessment (LCA) for plastic products.
- Key terminology and concepts in sustainable waste management.

Unit Two: Advanced Sorting and Recycling Technologies

- Overview of mechanical recycling processes, challenges, and applications.
- Deep dive into advanced chemical recycling: pyrolysis, gasification, and solvolysis.
- Innovations in automated sorting technologies (e.g., NIR, AI robotics).
- Quality control and standards for recycled plastics (recyclates).
- Waste-to-energy as an end-of-life option.
- Managing and processing hard-to-recycle plastics.
- Case studies of successful recycling plant operations.

Unit Three: Policy, Regulation, and Corporate Governance

- The global regulatory landscape for plastic waste.
- Understanding Extended Producer Responsibility (EPR) schemes.
- The impact of plastic bans and taxes on business.
- Integrating plastic waste management into ESG reporting.
- Developing a corporate strategy for plastic stewardship.
- The role of plastic credits and offsetting markets.
- Navigating international agreements like the UN Global Plastics Treaty.

Unit Four: Innovation in Sustainable Packaging and Product Design

- Principles of Design for Recyclability (DfR).
- Exploring bioplastics, compostable, and biodegradable materials.
- Strategies for material reduction and light weighting.
- Innovations in reusable and refillable packaging systems.
- Conducting a packaging portfolio audit.
- Consumer behavior and its impact on packaging choices.
- Case studies of brands leading in sustainable packaging.

Unit Five: Implementing and Scaling the Circular Plastics Economy

- Developing new business models for a circular economy.
- Building reverse logistics and collection systems.
- Engaging communities and informal sectors in waste collection.
- Financing and investment in recycling infrastructure.
- The role of digital technologies like blockchain for traceability.
- Future trends and outlook for the plastics industry.
- Creating a practical action plan for your organization.

FAQ:

Qualifications required for registering to this course?

There are no requirements.

How long is each daily session, and what is the total number of training hours for the course?

This training course spans five days, with daily sessions ranging between 4 to 5 hours, including breaks and interactive activities, bringing the total duration to 20 - 25 training hours.

Something to think about:

How can businesses balance the economic costs of transitioning to a circular plastics model with the long-term environmental and social benefits?

What unique qualities does this course offer compared to other courses?

This course distinguishes itself by offering a holistic, strategy-focused perspective that integrates technology, policy, and business model innovation. While many programs focus narrowly on recycling techniques, our curriculum provides a comprehensive 360-degree view of the circular plastics economy. We move beyond the basics to explore advanced and emerging topics such as chemical recycling, the role of plastic credits, and the integration of plastic waste management into corporate ESG frameworks. The program is built on a foundation of practical application, emphasizing the development of actionable strategies that participants can implement immediately within their organizations. We analyze real-world case studies of both successes and failures, providing invaluable lessons in strategic decision-making. Furthermore, the course content is forward-looking, preparing professionals not just for the current regulatory landscape but for future trends and challenges, such as the implications of the UN Global Plastics Treaty. The emphasis is on empowering leaders to drive systemic change, transforming their organization's relationship with plastics from a linear liability into a circular asset.