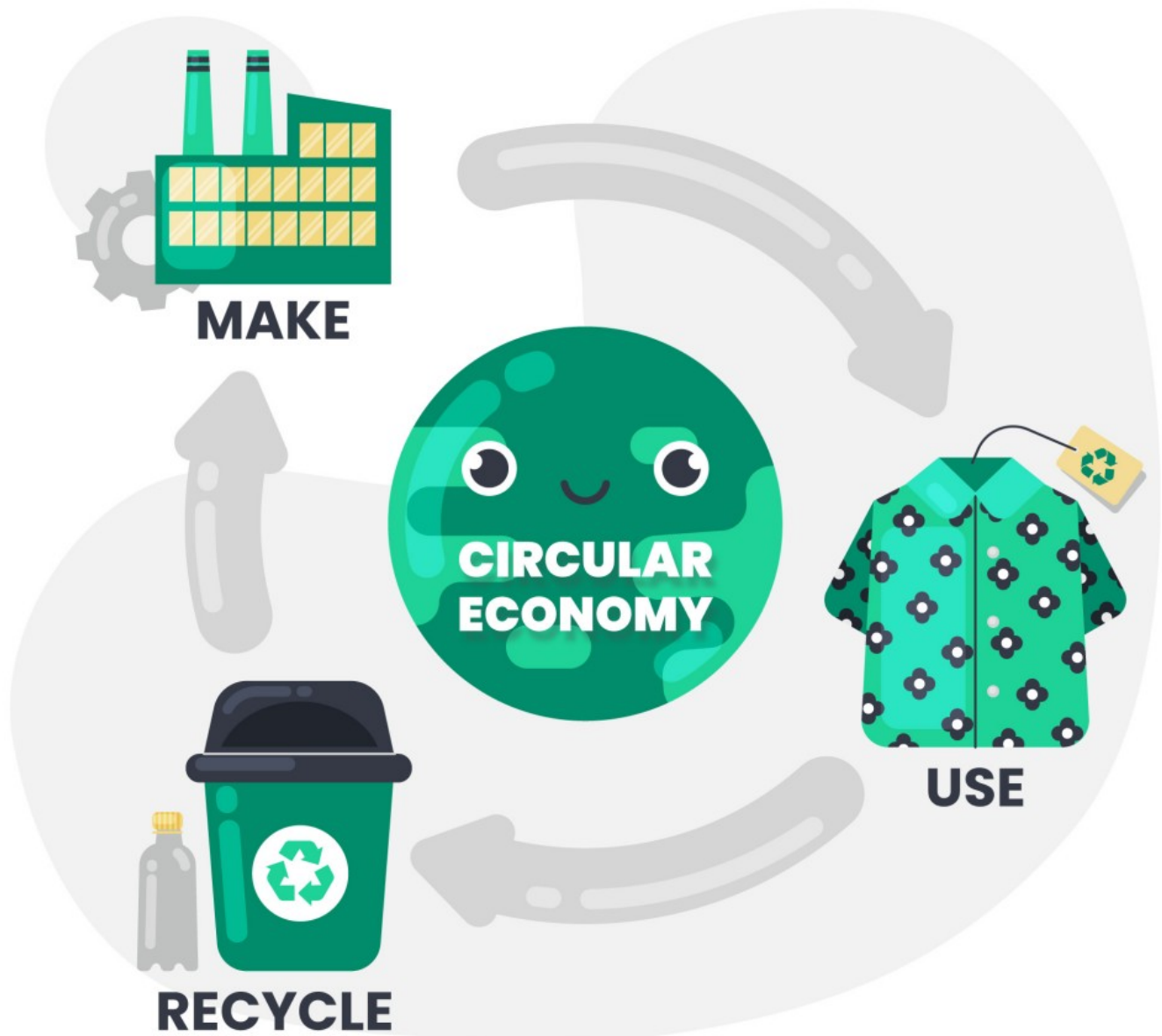


Advancing Towards a Circular Economy for Plastics in India: Opportunities, Challenges, and Solutions with Banyan Nation



Sangareddy, Telangana Sep 20, 2024 ([Issuewire.com](https://www.issuewire.com)) - Banyan Nation is one of the top players in sustainable plastic recycling that is dedicated to reshaping India's waste management systems. By using advance recycling techniques and collaboration with key stakeholders, Banyan Nation is helping the country to build a circular economy for plastics. So, here we guide you to the details about the circular economy for plastics, its opportunities, challenges and its solutions.

The concept of the circular economy has gained huge attention in recent times throughout the world, as a workable and sustainable wide alternative to the traditional linear economic model driven by "take-make-dispose." Matching this change in concept has great relevance for plastics, which have greatly contributed to environmental degradation due to poor waste management and a lack of recycling infrastructure. Moving from a country with the highest growth rates of plastic consumption to transitioning towards the usage of the circular economy helps India in tackling some very crucial environmental and economic challenges. The current blog explores why transitioning towards a [circular economy](#) for plastics is important for India, what the challenges are, and what new solutions are being implemented for promoting sustainability.

Why India Needs CE for Plastics

Accounting for nearly 16.8 million tonnes of plastics consumed annually, India is the second most populous country. Waste management systems related to plastic are still in the nascent stage in this country. Large generations of plastic waste, therefore, goes to landfills, water bodies, and oceans. According to a study report by The Energy and Resources Institute (TERI), about 42% of the total plastic consumption in India stays in circulation, while the rest 58% becomes waste. Of this, only about 60% of plastic wastes are recycled, most of them in the informal sector. A large fraction of the rest is either incinerated or dumped, therefore polluting the environment.

GHG emissions from the production and incineration of plastics are estimated to have reached over 850 million tonnes worldwide in 2019, which is equivalent to the level of emissions from 189,500 megawatt coal power plants. Indeed, if such trends in the industry continue, annual emissions would surge to more than 2.75 billion tonnes of CO₂ equivalent by 2050. The fact that plastic production in India is primarily based on fossil fuels adds to the environmental crisis: 99% of plastic feedstock originates from fossil fuels. In light of such influences, working toward a circular economy in plastics is no longer an option but an imperative.

Challenges in Implementing a Circular Economy for Plastics in India:1. Poor Infrastructure for Waste Management

The current infrastructure mechanism for dealing with plastic waste in India is insufficient to cope with the volume of the wastes generated. Collection efficiency for municipal solid waste (MSW) is estimated at 85-86%, but the lack of proper source segregation severely hampers recycling efforts. Recyclable plastics, once into the mix of organic or non-recyclable waste, begin to lose their value and typically end up in landfills. Besides, there is a huge amount of plastic wastes handled by the informal sector because of the shortage in formal recycling infrastructure; these depend on very rudimentary processes that result in low-quality recyclates.

2. The Informal Sector's Role

India's informal waste sector plays a critical role in managing plastic waste, with an estimated 1.5 to 4 million informal workers involved in waste collection and recycling. Yet, these workers mostly work under hazardous conditions without appropriate governmental recognition, financial support, or access to proper technologies. These are pieces that have contributed to a large degree of inefficiency in poor waste segregation, downcycling, or plastics being recycled into increasingly substandard products and large volumes of plastic wastes that leak into the environment.

3. Inadequate Advanced Recycling Technologies

While mechanical recycling dominates the Indian landscape, there are various limitations on multi-layered or multi-polymer plastics because of their difficulty in recycling. Advanced recycling technologies, such as chemical recycling, which can handle a wide variety of plastics and result in high-quality recycled materials, are at a nascent stage in India. The lack of large-scale facilities for chemical recycling also reduces the likelihood of recovery of high-value plastics from complex waste streams.

4. Gaps in Policy and Regulations

Further, despite some policy enactments, such as the PWM Rules of 2016 banning certain single-use plastics, poor enforcement and compliance still exist. EPR means extending liability to manufacturers for the take-back of their products after the end of their life. EPR policy tenets have hardly been implemented.

5. Consumer Behaviour and Awareness

Another huge challenge is consumer awareness and behavior change. While policies can monitor production and waste management, consumers are also a very crucial part of ensuring proper disposal and recycling. Environmental awareness of the consumers and a phase of responsible consumption will then facilitate the success of a plastic-based **circular economy**.

Strategic Opportunities for Building a Circular Economy for Plastics in India

Despite these challenges, several opportunities exist to foster a **circular economy** for plastics in India:

1. Policy Interventions and EPR Implementation

Stronger implementation of EPR policies would promote companies to design products keeping in consideration their recyclability and be responsible for collection and recycling of post-consumer waste.

2. Invest in Recycling Infrastructure

Scaling up recycling will require investments in mechanical and chemical recycling technologies alike. Modernizing the capacity to produce better-quality recycled plastics through upgrades of existing plants and new facilities expands not just the range of materials that can be recycled but also significantly raises the quality of such materials. In addition, digital technologies are relevant for making waste collection and sorting more effective. As an example, one could note GPS-enabled tracking of waste and optical sorting technologies.

3. Formalization of the Informal Economy

Waste management development in India is greatly dependent on the integration of the informal waste sector into formal systems. These are public-private partnerships that would offer training, safety equipment, and access to finance for informal workers. Formalization of the informal sector will help India increase the quality of recycling, reduce environmental leakages, and create dignified livelihoods of the people involved in waste work.

4. Eco-Design and Innovation

Encouragement of environment-friendly design for products to reduce plastic products' ecological footprint throughout the product's life cycle. For example, designing for disassembly and recyclability

increases the ease of recovery at the end of life. The brands can also work with polymer producers to come up with the substitution of virgin plastics with sustainable alternatives like the use of bio-based or recycled polymers that can be easily taken up through applying it in a circular economy.

5. Consumer Education

Public awareness of plastic consumption and its proper waste management can go a long way in bringing down plastic consumption. Educating consumers on the need to recycle, reduce single-use plastics, or buy products made from recycled materials would help India nurture the culture of sustainability that will conjoin the circular economy.

Conclusion:

Application of the **Circular Economy** principles could lead to reduced demand for virgin resources, result in lower emissions associated with its production, and increase the economic value of materials through reuse and recycling.

Companies like Banyan Nation are setting up an example and proving that environmentally and commercially viable circular economy practices of the plastic industry can lead to such transformations. Innovation and collaboration by every stakeholder-government, industry, and society-emerge as the bedrock in the full achievement of a circular plastics economy in India through their efforts.

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