



adopted, secondary legislation with detailed laws to support the transition will need to be formally adopted from 2024 to 2028. The formal adoption of EU Law usually takes several weeks and is to be completed by a yet-to-be-agreed-upon date. Following this, the legislation is published in the Official Journal and brought into effect 20 days later.

Both pieces of legislation expand on the 2006 Batteries Directive - the first piece of EU legislation to set out rules and targets for the recycling of batteries. In December 2020, the EU agreed to revise the Directive. These revisions take into account the rapidly increasing demand for batteries, which is set to increase a further 14-fold by 2030. It is predicted that the EU will account for 17 percent of that demand, mostly through electric transport. Companies operating within the EU internal market will be mandated to demonstrate both socially and environmentally responsible sourcing of materials.

Vice-President for Inter-institutional Relations and Foresight Maroš Šefčovič said: "All industrial players in Europe will now have a clear, predictable legal environment that supports them in innovating and preparing for the expected surge in e-mobility in coming years. This is yet another milestone, as our battery industry is of strategic importance to Europe's global competitiveness".

Commissioner for Internal Market Thierry Breton added, electric mobility is a new and coveted market. Global competition is fierce and demand for batteries has increased sharply. "We are mobilizing substantial public and private investments in the battery value chain, and with the new regulation agreed we will ensure that batteries placed in the EU market - even if produced in a third country - are sustainable and safe throughout their entire life cycle. Because batteries are at the heart of Europe's competitiveness and resilience", he said.

Responding to the new batteries regulation, the Director for Public Affairs and Communications at RECHARGE Kinga Timaru-Kast, the European Industry Association for Rechargeable and Lithium batteries said: "Carbon intensity and due diligence provisions have the potential to not only prevent underperforming batteries from entering the EU market, but to truly work towards the climate-neutrality and sustainability objectives of the EU. The new EU batteries regulation, together with the Critical Raw Materials Act and the Net Zero Industry Act, have the potential to shape the future for a competitive and sustainable battery value chain" ■

TRẦN TÂN

(Source: RESOURCE)

Indore, a fast-growing city in India, has emerged as a model for sustainable waste management practices. Over the past few years, Indore has consistently ranked as the cleanest City in India, thanks to the efficient waste management system put in place by the municipal corporation. This case study explores the background, challenges faced, and solutions implemented and key learnings from Indore's successful waste management system.

Indore, with a population of over 3.2 million people, generates around 1,100 metric tons of waste daily. Prior to 2016, the City struggled with waste management, leading to unhygienic conditions, increased pollution, and negative impacts on public health. However, the launch of the Swachh Bharat (Clean India) campaign in 2014 led the Indore Municipal Corporation (IMC) to undertake a comprehensive transformation of its waste management system. This involved an overhaul of existing infrastructure, policies, and community engagement initiatives to create a more efficient and environmentally friendly waste management system.

Challenges faced

Lack of waste segregation at the source

Indore faced issues with mixed waste, which hindered the recycling and disposal process. Unsegregated waste resulted in inefficient waste collection and processing, causing further strain on the waste management system.

Inefficient waste collection and transportation system

With limited resources and vehicles, the City's waste collection and transportation system could not keep up with the growing population and waste generation. In addition, the absence of adequate waste processing facilities led to the practice of open dumping and burning of waste, which contributed to air and land pollution.

Inadequate public awareness and participation

Citizens were not fully aware of the importance of waste segregation, recycling, and proper disposal, resulting in low participation rates and disregard for waste management rules.

Limited infrastructure for waste processing and disposal

The City's waste processing and disposal infrastructure was unable to cope with the increasing waste generation, leading to unmanaged landfills and environmental degradation.



Sustainable waste management in Indore City, India

Solutions implemented

Segregation at the source

The IMC implemented a mandatory waste segregation policy, requiring households to separate waste into wet (biodegradable) and dry (recyclable) categories. This allowed for more efficient waste collection and processing, as well as increased recycling rates.

Door-to-door waste collection

A fleet of over 600 GPS-enabled vehicles were deployed to collect segregated waste daily from all households and commercial establishments. This ensured timely and efficient waste collection, preventing littering and illegal dumping.

Waste processing and disposal

The City established a state-of-the-art waste processing facility capable of handling 1,000 metric tons of waste daily, including a 15 MW waste-to-energy plant and a 200 TPD (tons per day) composting plant. These facilities enabled Indore to process and dispose of waste more effectively, reducing the environmental impact of waste disposal.

Public awareness and participation

The IMC launched numerous awareness campaigns, involving local celebrities, schools, and religious institutions, to educate the public on the importance of waste segregation and cleanliness. This resulted in increased community involvement and support for the waste management program.

Strict monitoring and enforcement

Regular inspections, fines, and incentives were introduced to ensure compliance with waste management rules. This helped maintain the cleanliness of the City and encouraged citizens to adhere to waste segregation and disposal guidelines.

Results achieved

Waste segregation

Over 90% of households in Indore now segregate their waste, significantly improving the efficiency of waste collection and processing, and reducing the burden on landfills.

Waste processing

The City's waste processing facility successfully manages 1,000 metric tons of waste daily, with a 95% waste recovery rate. This has led to a substantial reduction in landfill usage and has minimized the environmental impact of waste disposal.

Cleanliness

Indore has consistently ranked as the cleanest city in India in the annual Swachh Survekshan survey since 2017. This highlights the success of the City's waste management system and the active participation of its residents in maintaining cleanliness.



▲ IMC is planning to upgrade its existing waste segregation into 35 different categories



Health and environment

Cases of vector-borne diseases have dropped by 60% since the implementation of the waste management system, and air quality has improved due to reduced open burning of waste. This has led to a healthier environment and improved overall quality of life for Indore's residents.

Key learnings

Political will and administrative commitment are crucial for the successful implementation of waste management systems. Indore's transformation was made possible by strong leadership and a dedicated municipal corporation committed to addressing the City's waste management challenges.

Public awareness and participation play a significant role in ensuring the success of waste management initiatives. By actively involving the community and raising awareness about the importance of waste segregation and proper disposal, Indore was able to achieve a high level of public participation and support.

Strict monitoring and enforcement mechanisms help ensure compliance with waste management rules and regulations. Indore's approach to enforcing waste segregation and disposal guidelines, combined with regular inspections and penalties, proved to be effective in maintaining the City's cleanliness.

Investing in modern waste processing infrastructure can significantly improve the efficiency of waste management systems and reduce environmental impact. Indore's investment in a state-of-the-art waste processing facility allowed the City to process and dispose of waste more effectively, leading to a substantial reduction in land-fill usage and associated environmental issues.

Beside, Indore's transformation into a clean, sustainable city serves as an inspiring example for other urban centers in India and around the world. By adopting a comprehensive, integrated approach to waste management, Indore has successfully addressed its waste management challenges and set a benchmark for sustainable urban living.

Indore is making strides in its waste management services, with the goal of running on zero waste. The City has implemented a number of initiatives to reduce, reuse, and recycle its waste, and the results are already evident. With the help of its residents, Indore is well on its way to becoming a model city for waste management. The City's experience provides valuable insights and lessons for other municipalities looking to improve their waste management systems and promote environmental sustainability ■

HÔNG CẨM
(Source: *Earth5R*)

The UK Government has recently reaffirmed its commitment as a leader on international nature conservation, with a package of measures to address pressing challenges such as biodiversity loss, marine protection, climate change and illegal fishing.

The announcements made at the UN General Assembly in New York by Environment Secretary Thérèse Coffey and Foreign Office Minister Lord Ahmad will build on the work that the UK has already done on the international stage to put nature and the environment at the top of the international agenda.

This includes playing a leading role in negotiating and securing the new Global Biodiversity Framework (GBF) at the UN Biodiversity Summit in Montreal, which contains targets and goals to halt and reverse biodiversity loss by 2030.

To help protect marine life in the high seas, the UK will be one of the first signatories of the Biodiversity Beyond National Jurisdiction (BBNJ) Agreement, which will help establish large-scale marine protected areas in the two-thirds of the global ocean that lie beyond national jurisdiction. The UK will also sign the Ocean Conservation Pledge, building on our existing commitments to protect at least 30% of our own marine area by 2030, and has endorsed the High-Level Panel Leader's Communiqué, urging ocean-based action across climate, fisheries, pollution, management and mobilizing finance.

Environment Secretary Thérèse Coffey said: "It is vital that we maintain the momentum of the UN Biodiversity Conference last year and focus on implementation. Today's announcements will help to tackle biodiversity loss at sea and on land, and I urge more nations to join us as we drive forward progress on this global mission ensuring a sustainable future for generations to come".

Mr. Lord (Tarid) Ahmad of Wimbledon - Minister of State for the United Nations at the Foreign, Commonwealth and Development Office said: "I look forward to signing the BBNJ Agreement at the United Nations General Assembly and making the UK one of the first signatories. This Agreement is a major victory for ocean protection and multilateral diplomacy and underpins the UN Convention on the Law of the Sea as the cornerstone of ocean governance".

The UK played an important role in the negotiations and will continue to be proactive in preparing for implementation and entry into force and supporting other, particularly developing, countries, to do so.