

## Towards A Circular Economy

Initiatives in Solid Waste Management  
ITC Limited

# ITC Limited

## An Exemplar in Sustainability

ITC Limited is one of India's leading private sector companies, and a multi-business conglomerate with a portfolio spanning Fast Moving Consumer Goods, Hotels, Paperboards & Packaging, Agri-business and Information Technology.

Committed to creating enduring value for the nation, ITC has created unique business models that seek to synergise the building of economic, environmental and social capital as a unified strategy.

ITC's rigorous focus on minimising the environmental footprint of its operations and replenishing resources through large-scale resource management initiatives within and beyond

the fence have led the Company to be carbon, water and solid waste recycling positive for over a decade now.

ITC's businesses, value chains and social investment programmes have made a significant contribution to enriching India's natural resource base besides supporting 6 million livelihoods, many of whom represent the weakest in society.

- Carbon Positive for 13 years
- Water Positive for 16 years
- Solid Waste Recycling Positive for 11 years
- Generating 6 million sustainable livelihoods



**Sanjiv Puri**

Managing Director, ITC Limited

"The problem of solid waste management is one of epic proportions and requires each organ of society and more so, enterprises that are large economic organs of society, to make a meaningful contribution towards this in line with the Hon'ble Prime Minister's path-breaking initiative of Swachh Bharat.

We take pride that ITC is a Carbon Positive, Water Positive and Solid Waste Recycling Positive Company for over a decade now. We are committed to sustaining our leadership position as a Solid Waste Recycling Positive Company.

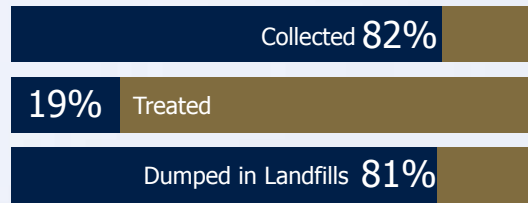
Our flagship initiative, Wellbeing Out of Waste (WOW), seeks to evolve a sustainable and a scalable solution to segregate, collect and promote re-use or recycle solid waste. The benefits of these are already available to 77 lakh citizens of the country and over time, we are going to scale this up and enhance our contribution to the Hon'ble Prime Minister's Vision of Swachh Bharat."

# Solid Waste in India A Gigantic Problem

Urban India – among the world’s largest garbage generators – is literally drowning in its waste. Every year Indian cities generate about 49.34 million tonnes of municipal solid waste (MSW) – of which a staggering 81% is being sent to landfills, open dump sites or just left as litter, clogging drains, contaminating water bodies and rivers. Already brimming beyond their capacities, the ever expanding landfills are serious health risks and environmental hazards. Future predictions are dire.

## India’s MSW – Alarming Facts

Of total MSW generated per annum



Source: Central Pollution Control Board, 2015-16

By 2030, waste generation will rise to 165 million tonnes per annum. At the current dumping rate, India will require 66,000 hectares of landfill area that is 10 metres high to hold 20 years of waste.



## The Peril of Plastic Waste

The average Indian uses 11 kgs of plastic a year – about half the global average. Recycling is largely carried out by ragpickers and waste handlers. But changing consumption patterns have led to a proliferation of post consumer plastic waste. Cities are the biggest generators. The worst culprits are ‘use and throw’ multi-layer laminates and polyfilms – low value items that are indiscriminately discarded and particularly hazardous due to their non-biodegradability and potential toxicity.

94% of plastic waste generated is recyclable.  
6% is non-recyclable.

## Plastic Waste – A Spiralling Crisis

Estimated plastic waste generated in India

**25,940** tonnes per day



Source: Central Pollution Control Board, 2015



# Solid Waste Management at ITC Contributing to India's Swachh Bharat Mission

As an exemplar in environmental performance, waste management is a major action area for ITC. Within the scope of its operations, waste generation is minimised through systematic monitoring and improvement of efficiencies in material utilisation as well as by maximising recycling. The Company has focused on optimising its packaging to ensure that environmental impact is minimised without affecting product integrity.



Outside the fence, ITC's initiatives focus on tackling the enormous problem of municipal solid waste by evolving sustainable and scalable solutions based on the principle of circular economy. These initiatives aim to extract the maximum value from waste through efficient systems for source segregation, collection, re-use and recycling that involve collaborations between all stakeholders.

Wellbeing Out of Waste (WOW) is one of ITC's flagship programmes that has achieved significant scale and is operational in cities and large towns. In addition, there are a number of community-managed projects in villages and towns to address the issue of waste management. A closed loop model for managing organic waste in temples has also been implemented. Together, these interventions extend to 77 lakh citizens in 10 states. ITC's objective is to scale up these initiatives and expand its contribution to the national Swachh Bharat vision of a clean, green, sustainable India.

- Optimising packaging
- Resource conservation
- Over 99% of waste generated in operations is recycled
- Enabling source segregation of municipal solid waste
- Facilitating collection, re-use and recycling
- Moving towards a circular economy

# ITC's Initiative for Urban Solid Waste Management

## A Case Study : Wellbeing Out of Waste – WOW

Joining hands with municipalities around the country, ITC's WOW initiative is turning once unsanitary waste-threatened neighbourhoods into clean and healthy environments. A unique source segregation and collection pathway, WOW works towards a circular economy, one which re-consumes its waste.

WOW transforms waste into wellbeing in a sustainable way by rewarding all stakeholders, particularly waste handlers and ragpickers who now have enhanced livelihoods, and creates new opportunities for recycling entrepreneurs. Working with common purpose and benefitting all sections of society, WOW is helping to make the national Swachh Bharat Mission a reality.



### How WOW Works



Awareness Building



Source Segregation at the Household Level



Efficient Collection System

### Sorting & Recycling



**DRY WASTE**  
Category-specific Recycling



**WET WASTE**  
Composted



Processing for Re-use by Industry – Paper, Plastic, Glass, Metals, etc.

A Steadily Expanding Footprint  
WOW 2007 – 2017

**10** States  
**562** Municipal Wards  
Over **19 lakh** Households  
**30 lakh** School Children  
**2,000** Corporates



Livelihoods generated for  
**14,500** Waste Collectors  
& Ragpickers

Supporting **59** Social Entrepreneurs

Impacting **77 lakh** Citizens

**50,196 MT** dry waste including  
**5000+ T** of multi-layered laminates  
& thin films collected

**100%** dry waste, including  
plastic waste, sent for recycling

# ITC WOW in Action

## Building Awareness, Changing Behaviour

Effective waste management depends fundamentally on public behaviour – only when each and every citizen is aware of their role in waste generation and acts responsibly to ensure proper segregation and disposal will municipal systems attain maximum efficiency for far-reaching impact.

ITC WOW tackles this vital task with a multi-pronged action plan that involves:

Training civic volunteers as Community Resource Persons known as Swachh Dhoots who make door-to-door visits to educate families on the importance of source segregation as well as other aspects of waste management and convince them to participate in the WOW system.



▶ Educating and training waste workers so that they can fulfill their responsibilities in collection, sorting and further segregation. Their understanding enables them to communicate the benefits of proper waste management systems to ensure that households separate waste correctly.



Conducting comprehensive school campaigns to inform and educate children and young people so that they develop awareness and good habits at an early age. Games, quizzes, competitions, events and other interactive activities like forming WOW Clubs and celebrating National Recycling Day stimulate interest and help to keep children engaged.



▶ Spreading awareness among the general public through street plays, pamphlets, hoardings, rallies and other such campaigns.

# Source Segregation – The Cornerstone of Effective Solid Waste Management

Segregating waste as close to the source as possible is the single most effective mechanism in maximising recycling and capturing the inherent value that literally goes to waste.

If households and other establishments can separate dry and wet waste at the time of disposal, the benefits are multiple and significant: enormous savings in time, labour and transport costs, non-biodegradable waste going into landfills is minimised, recycling is made that much more efficient.

Making source segregation as widespread and efficient as possible is a key WOW objective.



Participating households are provided with separate receptacles for wet and dry waste – either colour coded buckets or a bucket and bag for dry waste. Proper segregation is demonstrated by Swachh Dhoots and waste collectors check that households are disposing waste correctly – if necessary they explain the importance and benefits again.



▲ Information and education are absolutely vital. WOW's awareness building strategies are intensive, interactive and sustained – door-to-door campaigns conducted by Swachh Dhoots (trained civic volunteers), extensive programmes in schools, training for waste workers and other stakeholders, etc.



▲ Efficient systems for further sorting and segregation at DRCCs (Dry Resource Collection Centres) ensure that recyclables, mainly paper, plastic, glass and metals, go to the appropriate industry for re-use.

# ITC WOW in Action

## Recycling – Extracting Maximum Value from Waste

Waste is a valuable resource. While wet waste is biodegradable and can be turned into compost, dry waste contains a wealth of recyclables that can be converted into new products. Not only does this translate into considerable environmental savings, the recycling chain also generates economic value for all players.

Compared to paper, glass and metals, plastics would pose greater difficulties. However, as processing technologies are now widely available and being constantly developed, even Low Value Plastics (LVPs), which are particularly hazardous, can be re-used.

To extract maximum value from dry waste, WOW establishes recycling systems that ensure highly efficient segregation and enable aggregation to support economies of scale.



### Waste Segregation by Households :

The first and most vital step – separating dry and wet waste right at the point of disposal. ▼



### Sorting at Dry Resource Collection Centres (DRCCs) :

 ▲

Different categories of waste are thoroughly sorted at the Centres which are equipped with machinery to handle the sizeable volumes. The sorted waste is then sent onward to specific industry recyclers or to larger waste aggregators.

### Preliminary Category-wise Segregation by Waste Collection Workers :

Dry household waste is separated into broad categories – paper, plastics, glass, metal – during and post-collection and then sold to collection centres. ▼



### Super Franchisees – Large-scale Waste Aggregators :

 ▲

These small/medium business enterprises often specialise in a single type of waste and can tailor supplies according to the volume and type required by the recycler, e.g. only PET bottles, only multi-layer poly film, lots consisting of plain paper and board packaging.



# Building Partnerships, Supporting Livelihoods

Urban India's household waste management chain involves multiple stakeholders – apart from the households themselves and other establishments in localities like offices, schools, etc, it includes local municipal bodies and their employees, ragpickers who are among the most disadvantaged communities in cities and towns, as well as recyclers and processors of varying sizes.

WOW works by building partnerships, giving each stakeholder a role and responsibility and leveraging their capabilities as productively as possible. It optimises resources – using existing infrastructure where available and creating new where required. Designed to be a viable business model, it creates value for all players and generates employment, boosts incomes and supports livelihoods for economically backward groups.

## Households

Responsible for the crucial task of primary source segregation.

Benefit from cleaner localities with reduced health risks and the larger environmental benefits of scientific/proper waste management.



## Waste Workers

Manage the collection service and preliminary segregation.

Benefit from regular employment, higher incomes from sale of recyclables, better health and safety standards. With better public awareness and education, they acquire an important measure of social dignity. Ragpickers are inducted as waste workers and gain considerably from these advantages.



## Urban Local Bodies / Municipal Corporations

Provide manpower and resources, e.g. premises for Dry Resource Collection Centres as well as collaborating in training, monitoring and supervision of services.

Benefit from being able to provide an efficient service, public goodwill as a result of cleaner, greener localities and fewer public health risks.



## Dry Resource Collection Centres & Large-scale Waste Aggregators

Responsible for thorough sorting of dry waste and dispatch to appropriate recyclers. Run as small and medium business enterprises, they provide livelihoods and employment to their operators and workers.



## Recyclers & Processors

Entrepreneurs/businesses that turn post consumer waste into new products, e.g. recycled paper and packaging products, plastic pellets used to make consumer items like chairs, plastic material for road construction or alternative fuel for cement kilns, etc.

## Society at Large

Benefits from substantial public health and environmental gains – less pollution, less landfill space required, smaller carbon footprint, improved resource recovery and much more.

# ITC WOW – Making our cities cleaner and greener

## Hyderabad Telangana

Households served  
(cumulative to 31.3.2018)  
**2,75,332**

Wards covered  
(cumulative to 31.3.2018)  
**60**

Total dry waste collected  
(April 2017-March 2018)  
**6,071 MT**

% of dry waste recycled  
**100%**

Dry waste to landfills  
**Nil**



Piloted in select wards in Hyderabad in 2007 in association with the Greater Hyderabad Municipal Corporation, WOW is continuously gaining in momentum. Involving households and children, corporate and commercial establishments, municipal workers, ragpickers and recycling technologists, the WOW movement is winning more and more people over to its proposition of segregating waste in homes and recycling – giving solid waste management in Hyderabad and neighbouring towns of Telangana a sustainable, affordable and eco-friendly makeover.



## Women-run Dry Resource Collection Centres

From buying, sorting, transporting and selling recyclable dry waste to managing finances and logistics, women's self-help groups in Telangana are successfully managing Dry Resource Collection Centres. Trained through the ITC WOW programme, the groups are turning these Centres into thriving co-operative enterprises and enabling members to earn regular and higher incomes in safer and cleaner workplaces.



ITC WOW was launched in Bengaluru in 2013 with operations in 12 wards. Working closely with the city's Municipal Corporation – Bruhat Bengaluru Mahanagara Palike – today residents of nearly 31% of the city's wards have embraced source segregation, re-use and recycling of waste – moving Bengaluru closer to its aim of instituting a decentralised solid waste management system and minimising load to landfills.

## Bengaluru Karnataka

Households served  
(cumulative to 31.3.2018)  
**811,287**

Wards covered  
(cumulative to 31.3.2018)  
**61**

Total dry waste collected  
(April 2017-March 2018)  
**31,246 MT**

% of dry waste recycled  
**100%**

Dry waste to landfills  
**Nil**



## Helping to tackle the curse of LVP

Recycling Low Value Plastic (LVP) waste is a focus area of ITC WOW. Around 600 tonnes of LVP per month is collected through the WOW programme in Bengaluru – which would otherwise have choked drains, been burnt or ended up in landfills and eventually oceans. WOW works with a new breed of social entrepreneurs channeling LVP waste to recycling technologists who process it for re-use by industries, thereby helping to tackle a major contaminant, generate livelihoods and create a healthier environment.



# ITC WOW – Making our cities cleaner and greener

## New Delhi

Households served  
(cumulative to 31.3.2018)  
**28,606**

Wards covered  
(cumulative to 31.3.2018)  
**18**



From Rashtrapati Bhavan – India’s stately Presidential estate – to the colonies of the national capital, WOW’s mantra of household level waste segregation, composting and recycling is rapidly gaining ground. Commencing in 2017, ITC is working with the New Delhi Municipal Council to turn the city into zero waste neighbourhoods.

## Rashtrapati Bhavan

Perhaps the greatest acknowledgement of the efficacy of the ITC WOW model is the fact that it has been adopted for managing waste at Rashtrapati Bhavan. Among the largest residences of a head of state in the world, the complex is spread across 320 acres. Organic waste generated in its environs is processed into compost by an all-woman team – the Rani Jhansi Self-help Group – and used in Rashtrapati Bhavan’s famed Mughal Gardens.



Initiated in December 2016 in collaboration with the Muzaffarpur Municipal Corporation and Centre for Science & Environment (CSE), WOW has already transformed into a people's movement with 39 out of a total of 49 wards taking up source segregation. Fast progressing towards its goal of a creating a circular economy of solid waste management, today Muzaffarpur is a city transformed. The stellar efforts put in by all stakeholders in managing its garbage have contributed to the city's selection under the Union Government's Smart City Mission.

## Muzaffarpur Bihar

Households served  
(cumulative to 31.3.2018)  
**33,205**

Wards covered  
(cumulative to 31.3.2018)  
**39**

Total dry waste collected  
(April 2017-March 2018)  
**608 MT**

% of dry waste recycled  
**100%**

Dry waste to landfills  
**Nil**



### Over 80% source segregation

ITC WOW's awareness building and follow-up activities on source segregation have found ready support in Muzaffarpur. Over 80% of households in WOW wards hand over segregated waste to collectors on a regular basis. While dry waste is further segregated at Dry Resource Collection Centres and transported to recyclers, everyday around 7-8 tonnes of wet waste feeds the Community Composting Centre near the Town Hall – another 3 such decentralised centres to cover all 49 wards are on the anvil.



# Mangaldeep Green Temple Project – Setting a Zero Waste Example

Three of Tamil Nadu's most revered temples have been leading by example. Partnering with ITC in 2017, they have adopted a closed loop model of solid waste management. The huge amount of organic waste generated from daily offerings and cow dung from their Goshalas (cow sheds) is utilised in bio-composters and bio-gas plants. By recycling this waste on site, the temples are turning their premises into zero garbage zones – benefitting both the temples and their neighbourhoods with cleaner and healthier surroundings.



## Arulmigu Kapaleeshwarar Temple – Green Savings & Revenue

By using bio-gas generated within its premises to cook prasad for devotees – who number around 3,000 every day – the temple has been able to almost halve monthly costs on LPG cylinders. The compost prepared on-site is used in the temple garden and the surplus sold – providing an additional revenue source.



## Tamil Nadu

Temples Covered

Arulmigu Kapaleeshwarar  
& Sri Anantha  
Padmanabha Swamy  
Chennai

Sri Ranganatha Swamy  
Trichy

Total waste managed on site

**118 MT**

Total waste composted

**103 MT**

Revenue from compost

**₹ 51,000**

Bio-gas generated

**3,800 Cum**

Savings on LPG

**₹ 2,12,000**

Figures are for all 3 temples & pertain to the period  
January 2017- March 2018



# Towards a Swachh and Swasth India

A large and growing population, rapid and unplanned urbanisation and swiftly rising consumption levels are colluding to exacerbate waste generation in India. It is clear that this daunting challenge must be tackled on a war footing and would require collective and collaborative action from all stakeholders.

ITC's commitment to sustainability is manifest in the waste management practices implemented in its operations to ensure resource conservation, minimum waste generation and maximum recycling. Its solid waste recycling positive status, maintained for over a decade now, vouches for its success in this endeavour.

In terms of the Company's product packaging, ITC aims to go beyond Extended Producer Responsibility requirements and over the next decade, ensure that 100% packaging is reusable, recyclable or compostable by deploying superior solutions.

Inspired by its commitment to build a better tomorrow, ITC is also seeking solutions to waste management problems commonly faced by citizens across the country. Its WOW initiative has demonstrated a replicable and scalable model for effective waste management that is contributing to cleaner and greener cities. ITC has also developed a model for waste management projects in rural areas, with communities taking the lead in implementation. In addition, it has also implemented a programme for managing waste in temples.

Based on building productive partnerships between public and private stakeholders and focusing strongly on changing mindsets, WOW also generates economic value for players in the waste value chain. New technologies and increase in commercial use will also drive the demand for recycled waste and social entrepreneurship, making the chain viable and sustainable in the long run. As the initiative grows further, these inherent strengths will enable it to evolve new dimensions to suit diverse needs and changing scenarios taking India closer to its goal of a zero waste society.

Going forward, ITC is committed to sustaining its leadership position as a solid waste recycling positive company.



# ITC: Transforming Lives and Landscapes



**ITC's e-Choupal**  
Empowering 4 million farmers



**ITC's Afforestation Programme**  
Greening more than 6,85,000 acres



**ITC's Watershed Development Programme**  
Providing soil & moisture conservation to nearly 8,75,000 acres of dryland



**ITC's Integrated Animal Husbandry Programme**  
Over 16,65,000 milch animals serviced



**ITC's Women Empowerment Initiative**  
Creating over 60,000 sustainable livelihoods for women



**ITC's Primary Education Initiative**  
Benefitting nearly 5,60,000 children



**ITC's Skilling & Vocational Training Initiative**  
Over 55,000 youth trained



**ITC's Health & Sanitation Programme**  
More than 30,000 low-cost sanitary units constructed

[www.itcportal.com](http://www.itcportal.com)

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