

# MATERIAL RECYCLING

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THE VOICE OF INDIAN RECYCLING INDUSTRY

Special Feature  
**INDIAN AUTOMOBILE RECYCLING**

## OPENING THE FLOODGATES



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**DR RAJAGOPALAN VASUDEVAN**  
THE PLASTICS MAN OF INDIA



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PLASTICS

# RISE TO THE OCCASION

THE PLASTIC INDUSTRY HAS COME A LONG WAY IN THE PAST 25 YEARS. IT DESERVES DUE RECOGNITION AND "RECYCLING" COULD POSSIBLY BE AN AVENUE FOR ITS SURVIVAL, BELIEVES **DEEPAK MEHTA** OF LEADING SUPPLIER OF RECYCLING TECHNOLOGIES, LEEVAMS INCORPORATED



★ DEEPAK MEHTA ★



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he continued growth of the Indian economy with 1.3 billion inhabitants, change in lifestyle, consumer behavioural pattern and convenience-oriented uses have enhanced the demand for plastic products many folds. Of course, this has invited risk of environmental pollution, with lack of waste management practices. At times, the danger goes beyond the limits: with the plastic waste originating in the city or town resting on

the barren lands while the countryside plastic waste getting introduced in the oceans via rivers and coasts, thus seriously harming the environment.

A precondition for protecting or safeguarding the environment with sustainable growth is to create effective and efficient recycling systems for the used plastic products, commonly known as post-consumer waste.

The challenge we all are facing is the growing amount of plastic waste with the

ever-rising consumption pattern. No wonder, why it has posed a serious environmental issue catching the attention of court, government & NGOs. Major reservation is towards the plastic waste which is not biodegradable! In fact, such plastic waste should be processed and re-used, realizing it as a valuable resource.

The growing global concern towards the environment, amongst the developed countries as well as the emerging countries, offer immense opportunities to share diverse and extensive experience in building appropriate, well-proven and economically viable recycling solutions for the plastic waste.

It is heartening to see the new plastic waste management rules 2016, amended in 2018, bringing the political will, legal framework for collection, disposal and execution, requisite information on plastics waste that needs immediate addressal as well as involved actors and stakeholders to comply



with the EPR and CSR responsibilities. As the system sets its pace, a lot more clarity, understanding and streamlining would follow in the coming years, bringing India too in line with global practices. Rightly so, improvement in waste management practices is a continuous process.

A big fear or threat amongst the plastic fraternity is, if the targets are not met, the public or the government or NGOs could choose not to use plastics and may come out with a solution that the industry likes the least!

Optimistically speaking, such a thrust

## A DECADE OR TWO AGO NO RAG PICKERS OR KABADIWALAS WAS INTERESTED IN COLLECTING PET BOTTLES, PURELY BECAUSE THEY FOUND NO RESALE VALUE FOR IT. TODAY, SPECIAL ATTENTION IS GIVEN TO PET

has given the plastic industry a huge opportunity to shape their own future. Circular economy is going to be the zing thing; a buzz word in the field of plastics. An era to demonstrate, plastics can be circular by its economical reuse in production, replacing the virgin feedstock. It is going to be a game-changer; a paradigm shift in the mindset of the industry.

If taken in a positive stride, the results ought to show a strong demand from the plastic processors and converters for producing good quality recyclates. While the recycling of inhouse and industrial waste is fairly developed, very soon we will see a considerable potential in the recycling of post-consumer waste too.

If we recall, a decade or two ago no rag pickers or kabadiwalas was interested in collecting PET bottles, purely because they found no resale value for it. Today, special attention is given to PET amongst the post-consumer plastic waste recycling segment. PET bottles have become the most valuable stream fetching around Rs. 50/- per kg. Going by the recent announcement of PACE, about 90 percent of the collected PET is recycled in India. Due to legal restrictions, currently there is no bottle-to-bottle recycling, but soon India too would follow suit, like any other advanced country. Till then, majority of the material would continue to be converted into fibers, yarns and filaments.

Though the recycling of post-consumer plastic wastes from other applications are majorly in the domain of unorganized sector and playing a minor role, but it is a matter of time when we will see professional recycling practices being followed just like PET. One would agree, to qualify EPR, approach towards recycling of plastic waste ought to be different – far more advanced to meet the emerging quality standards for reuse of recycled granules or pellets.

Respecting the type, kind and commingled nature of Indian post-consumer waste, especially the recyclables originating from MSW or household waste, the very first step would be proper sorting, segregation and separation of all the major fractions.



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The well sorted polymer fraction would then undergo further treatment like washing, drying and pelletizing – thus converting waste into reusable granules. The mixed fraction or the plastic waste that do not have a definitive reuse, may find its current use in polymer composite panels or extruded sections, RDF or pyrolysis.

The biggest challenges foreseen is in the field of recycling multilayer or laminated flexible packaging films or pouches, which is currently perceived as “it cannot be mechanically recycled”! The reality is otherwise; more than converting such complexly structured waste into recycled granules, the real challenge lies in its reuse due to technological limitations in its moulding and/or extrusion in ‘as is, where is’ basis! Additional treatment is a prerequisite in the present context.

We clearly see the pathways are opening for material recycling facilities (MRF), more so utilizing mechanical recycling methods as compared to chemical, due to several factors.

We opine, India will soon mobilize professional recycling methods for other plastics waste too like EPS, e-waste or WEEE, etc., apart from metals, C&D waste etc. which are currently being recycled in a very limited as well as informal way, unlike the practices being followed by developed countries.

Prudence lies in continuing benefits that plastics offer, devising means to overcome its perceived drawback. Efforts to reduce and to reuse must be sacrosanct with the logical and sensible act to “recycle”!

Having been associated with this industry for almost 25 years, we can say with a certain degree of certainty that it is not an easy task to market a product that is fully or partially made from a recycled material. There needs to be a concerted effort to educate the masses, literate or otherwise,

on the nuances of recycled plastics by way of visible demonstrations.

The reluctance to use of recyclable plastics is due to its designation - ‘cheap’. The incorrect adjective ‘cheap’ is attached to its accrued lower per unit cost, which the consumers associate with its ‘quality’.

Incorrect introduction of recycled plastics prevent end products to meet the required quality specs for which the product is actually designed.

Processing of plastic waste is a stupendous effort in converting into a “good” reusable product. Feasibility lies in the economic chain for an “all win” solution.

Collective efforts and synergy to use a certain quantity of recycled material in the finished product, devising stringent quality parameters for the recycled materials, conducting periodic simulation tests to ensure that the finished product continues to meet the customer’s requirement, its acceptance ought to shift towards a positive direction.

Principle responsibility for the promotion and acceptance of recycled plastics across its bandwidth gets jointly shouldered by the raw material manufacturers, compounders, brand owners, product designers, product producers and the recyclers. The right blend can soon realize: “say Yes to plastics”.

A collaborated and corroborated effort in the mission called “recycling” is the need of hour.

The plastic industry has come a long way in the past 25 years. It deserves due recognition and “recycling” could possibly be an avenue for its survival.

Together we can change the perception.

» **Mr Mehta** is the Managing Director of Baroda-based Leevams Inc, a leading recycling equipment supplier in the country

