



ELT recycling, disposal in India

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▲ By Rahul Shringarpure*

The waste recycling industry has had to tread on steep paths before being embraced by the society for long. The End of Life Recycling and Disposal arena will also have to endure and structure a path for itself in the Indian context.

The law says that the originator of the waste will be responsible for the disposal of the waste. In the case of End of Life Tyres (ELT), the implementation of this law has yet to see the light of the day in India, and to my understanding all across Asia. Used tyres are still at the mercy of private waste yards for collection and processing if at all. This waste, which was in the hazardous waste category, till a few months back (in the Indian context), is handled in a completely non organised manner all across the continent. The stakeholders have been minimally involved in this disposal chain. The result is that millions of tyres that are discarded every year do not get processed and disposed in an environment friendly manner.

The result of the non-regulation of this end of the disposal chain has the following consequences, to name a few:

1. Indiscriminate burning of tyres for burning in brick kilns and for heating in colder

regions, adding to the ever increasing pollutants in the environment.

2. Becomes a breeding ground for disease-spreading mosquitoes and other insects, posing health hazard to the environment.

3. India having to import End Of Life tyres from Europe and Middle East due to non-availability of the ELT at viable prices and also for the consistency of supply. This imports have resulted in the loss of foreign exchange for the country.

4. The impact on the new tyres market in India. The ELTs are only allowed for import with single or multiple cuts as specified in the license. But in reality lots of such tyres from the western world have found its way in the Indian market and has now become a matter of concern for the new tyre manufacturers.

Sophisticated technology

Let us try to understand what is happening in the developed world in the field of tyre recycling. Tyre recycling today is not confined to mere collection, retreading/ reuse and limited forms of treatment options. Today, tyre

recycling worldwide includes a broad range of sophisticated technologies and treatments as well as consumer/industrial products, construction, civil engineering and transport applications. Materials can range from shred and chips to granulate and powders as well as microns that can be used as ingredients in complex formulae.

Further, recent innovations have allowed the outputs to encompass three material streams, utilising 100 per cent of the tyres. Today, high quality rubber, steel and textiles are the results of tyre recycling technologies. This versatile material has been used in many forms and has been a valid replacement for expensive virgin resources in the field of rubbers and elastomers.

It is also important to point out at this juncture that despite all odds, there have also been technologies that have been developed in the subcontinent which has been able to make use of End of Life tyres substantially. For instance, India and China has been manufacturing reclaim sheets using ELTs and butyl tubes. Both these countries together contribute to more than 70 per cent of the worldwide requirement for reclaim sheets manufactured from ELTs.



Photo Courtesy: <http://www.thebetterindia.com>

It is high time that this waste be treated as a resource and guidelines and policies are set in place enabling organised recycling and disposal. The milestones in the organised recycling and disposal of ELTs can be as follows:

National policy

Tyre manufacturers association to undertake the responsibility of initiating steps in structuring the National Used Tyre Recycling policy in conjunction with the Ministry of Environment & Forestry. This policy could be in line with the ETRA framework or the CATRA framework. There is also the French recycling association - Aliapur and the American ISRI, which can be referred to. The right recycling policy will be a combination of learnings from the west amalgamated with our market conditions.

The mission of the association can be on the lines what ETRA president mentioned in his interview. – “It will be formalize tyre recycling as an independent, multi-sectoral industry involved in a long chain of activities and to assist in the realisation of cost-effective as well as environmentally sound and commercially viable tyre recycling activities. The need of the hour is to implement policies and adopt behaviours that are more sustainable and respectful for future generations.”

The association can form an internal committee engaged in the innovation process

of the sector in many ways: Developing new products and applications, improving the processes, trying to make them more sustainable and to add more value of the end products. The committee thus formed will be involved in many R&D projects, either as co-ordinator or partner, and could also work together with international partner to facilitate the exploitation of the results.

Secondly, to commit a sustainable disposal plan for a small percentage of end of life tyres by the association to start off with. This will necessitate the levy of a small insignificant disposal charge on new tyres sold. The amount recovered will enable the collection and storage of end of life tyres in an organised manner. The end of life tyres will then be sold only to licensed recyclers at viable prices. The licensed recyclers will be allowed only association approved processes and methods for recycling. The end products will again go into the rubber industry completing the loop. This system can be started with the metros as a pilot project and then taken to the tier B and tier C towns in phases.

Thirdly, on the processors side, choosing the right kind of equipment for primary and secondary shredding and downsizing of used tyres is very important. This choice of equipment has to be the blend of technically experienced and robust on one side and reasonably priced on the other side. I would advise use of

the European and American experienced equipments vis a vis the cheaper but unexperienced options. It has been seen in this sector that robust equipments deliver better value for money in the long runs with better running cost. The running cost and low downtime determine viability in the waste recycling industry. The cost could be reduced by getting the main equipments from the west and sourcing the supporting conveying equipments locally. To my estimate this could cut down the total plant package cost by about 30 per cent to 35 per cent.

Once the end of life tyres are cut/granulated/powdered to size, then the options of various products being manufactured from the same are many today. New and innovative products are being made from crumb rubber. We are not very far away from the day when complete new tyres will be made from this end of life tyres thus completing the loop in all senses and saving natural resources.

The organised ELT recycling journey will start with all stake holders acknowledging the responsibility for disposal and recycling. I will sign off this note with my take on the famous lines that sums up the journey ahead: “The roads are lonely and steep, It’s miles to go before I sleep.” ▲

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