



# **PLASTIC, RUBBER AND RECYCLING SECTOR**

# Introduction



Plastic recycling is the reprocessing of plastic waste into new and useful products. When performed correctly, this can reduce dependence on landfill, conserve resources and protect the environment from plastic pollution and greenhouse gas emissions



rubber recycling, is the process of recycling waste tires that are no longer suitable for use on vehicles due to wear or irreparable damage. These tires are a challenging source of waste, due to the large volume produced, the durability of the tires, and the components in the tire that are ecologically problematic

In 2019, the global waste recycling services market was valued at 53.71 billion U.S. dollars. The market is expected to grow considerably in the coming years as consumer awareness about the environmental impacts of waste increases. By 2027, it is forecast that the global waste recycling services market will have reached a value of 80.3 billion U.S. dollars, increasing at a CAGR of 5.2 percent between 2020 and 2027.

### Global plastics recycling

While many materials can be recycled, it is plastic waste that has come into significant media attention in recent years. The images of plastic waste polluting marine environments has increased consumer demand for improved recycling worldwide. Since the 1950's, some 10 billion metric tons of plastic materials have been produced worldwide. However, just a small amount of this has ever been recycled.

### **Recycling rates worldwide**

Recycling rates vary greatly around the world. Germany has one of the highest recycling rates of municipal waste at 68 percent. In comparison, the recycling rate in the U.S. is just 32 percent and has seen little progress over the past decade. Price is often a factor in low recycling rates, as it is often cheaper to produce new plastic products from raw materials than recycled materials.



# Indian Market



And for good reason. Municipal solid waste is considered a highly promising sector for entrepreneurs. Recycling and thermal utilisation of solid waste open many possible lines of business in this sector because these processes seek to keep especially the dry fraction out of the already overburdened landfills wherever possible. Thus, India is currently planning to construct about 100 new waste incineration plants, which have the potential to produce an estimated 3 GW of energy from waste in 2050. At the same time, work is also underway on legislative measures aimed at increasing the waste utilisation rate. For example, a 100% recycling and recovery rate is planned to be made mandatory for PET by 2025.

PET and other plastics are one of the toughest challenges confronting the Indian waste management sector today. With per capita plastic consumption of 12 kilogrammes, India is below the average of the highly developed countries in the West. However, because of its size, it ranks in the top five countries in the world in the amount of plastic waste generated. According to Vice President M. Venkaiah Naidu, the number of plastic recyclers nationwide totals around 30,000, most of them businesses on a mini or micro scale. Nonetheless, about 40% of this waste still ends up in landfills.

# Key Players

- A2Z Green Waste Management Ltd
- BVG India Ltd
- Ecowise Waste Management Pvt. Ltd
- Tatva Global Environment Ltd
- Hanjer Biotech Energies Pvt. Ltd
- Ecogreen Energy Pvt. Ltd
- Waste Ventures India Pvt. Ltd
- Hydroair Tectonics (PCD) Ltd
- IL&FS Environmental Infrastructure and Services Ltd
- Jindal ITF Urban Infrastructure Ltd
- Ramky Enviro Engineers Ltd
- SPML Infra Ltd



# BUSINESS OPPORTUNITIES



## 1. Plastic Recycling Business

Nearly 400-500 million tons of plastic waste is generated every year and only 10-20% waste is recycled leading to a rise in pollution. One can utilize this opportunity of recycling plastic waste. A plastic can be recycled to a certain stage by which one can not only earn good profit but also reduce waste from the society. Plastic waste recycling was be used to generate other plastic products like polythene, plastic bottles, plastic cans, tubs, buckets, and their likes. A time comes after certain round of recycle that the plastic cannot be utilized for human use. Even then one can use it in constructing roads by using it as an adherent.

## 2. Paper Recycling Business

Paper waste recycling is another such profitable recycling business venture where you can collect paper waste and recycle it using machines in small recycling unit. If the paper is still in healthy situation then one can use it in manufacturing of paper plates, paper envelopes, paper pockets and many more. You can also treat the paper and then make other paper materials. There are different types of paper in terms of quality. The white paper is the supreme form of paper while the newspaper comes at later stage while tissue paper comes at the bottom stage. You can treat the paper pulp and then recycle it to manufacture papers for use.

## 3. PVC Recycling

Polyvinyl Chloride known as PVC is a synthetic and strong material used in manufacturing pipes, tanks, shades, and their likes. These PVCs after they are used can be recycled. For this you need a proper plant where PVC can be treated and is utilized in creation of goods. PVC can be melted using machines and can be shaped in the required form or directly used in manufacturing PVC goods of lower quality.

## 4. Carton Box Recycling Business

Carton Box is made of cardboard and is used as packaging material. Most of these carton boxes become useless after one use. One can collect these carton boxes and can recycle them using recycling machine. The only thing require is collection these cartoons which can be collected easily from scrap shops. You need a small processing plant and manufacturing machine for cardboard.



## 5. Scrap Metal Recycling

Scrap Metals are those metals that are left out as waste after usage. These metals are mostly useless for further use and can be used as waste for recycling purpose. What you need is a plant where you can process these scrap metals and then sell it at higher rates to other manufacturing houses so that they can use it for useful purpose. These metals are melted down and are given a shape of brick block so that it can easily be transported to metal industry for further processing. Recycling of metal scrap is most profitable among all recycling businesses.

## 6. Computer Recycling Business

Computer contains various components that are recycled based on their structure. A monitor screen can be recycled in a different way while a keyboard is recycled in a different way. The starting process is segregating them and classify them in different orders. Later based on what can be sold for further recycle and what can be recycled at your plant you can decide. Computer recycling is known to be eco-friendly as it stops the hazardous waste entering the atmosphere.

## 7. E-Waste Recycling

E-waste or electronic waste is the waste generated by electronic items like calculator, mobile phone, watches, remote, laptop, tablet and many more. These wastes are hazardous in nature and therefore should better be recycled. Processing E-waste is a very profitable business as many companies directly buy your recycled product at higher rates. What you purchased as waste can be sold as product at relatively higher rate. You just have to recycle them.



# GROWTH



. In India, the metal recycling sector currently employs nearly 1.75 million people and contributes around 2 per cent to GDP. For India, recycling has the potential to create six times more jobs and generate around ₹14-lakh crore of additional cost savings by 2030, which is approximately 11 per cent of our annual GDP.

For such compelling benefits, the global scrap metal market has been growing and is expected to increase to \$406.2 billion in 2020 from \$277.1 billion in 2015.

While India provides a tremendous potential for reuse and recycling of products, there is a felt need for a more comprehensive policy and regulatory simplification aiming at a formal ecosystem and 'ease of doing business' for recyclers.. This includes removing barriers for the input factors, establishing a marketplace for scrap and recycled products, promoting public procurement and enhancing overall consumer awareness, and harmonising standards and certification.

# PLANT AND MACHNERY

- Plastic granulators
- Plastic shredders
- Washing systems
- Draining systems
- Separation technologies
- Plastic pelletizers
- Water treatment systems





# COSTING AND LICENSES

- Consider these basic start-up costs (with some possible costs) and shop around for the best deal:
- Processing facility (\$1500/mo)
- Drop-offs (\$1000 per unit)
- Employees, bare bones staff of five at \$10/hour (\$2000/wk + taxes, insurance, social security)
- Equipment (\$5000 – \$10,000)
- Utilities
- All in all, you're looking at a \$20,000 to \$30,000 first month in business for a smoothly-operating recycling business, which is why the EPA recommends finding backers from the community to offset initial fees. One backer you might consider is the government. They offer lower-rate loans that you may qualify for because your business benefits both local residents and the environment.



# GOVERNMENT SCHEMES

- WASTE TO ENERGY SCHEME
- <https://mnre.gov.in/waste-to-energy/schemes>
- [Startup.india.gov.in](http://Startup.india.gov.in)
- [Greene.gov.in](http://Greene.gov.in)
- PLI Scheme



# COLLEGES

- SIES-Indian Institute of Environment Management
- Indian Plastics Institute
- Chhatrapati Shahu Institute of Business Education and Research, Kolhapur.
- Indian Institute of Forest Management, Bhopal.
- Desh Bhagat University, Mandi Gobindgarh.
- UP Rajarshi Tandon Open University, Allahabad.
- National Institute of Industrial Engineering, Mumbai.



# ASSOCIATIONS

- National Solid Waste Association of India (NSWAI)
- The International Institute of Waste Management (IIWM)
- The Industrial Waste Management Association
- Solid Waste Management (SWM)
- Earth5R
- TRISHUL
- Saahas
- Green Communities Foundation (GCF)