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A Review Paper on Plastic Recycle Machine

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***Abstract*— There is problem of plastic waste arising now a days. So it is the need of time to recycle this waste and make useful products out of it. In the construction field there is large demand for bricks and here we have put forth the method to make bricks out of plastic by melting it. It would give us many advantages like low labour cost , low transportation cost , low raw material cost , innovative use of scrap.**

***Index Terms*— LDPE (low density polyethylene), PET(polyethylene terephthalate), PP(polypropylene), PS(polystyrene),PVC(polyvinyl chloride)**

I. INTRODUCTION

Recycling has been debated endlessly for many years now. There are two points of view regarding this issue. The argument in support of recycling concerns the negative impact of waste and emissions on our planet. The counter case is that costs undertaken to recycle are larger than the revenue returns. only recycles 5% of its plastic waste even though it is one of the largest industrial cities in the country and there is growing concern about its part in the release of greenhouse gases from industry and the waste system. This is a relevant matter because pollution is at high levels and there must be efforts from every department to control this.

Recycle Rate (%)	0	5	40
Emissions (kg equiv CO2/day)	764.58 (B.3)	746.49 (Sup)	458.83 (B.3)
Total Cost ($/day)	493.07 (A.3)	472.72 (Sup)	330.24 (A.7)
Total Energy Consumption (kJ/day)	3.22E+07 (A.2)	3.06E+07 (Sup)	1.95E+07 (A.6)

II. CONSTRUCTION AND WORKING

As in our model mechanism we use to working model these model is operated in three different stages.

1) Once the plastic has been collected, it will have to be cleaned and sorted. The techniques used will depend on the scale of the operation and the type of waste collected, but at the simplest level will involve hand washing and sorting of the plastic into the required groups. More sophisticated mechanical washers and solar drying can be used for larger operations. Then crushing the plastic and fill in our hopper

2) After these material send to heating chamber here all plastic material is melt and forward moment with help of Pneumatic cylinder piston mechanism.

3) After these precede we forward the material in rope size in coolant tank here we plastic liquid form to solid form.

4) After cooling we cut the material with help of rotary cutter.

low density polyethylene (LDPE) used in plastic bags, cling film, flexible containers;

• **polyethylene terephthalate** (PET) used in bottles, carpets and food packaging;

• **polypropylene** (PP) used in food containers, battery cases, bottle crates, automotive parts and fibres;

• **polystyrene** (PS) used in dairy product containers, tape cassettes, cups and plates;

• **polyvinyl chloride** (PVC) used in window frames, flooring, bottles, packaging film, cable insulation, credit cards and medical products.

There are hundreds of types of thermoplastic polymer, and new variations are regularly being developed. In developing countries the number of plastics in common use, however, tends to be much lower.

Why recycle plastics?

In 'western' countries, plastic consumption has grown at a tremendous rate over the past two or three decades. In the 'consumer' societies of Europe and America, scarce petroleum resources are used for producing an enormous variety of plastics for an even wider variety of products.

Many of the applications are for products with a life-cycle of less than one year and then the vast majority of these plastics are then discarded. In most instances reclamation of this plastic waste is simply not economically viable. In industry (the automotive industry for example) there is a growing move towards reuse and reprocessing of plastics for economic, as well as environmental reasons, with many praiseworthy examples of companies developing technologies and strategies for recycling of plastics. Not only is plastic made from a non-renewable resource, but it is generally non-biodegradable (or the biodegradation process is very slow). This means that plastic litter is often the most objectionable kind of litter and will be visible for weeks or months, and waste will sit in landfill sites for years without degrading. Although there is also a rapid growth in plastics consumption in the developing world, plastics consumption per capita in developing countries is much lower than in the industrialised countries. These plastics are, however, often produced from expensive imported raw materials. There is a much wider scope for recycling in developing countries due to several factors:

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III. PLASTICS FOR RECYCLING

Not all plastics are recyclable. There are 4 types of plastic which are commonly recycled:

• Polyethylene (PE) - both high density and low-density polyethylene.
• Polypropylene (PP)
• Polystyrene (PS)
• Polyvinyl chloride (PVC)

A common problem with recycling plastics is that plastics are often made up of more than one kind of polymer or there may be some sort of fibre added to the plastic (a composite) to give added strength. This can make recovery difficult.

IV. ADVANTAGES

Labour costs are lower.

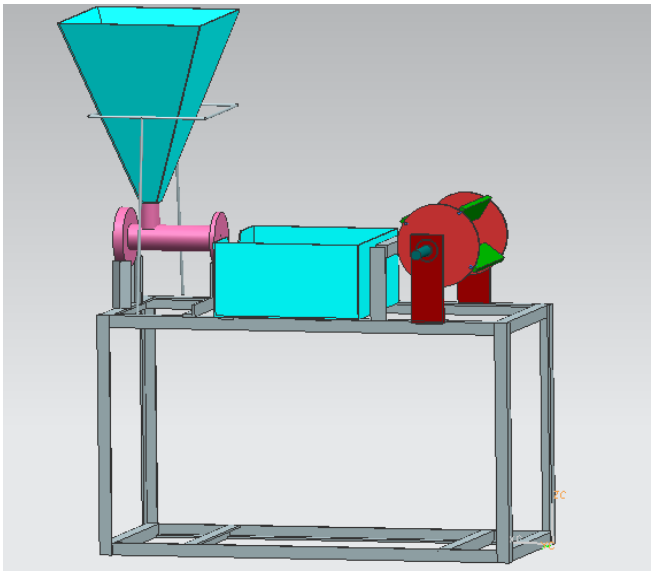
• In many countries there is an existing culture of reuse and recycling, with the associated system of collection, sorting, cleaning and reuse of 'waste' or used materials.
• There is often an 'informal sector' which is ideally suited to taking on small-scale recycling activities. Such opportunities to earn a small income are rarely missed by members of the urban poor.
• There are fewer laws to control the standards of recycled materials. (This is not to say that standards can be low – the consumer will always demand a certain level of quality).
• Transportation costs are often lower, with hand or ox carts often being used.
• Low cost raw materials give an edge in the competitive manufacturing world.
• Innovative use of scrap machinery often leads to low entry costs for processing or manufacture.

In developing countries the scope for recycling of plastics is growing as the amount of plastic being consumed increases.

V. STANDARD PARTS USED

1) Cylinder.Double Acting Dia.32X100mm
2) Coil.200watts Dia.50 X 50mm
3) 5/2 Pneumatic valve.10 Bar.

VI. 3D MODEL



VII. CONCLUSION :

The bricks thus developed from waste plastic will solve the problem of managing plastic waste in near future. It will also reduce the cost of raw material in construction. Apart from this it the bricks will be lightweight and easy for transportation. The problems with clay bricks can be overcomed with these plastic bricks

VIII. FUTURE SCOPE :

Bricks made from soft plastic waste that can each withstand six tonnes of pressure and relentless rain could replace the clay bricks currently used to build rural homes in monsoon-prone countries such as India. Clay is susceptible to rain, and many homes in India can be badly damaged during the monsoon season, as clay bricks are washed away. But the new waste-made material, which is both strong and lightweight could solve this problem

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