

## **Brief Overview of a Novel Waste Plastic Road Process**

Disposal of waste plastic is one of the critical challenges being faced globally. Several attempts have been made till date to address the issue. However, looking at the complexity of mixed waste plastic, a sustainable and economical pathway still eludes. Therefore, it is imperative that there is an urgent need to address this issue. Present work carried out demonstrates a novel approach for effective handling of waste plastic economically and in an environment friendly manner.

The work that has been carried out at experimental level initially shown the novel process is capability of accommodating almost all kinds of non-segregated mixed waste plastics, except non plastic materials such as metal, wood etc. Depending on the size and thickness of the modules, up to 60 tons of waste plastic/km may be utilized (for 6 meter road). This has been shown by conducting a trial at one of the BPCL Location. This is the first process wherein such a huge consumption of plastic waste can be done in environmentally friendly manner. Most important aspect of this innovation is, once the product developed from such plastic waste is utilized, no waste is being generated again. To prove the feasibility of this innovative concept, mixed waste plastic generated and collected from various sources has been used. Modules were prepared from such plastic and used in demonstration trials. Till date seven such road stretches were prepared wherein about 72 metric tons of plastic has been utilized. One of the stretches prepared being operated successfully since last four years. The field demonstration proves that there is great potential to implement this novel approach, which not only address the disposal issue but also can result in to an economical business model, while protecting the environment. Recently, a commercial trial has been conducted on public road where in about 35 metric tons of plastic waste has been utilized in 12 meter wide and 500 meter length stretch.

Most important part of this process is, there is no change of alteration required in any of the material or process used in conventional approved process of road making. The product can be directly used in base of the road. The product can be stored under open environment and can be used need based. If implemented, the process will not only address the issue of plastic waste but may be a source of revenue generation and control plastic waste accumulation. Moreover, localized plastic waste utilization can be effective thereby generating the employment and monetary value to litter mixed plastic waste.

For more details, please contact:

Dr.Mahesh Kasture,  
Corporate R&D Centre, Bharat Petroleum Corporation Limited  
Plot No 2 A, Udyog Kendra, Behind Yamaha Motors, Greater Noida - 201 306  
Uttar Pradesh, INDIA  
e-mail: maheshwkasture@bharatpetroleum.in