

CONVERSION OF WASTE TO FUEL

A SOLUTION TO CURB PLASTIC POLLUTION



Someone has greatly said, "Plastic will be the main ingredient of all our grandchildren's recipes". Plastic have become the very essential product which we see virtually everywhere. On observing the day-to-day lifestyle, we came across the fact that almost everything we interact have components of plastic in it. Scrutinizing and evaluating more about it and its management, we came across the fact that, pollution arousing from plastic waste has become one of the most pressing environmental issues, and rapidly increasing production of disposable plastic products oversells the world's ability to deal with them.



From generations, this toxic product has become a primary part of our lives and life without this is unrecognizable in the modern era. Now within this 1 min more than 15 lakh plastic bottles are being sold out. However, small steps accounts to a big change and with this thought we have started its initiative of a plastic free city in Dhenkanal. We have been collecting single use plastic waste and making new things out of it. Presently, we are working on the revenue model. This project for our revenue model in which we will be following the process of plasma pyrolysis and extracting fuel out of plastic. This will not only reduce the waste but also generate income and employment cost reducing and reducing carbon footprints at the same time.

We think that plastic pollution free world is not a choice but a commitment to life, a commitment for one sustainable Earth and towards the next generation we think that waste is wealth. So, think before you trash it. Our project machines effectively reverse the plastic production process; where the Thermo Catalytic Depolymerization (TCD) process cracks the long chains of polymer to produce useable fuel. The waste plastic is cleaned and shredded into small pieces before Thermo Catalytic Depolymerization (TCD) process, to remove contaminants like paper, oil, grease, food particles etc. This is important as it increases the efficiency of the machine and subsequently quality of the fuel.



This waste to fuel plant is able to process plastic waste that are not easily recyclable including wrappers, other thin plastic and residual plastic waste material from businesses and households. We have been successful in processing various types of plastic waste. This will result in diversion of waste plastic from the landfill and produce fuel with lower carbon footprint. The fuel produced used directly as a source for burning without any need for further processing. One may smell dirt out of the landfills full of trash but I smell money from that garbage, I smell opportunity, opportunity to earn money, opportunity to reduce waste, opportunity for Employment generation and wealth generation at the same time.



Foreign countries like America, UK, Russia and China have adopted the model of generating money and developing business out of waste. The past years data states that the waste market in the United States itself is worth more than 2.25 billion dollars but in India we are limited to organising seminars, discussions and debates over waste and yet transforming it to a full-time business is still a far-fetched dream.

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But this project of ours in which we will convert the waste plastic into fuel that is light diesel oil is greatly used by industries and factories for the purpose of combustion and the carbon emission by this fuel is way too less in comparison to other combustible materials that are currently used.

- 01 → The major outcomes of the project is gas and liquid fuel. The primary fuel which are extract are LDO (LIGHT DIESEL OIL) which are largely used in cement factory brick industry boilers, hot mixed plant and so on.
- 02 → But our followed technology can produce LDO and pure diesel which can be easily used in generator, pumps, DG, thermic fluid heater etc.
- 03 → We have developed a special composition of black carbon powder (waste of this kind of pyrolysis plant) with sand and ash to form light weight bricks which will be less price prior to normal soil bricks with 2 time stronger than it.
- 04 → This black carbon powder can also be used in road making.

This initiative will reduce plastic waste from the environment at a wide scale and also generate revenue and employment.



This factsheet content is developed by Youth4Water youth Yash Sharma, B.A. Sociology student at Ravenshaw University and co-founder of H2S2 Organization, Dhenkanal, Odisha

Statistical Speaks:

1 Ton plastic waste generate = 2.5 KL (Light Diesel Oil)
Per capita plastic generated in Odisha = 11 kg / year
Total population in Odisha = 43700000

Total waste generated in Odisha per year is = 480700 Ton
So, we can generate = 1201750 KL (light Diesel Oil) Per Year.

Youth4Water Campaign is a UNICEF-led exciting and ambitious campaign which has reached out to more than 4,35,000 youths with awareness and action programmes around Water, Sanitation and Hygiene (WASH). The campaign aims at enabling youth actions so as they can contribute towards achieving water security and sustainability and thus meet the local, national as well as global goals on WASH including those of the SDGs. The Campaign partners include reputed government and non-government organizations such as Department of Water Resources (Govt. of Odisha), Nehru Yuva Kendra Sangathan (NYKS), TATA STRIVE, PANTISS, WaterAid India, BGVS and FORCE.