

PATENTED TORREFACTION TECHNOLOGY

Another step towards **non-fossil energy**



TORREFACTION

It is a thermochemical degradation of combustibles from MSW. Torrefaction can be considered a mild form of pyrolysis since it also operates under the absence of oxygen, but at temperatures of 200–350°C, which is lower than that of pyrolysis.

Torrefied RDF/Organic waste has the potential to be a clean and renewable **alternative to fossil fuels.**



BIOMASS & ORGANICS FROM MSW

- Torrefied pellets enable energy efficient upgrading of biomass & organics from MSW into biofuels with good calorific value and favorable properties in terms of logistics and final-use.
- A wide range of biomass as well as organic waste can be used to generate valuable fuel.
- The net amount of CO₂ in the atmosphere can be reduced, making it a commercially viable carbon negative fuel and can be used as a clean coal substitute!



For centuries Fossil fuels have been dominant in the energy industry due to their low cost and an **existing omnipresent infrastructure** built around them.

Even today, **around than 70%** of the entire planet's energy requirements continue to depend on fossil fuels, Ultimately leading to large greenhouse gas emission which accelerates climate change.

An alternative fuel is a need of the hour.

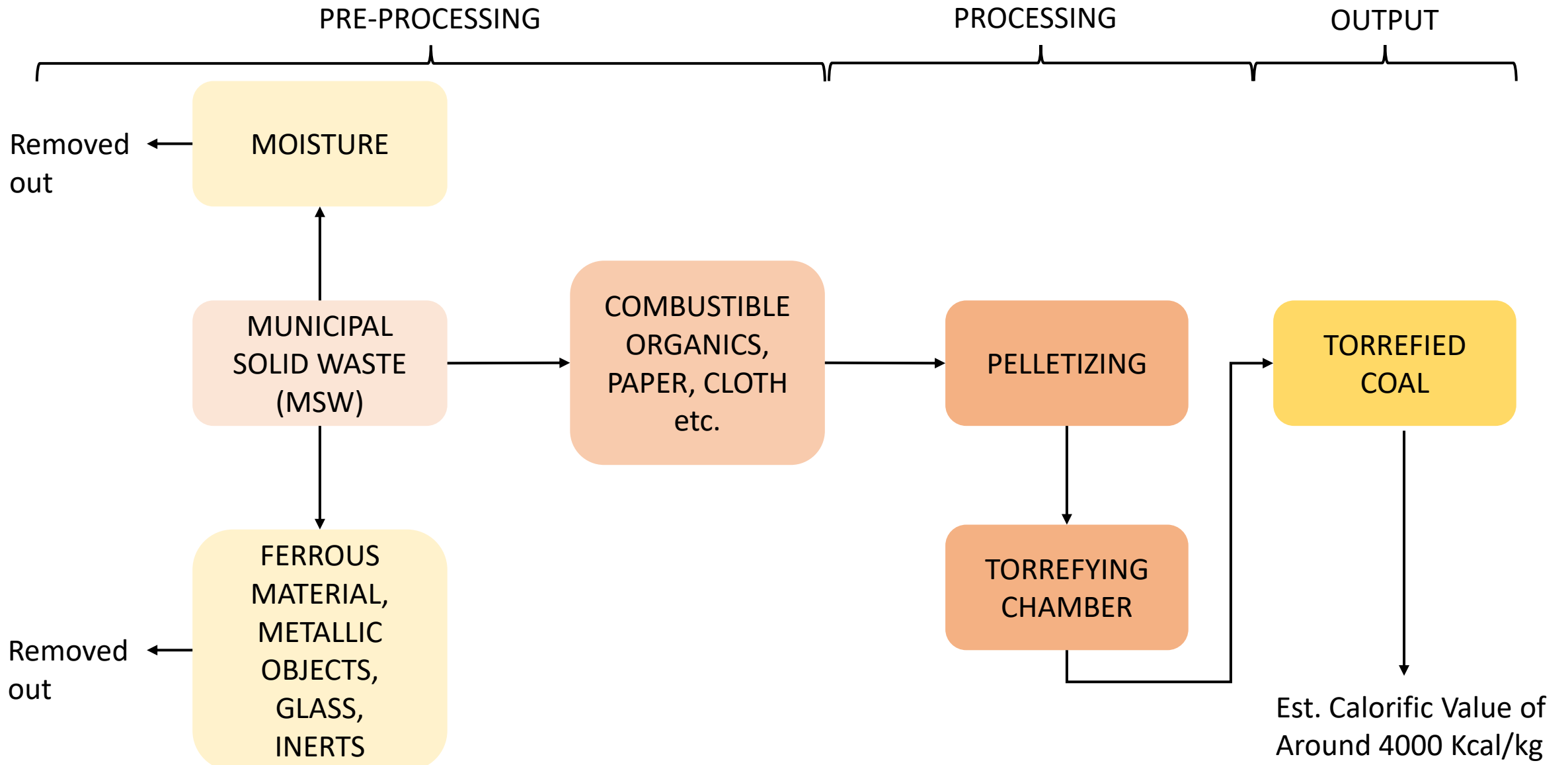
Torrefied biomass/organics from MSW has the potential to be a clean and renewable alternative to fossil fuels.

THE PROCESS

From Municipal Solid Waste

- Materials from MSW can be incorporated too.
- Pre-processing is done to remove non-combustibles, inert material and moisture from MSW.
- The combustible materials of MSW that includes plastic, paper and cloth is raw material that pelletized or fed in loose form.
- These pellets/loose material undergo torrefaction at 250-350°C in the absence of oxygen in the torrefying chamber.

PROCESS SCHEME FOR TORREFIED RDF



USP'S/EXCLUSIVE FEATURES OF DESIGN

- Modular & Mobile structure
- Consistent Charcoal quality
- No water supply required
- Complete control of process
- Emission mitigation
- Easy feedstock loading & Charcoal discharging
- High economic benefits
- Low/Nil risk – operated at atmospheric pressure
- No special skills & training required for operation
- Can be operated in an open environment

Markets

- Torrefaction pellets have can completely replace conventional coal for small-scale and large-scale applications.
- A clean coal substitute for large coal users like utilities, steel mills and cement plants.
- Several industries can replace heating oil with Torrefaction pellets, drastically reducing their heating costs and pollution levels.
- Intermittent nature of renewable energies like wind and solar, depend on fossil fuels as backup power when there is no wind, or the sun is not shining. These pellets can serve as a clean power backup source as well.

CLEAN POTENTIAL

- Torrefied pellets enable energy efficient upgrading of biomass into biofuels with good calorific value and favorable properties in terms of logistics and final-use.
- A wide range of biomass as well as organics from MSW can be used to generate valuable fuel.
- Has great market potential to replace fossil fuels.
- The net amount of CO₂ in the atmosphere can be reduced, making it a commercially viable carbon negative fuel and can be used as a clean coal substitute!

TORREFACTION TECHNOLOGY

In association with

IIT Guwahati



To convert biomass & RDF in High CV Coal



Our pilot plant in Hyderabad
since in Feb, 2022



















Contact us



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