

# Organic Stove

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**Abstract** – This document is for the presentation of organic stove which is useful in case of out of fuel for cooking. This portable stove can also use for outdoor trip. Project will help mainly those who do not check the usage of cylinder for long time, this system will help them for cooking. This system is like a backup for cooking in kitchen. This Document is created in Microsoft Word 2016.

**Key Words:** Organic stove, Methane from wet garbage, Emergency system for cooking, Portable gas stove, Renewable energy, Backup, Organic compost/Manure.

## 1. INTRODUCTION

Organic stove is like a digester in which a cylinder is use to decompose the wet garbage of kitchen like vegetable stalks, fruitpeels, foodleftover, beans, scrap, curdled milk, water, etc. It produces methane gas and little amount of carbon dioxide on decomposition which can be use as a alternative fuel for cooking gas(LPG). This device will help in proper air tight decomposition and production of CH<sub>4</sub> methane gas. Burner is attached on the top of the cylinder and knob is provided to adjust the intensity of the flame and On/off. External intake pipe is attached with two valves which is use to fill the garbage mixture and drain out previous one. This is the low cost stove use as a backup in kitchen.

## 1.1 Construction

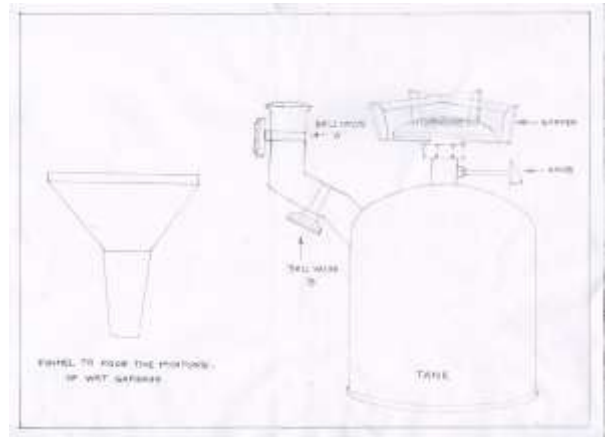


Fig.1.1 Concept

The major components of this system are digester tank, an inlet for feeding the kitchen waste, burner, etc.

Organic stove is a cylindrical tank works as airtight digester. As mentioned above Burner is attached on the top of the cylinder and knob is provided to adjust the intensity of the flame and On/off. External intake pipe is attached with two valves which is use to fill the garbage mixture and drain out previous one.

Funnel is needed to fill the garbage mixture into the cylinder.

## 1.2 Working

1. First mix the wet kitchen garbage with water and make it semisolid (slurry).
2. Open the ball valve 'A' and pour the mixture in intake pipe.
3. Now, close the valve 'A' and open valve 'B' slowly.
4. After mixture goes into the cylinder, close valve 'B' properly. Repeat the process till tank fill upto 50%(Day by day)
5. This will take upto a week to decompose the mixture and formation of methane.

## 1.3 Caution

- a) Do not feel the tank more than 50%.
- b) Do not open both the valves at same time. (except while draining.)



Fig.1 Kitchen Waste

Image referred from <https://www.livspace.com>

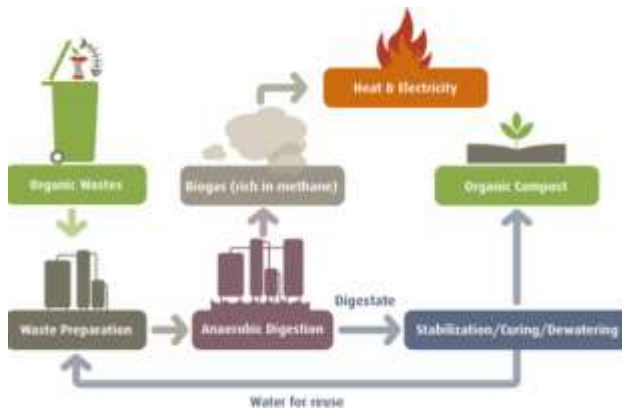


Fig.2 Disposal of organic wastes  
Image referred from [www.indiamart.com](http://www.indiamart.com)

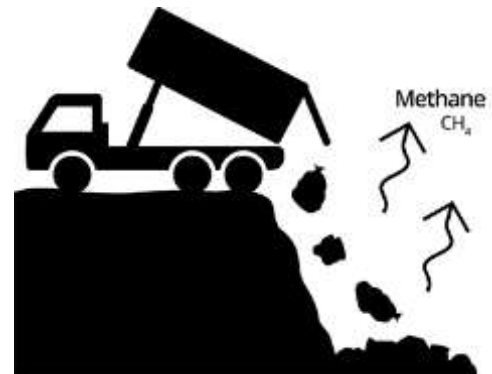


Fig.4 Effect on environment

Referred from <https://www.globalgreen.org>



Fig.3 Kitchen Waste  
Image referred from <https://www.gettyimages.in>

## 2. MANAGEMENT OF WASTE MATERIAL

- The waste materials can be disposed off efficiently without any odor.
- The digested slurry from this unit can be used as an organic manure in the garden.
- Waste products from this system will not harm the environment

## 3. EFFECT ON ENVIRONMENT

- This system will help in reduction of greenhouse gases because burning of the methane.
- Waste material of this process can be use as organic compost, so here is a recycling process which helps the environment.
- Burning of methane produces significantly less carbon dioxide and other pollutants that contributes to smog and unhealthy air.

## 4. COST OF THE PROJECT

- Anyone can afford this stove (Because the simple construction and compact portable design reduces it's cost.)
- All setup will cost around Rs.700-800/- approx.
- We can use larger quantity of cylinder for extra usage but according to the size of the cylinder the cost will increase.

## CONCLUSION

The inconvenience caused by empty LPG gas cylinder can be avoided by this technique. This system works totally free of cost, so everyone can afford it easily. After draining out the waste mixture, it can be use as an organic compost in the garden which helps to keep the environment green.

## ACKNOWLEDGEMENT

I would like to acknowledge my brother and friend for guiding and supporting me for this project.

## REFERENCES

- [1] Main source [www.google.com](http://www.google.com)
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