

TRANSFER OF TECHNOLOGY
(on Non-Exclusive basis)
CALL FOR
EXPRESSION OF INTEREST (EOI)



**Expression of Interest is invited for transfer of
“Plasma Pyrolysis Technology” for
“Plastic and Paper Waste Disposal”.**



Introduction

Plasma pyrolysis is a state of the art technology, which generates high temperature using plasma torches for environment friendly disposal of various hazardous waste streams. The intense heat generation capability of plasma pyrolysis technology particularly in oxygen starved environment enables it to completely disintegrate organic waste for example plastic, paper, cotton etc. and produces useful gases whose major composition is carbon monoxide, Hydrogen with small quantity of methane in environment friendly, safe and reliable manner.

Advantages of plasma pyrolysis process

- High temperature conditions in primary chamber.
- Oxygen starved environment in primary chamber.
- High temperature (> 1000 °C) in secondary chamber.

- Sufficient residence time (> 1 second) of gases in secondary chamber to ensure complete disintegration of toxic compounds.
- Effective quenching of hot product gases from 700 °C to 70 °C.
- Dioxins and furans emission is well under CPCB limits.
- Environment Friendly Process (Green Technology)

Plasma pyrolysis system

The system can effectively destroy mixture of plastic and paper waste in an environment friendly manner. It mainly consumes graphite electrodes and electrical power. The emissions of stack gas from chimney, primary chamber residue and scrubber water were found well under CPCB (Central Pollution Control Board) set limits. Typical emission analysis result is given in the table below:

Pollutants	CPCB Standards	Emissions from plasma System
CO	≤ 100 mg/Nm ³	20 - 50 mg/Nm ³
NO _x	≤ 400 mg/Nm ³	100 - 150 mg/Nm ³
Particulate Matter	≤ 150 mg/Nm ³	30-100 mg/Nm ³
Dioxins & Furans	≤ 0.1 ng/Nm ³ TEQ	≤ 0.1 ng/Nm ³ TEQ

Energy Recovery Possibilities:

Apart from the disposal of plastic and paper waste using plasma pyrolysis system one can use it to recover energy in chemical form (syn gas and methane) i.e. without doing combustion in the secondary chamber and using gas cleaning system. This makes the technology economically attractive in higher capacity systems.

Technical details*

1.	Capacity	50 kg/hr (can be scaled up)
2.	Waste type	Mixture of Plastic and paper waste
3.	Feeding	Feed rate depends on the capacity of the system
4.	Input Power requirement	415 V, 3 phase, As per the waste disposal capacity of the system

****Details of specifications will be provided to selected parties during the process of transfer of technology.***

Interested parties are requested to submit the Expression of Interest (EOI) in the prescribed format (ANNEXURE-1) along with supporting

documents/credentials and application processing fee of Rs. 500 for seeking technology transfer of “Plasma Pyrolysis Technology” for “Plastic and Paper Waste Disposal”.

Terms and Conditions

1. The application form (ANNEXURE-1) should be duly filled with all supporting documents along with a processing fee of Rs. 500.
2. Last date of receiving the application form is **23rd June 2014***. Any offer received after due date will be rejected.
3. An expert committee will scrutinize the applications for follow-up actions. Shortlisted applicants will be called for a presentation regarding their strengths and business proposals. Further, details of the technology will be disclosed only to the shortlisted applicants.
4. The Director, IPR reserved the right to accept or reject any application in full or part thereof without assigning any reason thereof.
5. The industry willing to take the technology shall be required to enter into a Technology Transfer Agreement with Institute for Plasma Research as per the terms and conditions approved by the competent authority.

**This information may be opened once again in the near future.*

Who should apply?

Interested parties with Engineering and Scientific knowledge, good financial background and adequate experience in making furnaces, incinerators, waste disposing techniques and fabrication can apply.

Duly filled application form should be sent to:

Dr. S.B. Gupta,
Technology Commercialization Cell,
FCIPT, Institute for Plasma Research,
A-10/B, GIDC, Sector-25
Gandhinagar-382044 (Gujarat)
Phone 079-23269022
E-mail: iprtt@ipr.res.in

Note:

1. Application processing fee of Rs. 500 for each technology.
2. Duly filled EOI application must be enclosed with the Demand draft/bankers cheque as application processing fee drawn in favour of **Institute for Plasma Research, A/c FCIPT** and must be sent to the above mentioned address.