

DESIGN. DEVELOP. DEPLOY.

**PATPERT TEKNO SYSTEMS PVT. LTD.**



**PLASTIC WASTE TO FUEL**

# SUSTAINABILITY

**Sustainability through ‘Clean Development – Green Development’, utilizing existing/renewable energy sources;**

- 1. Solar Energy**
- 2. Wind Energy**
- 3. Heat/Energy Recovery Units**
- 4. Waste to Energy – Bio-methanation/Pyrolysis**



# PATPERT ADVANTAGE



- **EXPERIENCE:**  
More than 6 years hands-on experience.
- **COMPETENCY:**  
Competent & experienced team of professionals, In-house Testing Facilities
- **TECHNOLOGY:**  
Well proven, established & safe Process. **Applied for PATENT.**
- **CERTIFICATIONS:**  
ISO 9001: 2008 Organization. CE Marking Equipment (If recommended)
- **SUPPORT:**  
Assured After sales services
- **ACHIEVEMENT:**  
More than **25 PLANTS** Supplied & running Successfully. CRISIL (3EB) Rated Organization. Tie-ups with University for IIC (Industry – Institutional Collaboration)

## INVENTION NEED

- Get rid of non-degradable waste
- ‘Keep Clean – Go Green’ Philosophy
- Waste to Energy (Electricity, Heat, etc.)

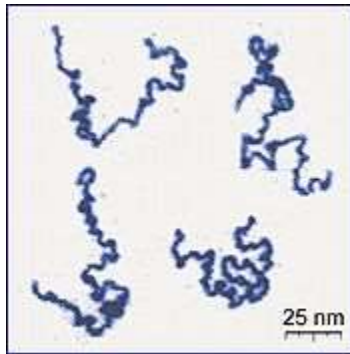


**PATPERT DESIGNED**

**CATALYTIC REACTION**

**'GASOLYSIS'**

# KNOW-HOW



Linear polymer chains

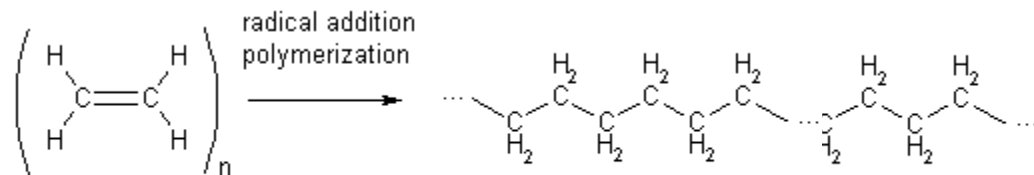
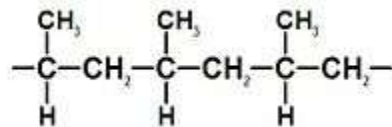


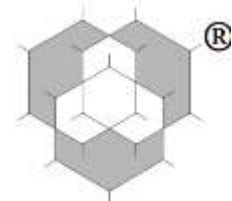
Fig 1: The polymerisation of ethene in to poly(ethene)

Polyethylene

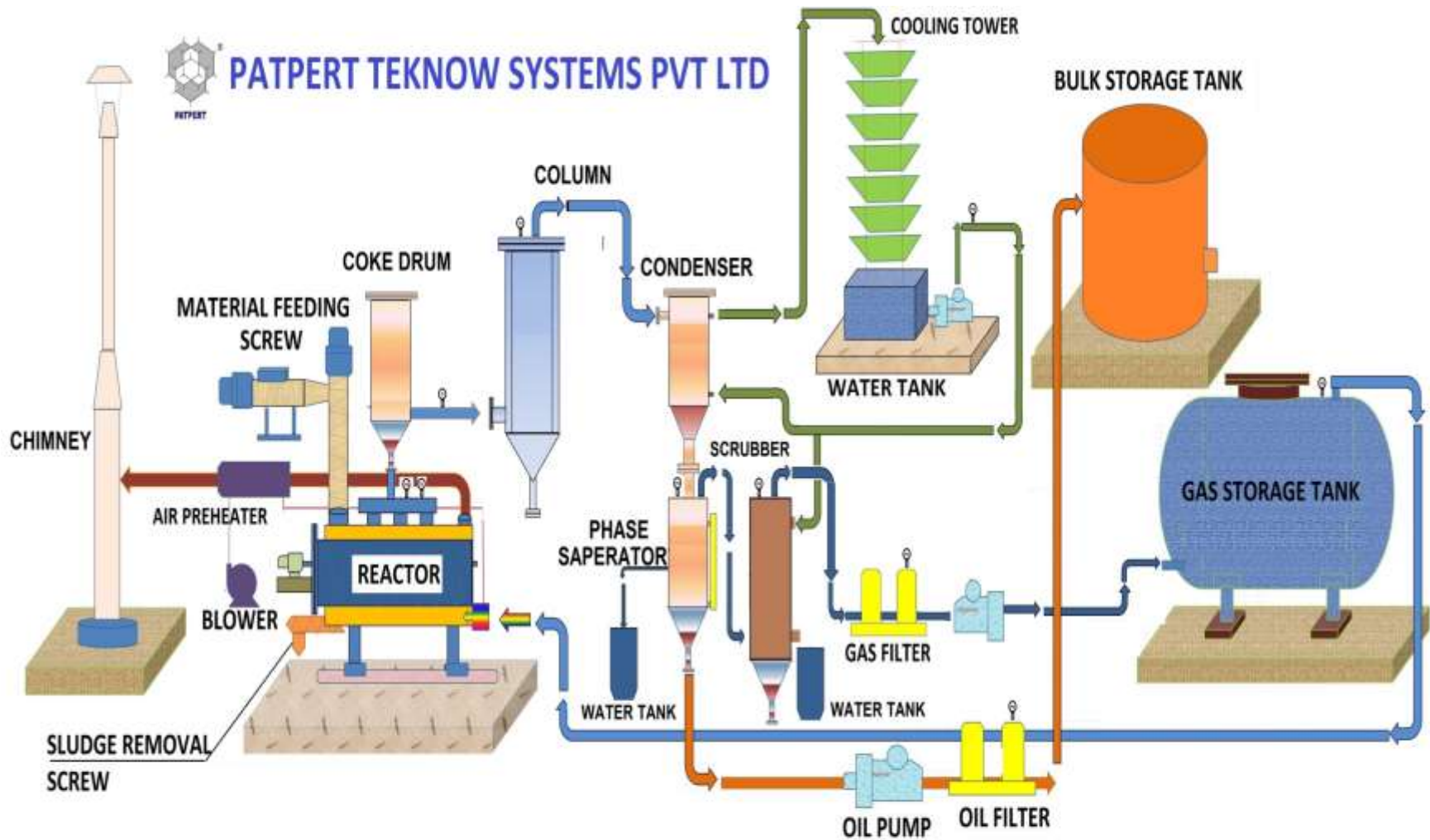


Polypropylene

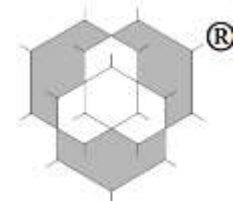
**GASOLYSIS™** is thermal cracking of Polymers.



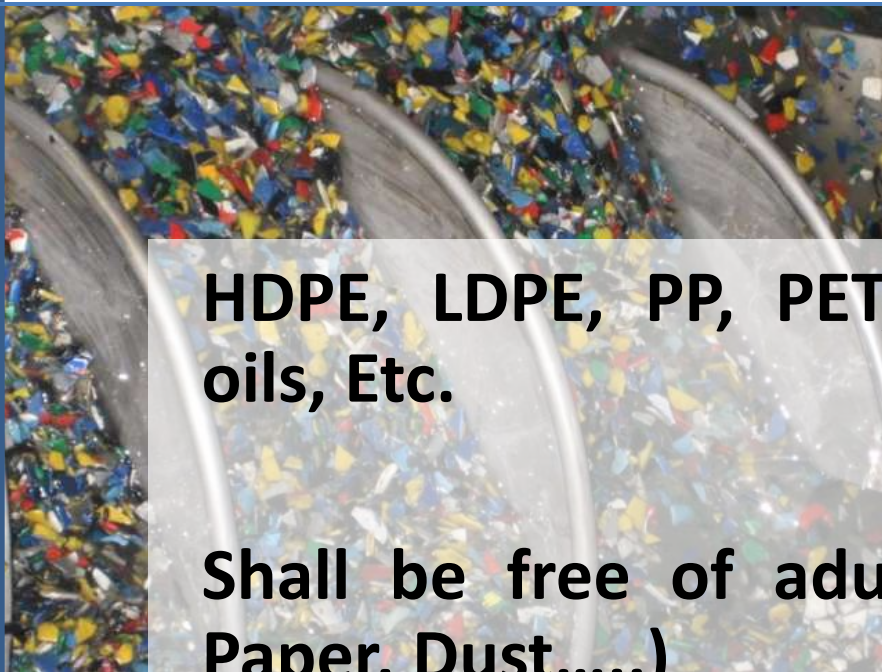
# PROCESS FLOW DIAGRAM



PLASTIC WASTE TO FUEL PLANT



# RAW MATERIALS



**HDPE, LDPE, PP, PET, Rubber, Tyres, Used oils, Etc.**

**Shall be free of adulteration (Moisture, Paper, Dust.....)**





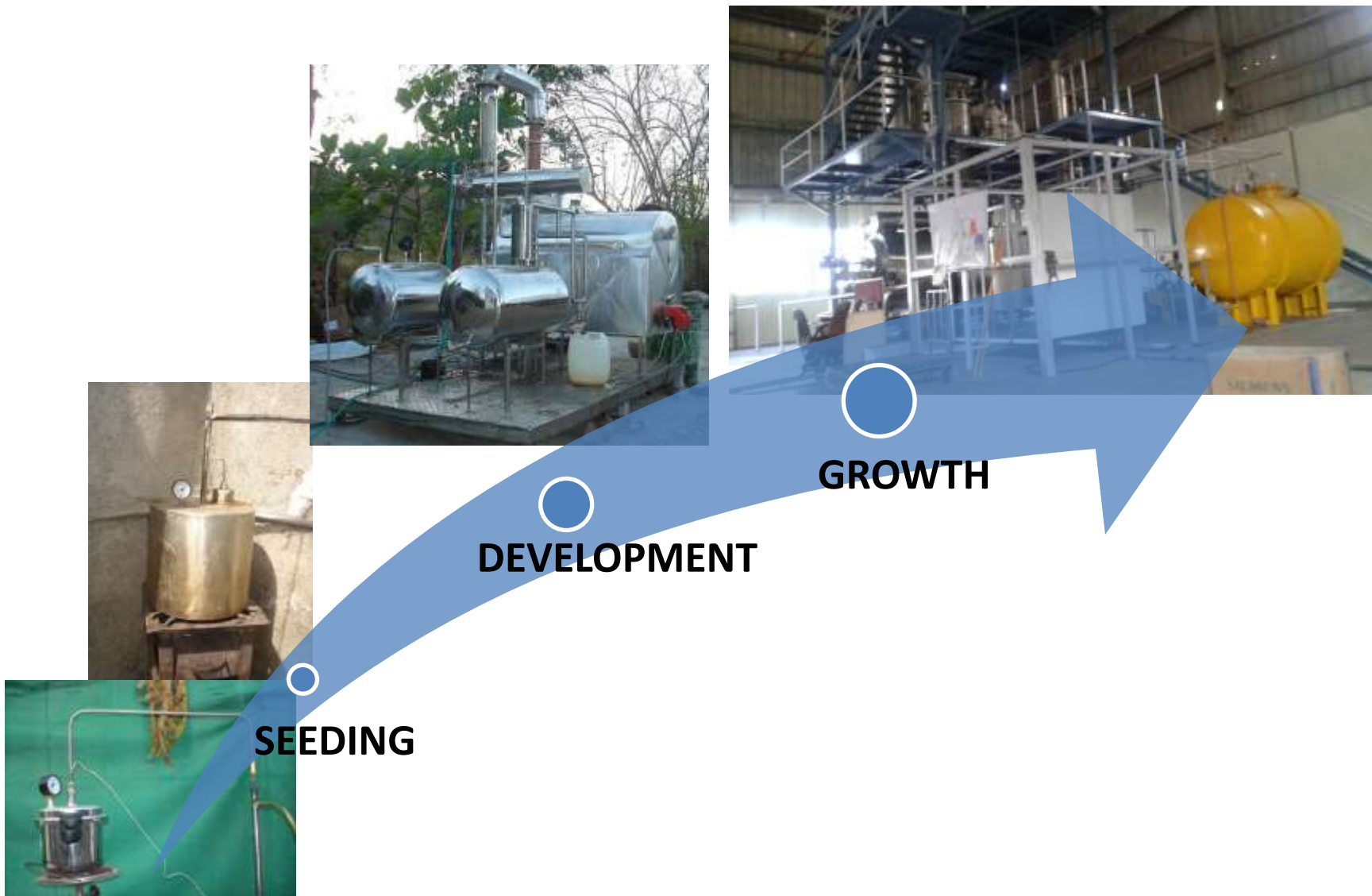
# PRODUCTS AND APPLICATIONS



- Liquid Hydrocarbons – FUEL – Boilers, Petro-Chemicals
- GAS – Captive Consumption (Heating) or Electricity Generation
- Carbon (Residue) – Solid Fuel, TAR additive (Road Making)

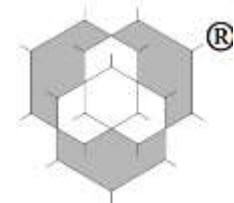
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# EVOLUTION



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# BATCH SYSTEMS



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EURO-SHOE (TATA INTL.), CHENNAI

# CONTINUOUS PLANTS



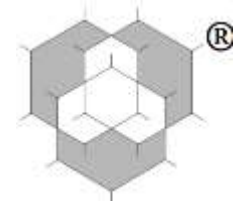
**BVG CLEANTECH - PUNE**



**NEHA INDUSTRIES - JALGAON**

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# TURNKEY SOLUTIONS



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## SITE EXECUTION

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# EXECUTION



**INSULATION  
INSTRUMENTATION**

# FACTS & FIGURES



- **Plant Capacity: 2500 kg/day Waste Plastic**
  - Oil Production : 1250 Lit
  - Gas Production : 400 – 500 kg
  - Sludge (Carbon) : 400 – 500 kg

Feed free of moisture, soil, organic matter, metal & other non-plastic material, etc.

# FACTS & FIGURES



- **Consumption:**
  - Heat Required : 250000 kcal/hr  
: 300 kW
  - Electricity : 40 – 50 hp  
(CT/Compressor/Feeding/Reactor/Sludge)
  - Catalyst (A) : 10 – 15 kg/day (0.5 – 1%)
  - Catalyst (B) : 20 kg every month



# FACTS & FIGURES



- **Gross Calorific Value**

- Oil GCV – 10000 kcal/kg
- Gas GCV – 10000 kcal/kg
- Sludge GCV – 5000 kcal/kg)

# FACTS & FIGURES



- **Parameters:**

- Reactor temp. : 300 – 400 °C
- Gas Compressor : Inlet 30°C. ambient  
: Comp. Press. 5 kg/cm<sup>2</sup>
- Exhaust Outlet : 250 – 300 °C

## **CLIENTELE**



- **Nestle India Ltd., HP – 50 kg (Batch)**
- **Euroshoe (TATA Intl.), Chennai – 50 kg (Batch)**
- **Rudra Environmental Solutions – 50 kg (Batch)**
  
- **PepsiCo India Holdings – 200 kg (Batch)**
  
- **BVG Cleantech, Pune – 2.5 TPD Cont.**
- **Neha Industries, Jalgaon – 2.5 TPD Cont.**
- **Hanjer Biotech Energies Pvt. Ltd. – 2.5 TPD Cont.**  
(Pune, Surat, Rajkot, Vasai, Baroda.... 21 Units)

**THANK YOU !!!**



# Renewable Fuel..... Future.....

Please Contact Us:

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