CHAARGOLD

PRODUCT BROCHURE · KILN SERIES

Pyrolysis & Retort Systems

India generates around 500 million tonnes of crop and agro-industrial residue every year (MNRE estimate). Our kilns turn it into premium charcoal, biochar and wood vinegar — built in-house, built to last.

1 TON
OUTPUT CAPACITY







100+
KILNS INSTALLED

8+
YEARS OF EXPERIENCE

3,200+
TONS OF CHARCOAL MANUFACTURED

GLOBAL INSTALLATIONS

We install in India and abroad.

CONTACT US

www.chaargold.com | +91 8105270415

Crafting Carbon Perfection

The Kiln Story

Engineered for Excellence

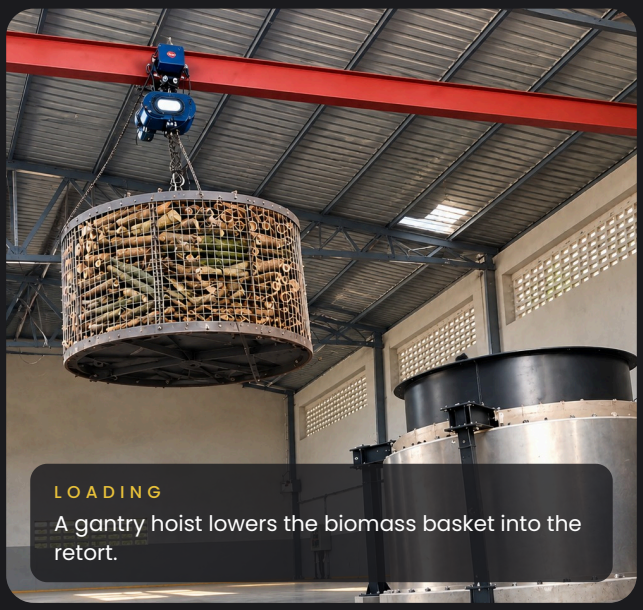
Manufactured in-house by our team of engineers and technical specialists, every ChaarGold kiln is designed to optimize the pyrolysis process through precise temperature control, efficient heat utilization and enhanced carbon recovery.

Pyrolysis heats biomass in an oxygen-limited chamber so that it carbonizes instead of burning. Because the carbon is locked into a stable solid rather than escaping as CO_2, the IPCC recognizes pyrolysis-made biochar as a pathway to long-lived carbon removal. Our systems are built to deliver exactly that, batch after batch.

Did you know?

Carbon locked into biochar can stay stable in soil for centuries, turning farm and forest residue into long-term carbon storage.

1 Ton	8+ Years	2-Stage	In-House
Output capacity	Continuous operation*	Condensate recovery	Manufactured



LOADING

A gantry hoist lowers the biomass basket into the retort.

FROM BIOMASS TO VALUE

One controlled process, three revenue streams.

Every cycle converts biomass residues into charcoal or biochar, while the vapours are condensed into wood vinegar and smoke oil.

1. **Charge** — Biomass loaded in a basket by gantry hoist
2. **Carbonize** — Heated with limited oxygen into carbon-rich solids
3. **Condense** — Two stages recover wood vinegar and smoke oil
4. **Discharge** — Charcoal or biochar removed, ready for grading

Engineered into every kiln

Premium Construction

High-grade alloy steel with refractory lining, engineered for 8+ years of continuous operation when run as per guidelines.

Condensate Collection

Dual-stage condensate collection recovers wood vinegar and smoke oil, creating additional revenue from every production cycle.

Advanced Design

Advanced design locks carbon content in and ensures biomass is effectively converted into high-grade charcoal.

FEEDSTOCK FLEXIBILITY — Prosopis Juliflora · Coconut Shell · Bamboo · Wood & agri residues

** When operated and maintained as per ChaarGold guidelines.*

GET A QUOTE | **www.chaargold.com | +91 8105270415**

CHAARGOLD

Crafting Carbon Perfection

Did you know?

Dual-stage condensation turns smoke into saleable wood vinegar and coal tar: extra revenue from every cycle.

Key Features

Built around performance.

- **Precision-built**
  Accurate fabrication and in-house quality control for repeatable batches.
- **Thermal efficiency**
  Precise temperature control and efficient heat use cut fuel cost.
- **Clean conversion**
  Turns biomass residues into carbon products, with low emissions.
- **High yields**
  Carbon is locked in for higher charcoal and biochar yields.
- **By-product recovery**
  Dual-stage condensation recovers wood vinegar and smoke oil.
- **Robust & durable**
  Alloy steel with refractory lining for 8+ years of operation.*
- **Scalable capacity**
  Start with a 1 ton unit and grow into a multi-kiln line.
- **Optimization**
  Ongoing refinement to improve yield and quality.

Products generated through our kilns

PRODUCT I

Lump Charcoal

Premium-quality charcoal with high fixed carbon content, long burn duration and low ash generation.

ALSO AS BRIQUETTES

PRODUCT II

Biochar

Carbon-rich material for agriculture, carbon sequestration and soil enhancement.

AGRICULTURE · CARBON REMOVAL

PRODUCT III

Wood Vinegar

A valuable pyroligneous acid used in agriculture, composting, odor management and soil health.

SMOKE OIL AS A BY-PRODUCT

Turnkey solutions

01 Project consultation and feasibility assessment
02 Kiln design and manufacturing
03 Installation and commissioning
04 Operator training
05 Production optimization
06 Technical support and after-sales service
07 Process integration for biochar and charcoal

Why ChaarGold

Our kilns are more than equipment: they are the result of years of practical manufacturing experience and engineering innovation. Every system is designed for higher production efficiency, superior product quality and long-term reliability, tailored to real-world operating conditions.

100+	8+	3,200+
KILNS INSTALLED	YEARS EXPERIENCE	TONS CHARCOAL

Industries we serve

- Agriculture & Biochar Producers
- Charcoal Manufacturers
- Industrial Carbon Producers
- Waste-to-Value Projects
- Carbon Credit Developers
- Forestry & Biomass Processing
- Research & Development
- Activated Charcoal Industries

LEARN MORE

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Technical Data

Typical Specifications*

CONSTRUCTION *

Capacity	**1 ton output**
Type	**Pyrolysis retort kiln**
Material	**High-grade alloy steel**
Lining	**Refractory lined**
Loading	**Basket, hoist-assisted**
Condensation	**Dual-stage**
Manufacturing	**In-house**
Service life	**8+ years***

FEEDSTOCK & OUTPUT *

Feedstock	**Wood, bamboo, shells**
Also suited to	**Agri & forestry residue**
Main output	**Lump charcoal**
Also produces	**Biochar**
Condensates	**Vinegar & smoke oil**
Downstream	**Briquetting, stoves**

TAILORED TO YOU
Capacity and configuration to suit your project.

PLANT & SUPPORT *

Installation	**India & abroad**
Commissioning	**ChaarGold team**
Operator training	**Included**
After-sales	**Technical support**
Scalability	**Single to multi-kiln**
Customization	**As per requirement**
Site layout	**Planned per site**
Feasibility	**Project assessment**

** All specifications are indicative and may vary with feedstock, site conditions and configuration.*



LEADERSHIP

Prem Raj

FOUNDER & CHIEF TECHNOLOGY OFFICER

Prem Raj is the Founder and Chief Technology Officer of CHAARGOLD, bringing over 15 years of experience in sustainable energy, biomass conversion and carbon solutions. An engineer, innovator, patent holder and passionate agriculturist, he combines technical expertise with practical industry knowledge to develop advanced pyrolysis technologies and high-performance carbon products.

With global exposure across diverse markets, he is also a successful hotelier and brand-builder, driven by a vision to create sustainable businesses that deliver lasting value for customers, communities and the environment.

> *Innovation is not just about creating new technologies; it is about transforming challenges into sustainable opportunities that create lasting value for people and the planet.*
> — Prem Raj

CHAARGOLD PRODUCT PORTFOLIO

- **CHAARGOLD™ Lump Charcoal** - Prosopis Juliflora, Coconut Shell, Bamboo & others
- **CHAARGOLD™ Briquettes** - Hexagonal, Pillow and Honeycomb
- **BIOCHAARGOLD™** - Our Premium Biochar Brand
- **GoldFlame™** - Our Signature Charcoal Briquette Stoves
- **Pyrolysis Retort Units** - Turnkey Biochar and Charcoal Manufacturing Solutions
- **Value-Added Byproducts** - Wood Vinegar, Wood Tar, Liquid Smoke & others

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ChaarGold Group of Companies

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Corporate Headquarters : Bengaluru, Karnataka
Manufacturing Facility : Penukonda, Andhra Pradesh

ORDER NOW

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A Complete Range of Carbon Solutions for a Sustainable Future