Mfg. of Bio-Mass Briquetting Press
Contribution to Environment

The evergreen and everlasting source of Energy is the Nature. We are getting tremendous Energy flow from the Nature. Only thing is to utilise it to the best possible way and to the Maximum benefits. It is unchallenging fact that Nature and Human beings are inter dependent and hence, it is more important for Human Beings to keep the balance at its best balancing place.

We at Ronak Engineering are pleased by contributing to maintain the ecological balance. We are manufacturing Bio Mass Briquetting Plant where the raw material is wastage / unused materials such as industrial & agricultural waste. The finished goods are white coal which is a perfect replacement to our traditional energy source such as Charcoal or Fire Wood. The White coal is preserving the Natural Source of Energy by replacing them in much more effective way. Also being the Pollution Free technology it is benefitting the Nature Preservation in more than one ways.
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Company Profile

We at Ronak Engineering are focusing on saving the Natural Resources of Energy by preserving them for the next generation. For the Purpose we have developed Bio Mass Briquetting Plant which uses some of the waste and unused material to manufacture a new source of Energy. We name it White Coal which is pure replacement of Charcoal and Fire Wood and in the process we also clean the Earth by using waste products (Industrial as well as Agricultural).

Let us join hands to preserve nature, make it pollution free and enlarge the existence of mankind.

Some of Company Facts
» We associate in manufacturing briquettes and briquetting plants for more than 10 years now.
» We have well organized workshop which can meet the constraint Quality standards for manufacturing Briquetting Plant Machine
» We have enough tool room and Jigsaw Facilities which are helpful in manufacturing Process.
» Our Workshop staff is well skilled with manufacturing techniques.
» Our Office Team is well skilled and are aware about the technical details of the Product.
» We have Training facility for the buyers of briquetting plants also.
» We are using standard parts like “Elecon” gear and forged EN 24 shaft etc.
» Our production line is protected with strict inspection process
» We provides Turnkey basis services
» We look after our customer until they are self satisfactory for production and we also provides one year after sales service.

Our company motto is to earn the confidence and trust of our Clients rest is secondary.
[Land

Layout

[2] Shed for Briquetting Plant 30' x 40'
[5] Shed for Briquettes [Galvanized Roof – 40’ x 40’ Height – 16’].
[7] Office building : Two Small Room 10’ x 10’
[8] Compound Wall
[9] Proposed Labor quarter [3 to 4 small rooms]
[10] Shed for Raw Material storage [Galvanized Roof – 60’ x 40’ Height – 16’]

![Diagram of land layout]
Final Product - Briquetted / White Coal

The coal made from agriculture and forest – wastes & residues in form of briquettes has been named as “Briquetted white coal”. It can be efficiently used to replace coal & firewood. The White coal - Solid Briquettes are converted from agro wastes to solid cylindrical shape. The white Coal is substitute fuel energy which is output of Briquetting Plants.
Product Info

Background
The entire world at present is concerned over limited natural resources which are becoming scarce day by day. The Scientists all over the world are exploring the use of non-conventional energy sources. Briquetting Plant technology is a Step towards this to achieve the goal of non-conventional energy source.

In recent years there has been a significant increase in the consumption of conventional Fuels viz furnace oil, coal Lignite, wood etc. in small & medium industries for their process involving heat treatment in their production pattern. This ever increasing demand for conventional fuels is making erosion of the natural sources without replacing them. India is already In the midst of fuel crisis. There is a need to adopt some innovative technologies which can produce energy by recycling available inputs without changing the quantum of existing one.

There is a tremendous scope to bring down the waste of conventional energy sources to a considerable level through the development, propagation of non conventional BRIQUETTING TECHNOLOGY [briquetting machine, briquetting Plant, Bio Mass Briquetting Plant] for production of agro residue briquettes to meet thermal energy requirements. Therefore this substitute energy medium is given national priority as it appears to be the only permanent solution into restrictions of national loss.
Product Info

Briquettes Products

Cummin Waste  Groundnut Shells  Macoddana Shells  Castor Seed Shells

Almond Shells  Forest Leaves  Cotton Salk  Bagasse

Coffee Husk  Cotton Seed  Eucalyptus Waste  Corn Waste

Coconut Leaves  Jute Waste  Coconut Husk  Eucalyptus

Bitternut Shell  Finished Product
Raw Materials

All Materials containing lignite and cellulose are suitable for densification. Successful tests have been carried out with a variety of materials from:

Forest Industries such as:

Agriculture and Food Industries:
Husks of coffee, sunflower, rice husk, shells of ground nut, almond & cotton stalks, bagasse of sugarcane, Leaves and trash. Above sectors can be briquetted individually or in combination depending on their availability and blending properties.

Introduction to the Usage of Wastes

Bagasse of sugarcane and Press mud - A Potential Source of power

Bagasse is a fibrous residue left after the extraction of juice from sugarcane. The quantity of bagasse depends on the fibre content of sugarcane. Availability of bagasse is very high in various states of India like South Gujarat, Maharashtra, Uttar Pradesh & Andhra Pradesh Almost the entire quantity of bagasse produced in India is used as a captive fuel in the sugar factories for generating steam in the boiler to drive the prime Mover & to boil and concentrate sugarcane juice. Sugar mill bagasse which contains about 48% moisture is required to dry in open until the moisture reduces to 10-13%. After drying & briquetting, calorific value of briquetted bagasse is 4200 K Cal./Kg.

In addition to bagasse, sugar mill waste [Press mud] is available in large quantities which is approx 35% of the sugarcane crushed. This press mud is either thrown away or is used as a cheap fertilizer.

The use of this cheap fertilizer gives low yield as compared to the modern fertilizer available however the major quantity of press mud goes just as waste. The briquettes made from press mud after drying & briquetting have Calorific value 4000 K Cal. / Kg. Approx.

We can use such above wastage as an input to the Briquetting Plant Machinery to produce Briquetted / white coal as the non-conventional source of energy.
Briquetting Plant

**Jumbo - 90**

- Load Wheel
- Screw Conveyor
- Electric Motor
- Gear Box
- RAM
- Main Body
- Die Holder

Best Energy from Waste Product
Bio-Mass Briquette Technology

At present in India direct (binder less) technology is most popular & successful. This technology has been adapted to suit Indian conditions according to the characteristics of raw materials available from various natural resources in different seasons. This binder less briquetting technology is based on very high compact characteristics of combustibles cellulose agro waste such as bagasse & saw dust, groundnut shells, rice husk cotton stalk, custard shell etc. into cylindrical briquettes through high heat process.

Briquetting technology is well developed in advance countries like Switzerland, U.S.A., Denmark, Canada, Brazil, U.K. etc.
Our Latest
Ideal Plant

Our new plant JUMBO-90 press produce 90. mm dia. Briquettes. It produces at the ratio of 1500kg / Hrs. It produce Briquettes directly from 20-25 mm size of raw material residuals.

Technical Details for "JUMBO-90"

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<th>Model</th>
<th>&quot;JUMBO - 90&quot;</th>
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<tbody>
<tr>
<td>Type</td>
<td>Crank Type</td>
</tr>
<tr>
<td>Stroke</td>
<td>200mm</td>
</tr>
<tr>
<td>R.P.M.</td>
<td>230</td>
</tr>
<tr>
<td>Total Power Requirement</td>
<td>91 HP.</td>
</tr>
<tr>
<td>Production Capacity (+ 20% Depending on Density and Quality of Raw Material)</td>
<td>1500 Kg/Hr.</td>
</tr>
<tr>
<td>Finished Product Size</td>
<td>90mm Dia</td>
</tr>
<tr>
<td>Finished Product Shape</td>
<td>Cylindrical</td>
</tr>
<tr>
<td>Finished Product Length</td>
<td>6&quot; To 12&quot;</td>
</tr>
<tr>
<td>Raw Material Form</td>
<td>Up to 25mm Size can Be Used Directly</td>
</tr>
</tbody>
</table>

Advantages of "JUMBO-90"

» Saving in Power Consumption

» Increase in Production

» Low Maintenance cost

» Suitable for all type of Raw Materials including Sugarcane Bagasse

» Easy Handling of Briquettes due to its large size

» Ideal for Boiler and Fireman.
Jumbo - 90 Front Elevation with Side Conveyer

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<tr>
<td>1</td>
<td>Briquetting Press</td>
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<tr>
<td>2</td>
<td>Load Wheel</td>
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<tr>
<td>3</td>
<td>Kupy</td>
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<tr>
<td>4</td>
<td>Reduction Gear</td>
</tr>
<tr>
<td>5</td>
<td>Screw Conveyor</td>
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<tr>
<td>6</td>
<td>Electric Motor</td>
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<tr>
<td>7</td>
<td>Bricks Wall of Shade</td>
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<tr>
<td>8</td>
<td>Ground Flooring</td>
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<tr>
<td>9</td>
<td>Space for Raw Material</td>
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<tr>
<td>10</td>
<td>Open Terrace</td>
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<td>11</td>
<td>Water Tank</td>
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<td>Description</td>
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<td>Open Terrace</td>
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<td>11</td>
<td>Water Tank</td>
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<td>12</td>
<td>Main Electric Motor</td>
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<tr>
<td>13</td>
<td>Flat Belt</td>
</tr>
<tr>
<td>14</td>
<td>Die Holder</td>
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![Diagram of Jumbo - 90 Side Elevation](image-url)
Plant & Machineries Components

Normally briquetting plants are based on saw dust at 180 kg / m3 bulk density at 7-10% moisture content. The output on all other raw materials will be directly in proportion to their bulk density.

The plant & machinery required are determined by the characteristics of the raw materials being processed. We the team of technocrats of RONAK ENGINEERING are offering the most versatile plant in its true sense. Our Briquetting plant would consist of the following major units.

Briquetting Unit: it mainly consists of Briquetting press. The Briquetting press is raw type press designed for continuous heavy duty operation with two load wheels. One of the load wheels acts as a pulley and driven by the main motor through flat belt. Forced lubrication is provided by oil lubrication system which gives longer life to press.

**Screw conveyer:**
With reduction gear & electric motor for regular feeding of raw materials to hammer mill.

**Oil Lubricating System:**
Forced lubrication is provided by hydraulic oil lubrication system which gives longer life to Briquetting Unit.

**Panel Board:**
Panel Board is specially designed with controls to monitor entire process of Briquetting Unit.
Parts & Components of Jumbo - 90

- Die Holder
- Split Die
- Tapper Die
- Ram
- Feeder Box
- Waran
- Ram Holder & Oil Seal
- Piston
- Collet
Use of **Briquettes**

The white coal is ideal fuel which substitutes coal, fire-wood, lignite and other conventional fuels for heating steam generation.

The demand of white coal emerges from shortage of conventional fuels like coal, fire-wood arising day by day. So it indicates golden future for white coal and really it is ideal future Fuel.

**White coal can be used by industrial unit viz.**
- Paper Mills
- Solvent Extraction
- Vegetable Plants
- Textile Units
- Chemical Plants
- Dyeing Houses
- Food processing units
- Hotels
- Milk Plants
- Spinning Mills
- Leather industries
- Laminating industries
- Bricks Making & Lot Others

**Project Highlight**
- High Profitability on investment
- Excellent Growth Potentiality
- Ready Market
- Short Gestation and Quick Payback
- Employment Potentiality
- Wide variety, easy availability of raw materials
- Conversion of natural resources (wastage) in hi-tech energy & maintenance of ecological balance
- Minimum working capital

**Advantages of this form of fuel are as under**
- Consistent Quality
- Economic to users compared to other forms.
- High calorific value ranges between 3500 - 5000k. Cal./kg.
- No pollution since it does not emit any sulphur of phosphorous fumes & there is on need for expensive pollution control equipment.
- Easy in handling and storage due to its size.
- Moisture % is very less 2-5% compare to lignite & fire wood & coal where it is 25-30%
Incentives By The Government

The Government of India has announced incentives for promoting this project to the entrepreneurs engaged in developing alternative energy source.

The major incentives are:

100 % depreciation:
The total value of plant and machinery is allowed to be depreciated in the first year

Excise Exemption:
The solid fuel Briquettes are completely exempted from Excise duty. The Government is also considering exemption in the case of plant & machinery.

Income Tax:
100% Income Tax benefits up to 5 Years

No Licenses:
The whole industry of non conventional energy sources has been exempted for obtaining any license.

Benefits of priority sectors:
Energy being prime sector of development and considering the cost of project; benefits of SSI and priority sector are available.
Where We Are

Ronak Engineering

13 - Galaxy Industrial Estate,
Survey No. 275, Nr. Gravity Casting,
Shapar (Veraval) 360 024,
Dist. Rajkot [Gujarat] INDIA.

📞 +91 2827 252300
📞 +91 2827 252301
✉️ info@ronakeng.com
🌐 www.ronakeng.com

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