

## PROCESS ENGINEERING SERVICES

Plant visit & study of existing systems for handling several biomass fuels for 4x150 MW CFB Boilers

Client: Thermax Babcock & Wilcox Energy Solutions (TBWES), Pune

**Project: Reliance Petroleum Industries Limited, Baruch, Gujarat** 

Scope Of Work: Study of the following to switch from coal firing to biomass firing (a variety of biomass fuels) in the 4 x 150 MW (500

**TPH) CFB boilers:** 

Option-1: 100% Bio mass feeding

**Option-2: Bio mass co-firing with coal** 

Option-3: Keeping the possibility for switching back to 100 % coal firing in future

- Evaluation of Existing System

- 100% Biomass Handling

- Unloading & Feeding System



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| Sr. No. | Crop                   | Type of Biomass Supply | Size (Max.)                        | Density (Kg/m3 |
|---------|------------------------|------------------------|------------------------------------|----------------|
| 1       | Castor Stalk           | Briquettes             | Diameter 100 mm &<br>Length 100 mm | 600 - 750      |
| 2       | Castor Shell           | Briquettes             |                                    |                |
| 3       | Cotton Stalk           | Briquettes             |                                    |                |
| 4       | Coriander Husk         | Briquettes             |                                    |                |
| 5       | Ground Nut Shell       | Briquettes             |                                    |                |
| 6       | Jeera Husk             | Briquettes             |                                    |                |
| 7       | Mustard Husk           | Briquettes             |                                    |                |
| 8       | Saw dust               | Briquettes             |                                    |                |
| 9       | Sugar Cane Bagasse     | Briquettes             |                                    |                |
| 10      | Julia flora Chips      | Briquettes             |                                    |                |
| 11      | Julia flora Chips      | Chips                  | Max. 25 mm                         | 350            |
| 12      | Castor Seed DOC        | Granules (Powder)      | 01 to 5 mm                         | 550 - 600      |
| 13      | Wood & Biomass pellets | Pellets                | 6 mm to 25 mm                      | 600 to 750     |



