## Ethanol from Rice Straw and Rice Husk

<table>
<thead>
<tr>
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<th>Ethanol: 40 KLs/Day</th>
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<tbody>
<tr>
<td><strong>Capacity:</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Plant and machinery cost:</strong></td>
<td>1058.00 Lakh</td>
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<tr>
<td><strong>Working Capital:</strong></td>
<td>0.00 Lakh</td>
</tr>
<tr>
<td><strong>Rate of return (ROR):</strong></td>
<td>26.00 %</td>
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<td><strong>Break Even Point (BEP):</strong></td>
<td>47.00 %</td>
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<td><strong>TCI:</strong></td>
<td>2432.00 Lakh</td>
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<tr>
<td><strong>Cost of Project:</strong></td>
<td>2432.00 Lakh</td>
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Bio energy—energy produced from biomass—offers the opportunity to reduce not only the carbon dioxide emissions but also the dependence of energy imports, and as well as to diversify the energy matrix, reducing the oil dependence. Second generation bio ethanol is based on raw materials rich in complex carbohydrates like cellulose. This becomes an interesting alternative to reduce competition with the food industry and to generate an added value to the agro-industrial residues. Ethanol is also called ethyl alcohol, and drinking alcohol. It is the principal type of alcohol found in alcoholic beverages, produced by the fermentation of sugars by yeasts. It is a neurotoxic psychoactive drug and one of the oldest recreational drugs used by humans. It can cause alcohol intoxication when consumed in sufficient quantity. Ethanol is used as a solvent, an antiseptic, a fuel and the active fluid in modern (post-mercury) thermometers. It is a volatile, flammable, colorless liquid with a strong chemical odor. Its structural formula CH3CH2OH, is often abbreviated as C2H5OH, C2H6O. India’s production of biodiesel from jatropha seeds is commercially negligible and economically unviable. Farmers have not planted jatropha because it is difficult to market, yields are poor, and seed quality is inconsistent. As a result, most of the biodiesel units operating in India have turned to alternative feed stocks such as edible oil waste (unusable oil fractions), animal fats, and other inedible oils. This hodgepodge of oils accounts for about 28 percent of biodiesel producers’ existing capacity and enables them to continue operations throughout the year. Thus, due to demand it is a good project for entrepreneurs to invest. Few Indian Major Players are as under:

- Ammana Bio Pharma Ltd.
- Athani Farmers’ Sugar Factory Ltd.
- Baramati Agro Ltd.
- Dhampur Sugar Mills Ltd.
- Dwarikesh Sugar Inds. Ltd.
- Empee Sugars & Chemicals Ltd.
- Gangamai Industries & Constructions Ltd.
- Godavari Biorefineries Ltd.
- H P C L Biofuels Ltd.
- Jeypore Sugar Co. Ltd.
- K M Sugar Mills Ltd.
- Natural Sugar & Allied Inds. Ltd.
- Purti Power & Sugar Ltd.
- Radico Khaitan Ltd.
- Sakthi Sugars Ltd.
- Saswad Mali Sugar Factory Ltd.
- Shamanur Sugars Ltd.
- Shree Renuka Sugars Ltd.
- Sri Sarvaraya Sugars Ltd.
- X L Energy Ltd.

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NIIR PROJECT CONSULTANCY SERVICES
106-E, Kamla Nagar, New Delhi-110007, India.
Tel: 91-11-23843955, 23845654, 23845886, +918800733955
Mobile: +91-9811043595
Email: npcs.ei@gmail.com ,info@entrepreneurindia.co
Website: www.entrepreneurIndia.co