



Factory Address

G7 Sugar Limited,
B-43/169, Shalom, Sunder Nagar, Sunder Nagar Lane,
Kalina, Santacruz (East), Mumbai-400098.

Corporate Office Address

G7 Sugar Limited,
6Th Floor, Pentagon, P-2,
Magarpatta City, Pune-411013

Phone No. : 02452-350800/1/2 | Mobile No. : 9371712833

Email : info@g7sugar.com

www.g7sugar.com



**MANUFACTURER
OF SUGAR, POWER
& DISTILLERY PRODUCTS**

www.g7sugar.com



ABOUT US

G7Sugar Limited is a manufacturer of SUGAR, POWER & DISTILLERY products. An Integrated Cane Processing Plant (ICPP) located at Taluka Gangakhed District Parbhani in Marathwada Division of Maharashtra State (India). The Company's boasts of a cane crushing capacity of 6000 TCD with two roller mill technology which enables it to produce 30 MW of power as against an industry average of 24 MW generation. 30 MW cogeneration POWER PLANT with 110 ata Pressure boiler, by utilizing surplus bagasse from nearby sugar mills, biomass and agro waste to run the plant in its full capacity. The 60 KLPD Multi Product Distillery Plant with incineration fired boiler (Zero discharge of distillery effluent), further adds to the Company's topline as it will use the molasses and sugarcane juice to produce bio-fuel.

We enjoys a package of abilities that makes it a force to reckon with, Customer relationships, strong infrastructure, two roller mill technology, a variety of products, all come together to enable us to advance & differentiate with other industries.

ABOUT ICPP

The Integrated cane Processing Plant (ICPP) concept, envisages simultaneous generation of electricity and ethanol either from molasses or directly from cane juice. It is also possible to recover and use water from sugar cane. Thus the ICPP would have adequate flexibility to tune up production according to market dynamics.

VISION



Running the plants with BAST (best available systems and technology) efficiently and produce world class quality products, setting up benchmarks and delivering excellence on a continuous basis.

MISSION



To become leader in producing sustainable green co-gen power and bio-fuels like ethanol.

PRODUCT PROFILE



SUGAR

Sugar is produced by the evaporation of the juice that is extracted from the crushed cane. This is widely used as a sweetener in food and beverages. Interestingly, in a country like India, sugar is also emerging as an index of upward mobility. For instance, as income rise in rural India , consumers migrate from the consumption of alternative sweeteners, towards sugar. The principal portion of sugar sold within India is loose and packaged.



MOLASSES

Molasses is a delicious by-product which is extracted during the sugar cane refining process used to make sugar crystals. The sugar cane is crushed to remove the juice which is then boiled vigorously. Machines utilize centrifugal force to extract the sugar crystals from the syrup. The remaining syrup becomes molasses.



BAGASSE

Bagasse, generated as a by-product, can be used profitably in two ways - for making paper and for the generation of electricity. The manufacture of paper from Bagasse is an environment-friendly alternative over the conventional route of extracting pulp from trees.

The quantity of bagasse is 30% of the total sugar production. Thus, a 6,000 TCD plant produces 1,800 tons of bagasse per day.



ALCOHOL- ANCILLARY GOODS FOR INDUSTRIES

Molasses, a by-product of sugar production, is distilled to produce rectified spirit, extra neutral alcohol, denatured spirit, and ethanol which find applications in the alcohol, pharmaceuticals and chemicals industries. Ethanol is also a valuable alternative fuel.



POWER

Since bagasse has a high heat factor, it is also used in the generation of electricity, which substitutes the conventional thermal alternative and eliminates the emission of greenhouse gases. Presently, sugar mills generate their power requirements from bagasse-fired boilers.

The government of India has begun to encourage the co-generation of power from bagasse. This is expected to achieve two things: an improved return for sugar mills and the generation of a resource - electricity - which is in short supply in India.

TECHNOLOGICAL UP-GRADATION

G7 Sugar Limited has invested in latest technology to make the plant fully automated. Increased automation has also resulted in minimum human intervention and quality output. The Company is enjoying benefits from this upgraded technology :

Steam Consumption (Per Tonne Of Cane)



The Company's steam consumption per tonne of cane is around 39% as against an industrial average of 45%. Efforts are on to reduce it to 36 % and increase power savings. Every 1% savings results higher surplus for the Company to export.

Moisture Content



At G7 Sugar Limited, the moisture content of the cane at the time of crushing is 48% as compared to the industry average of 50-53%. Measures are being taken to further reduce the moisture content and thus improve the efficiency of the boilers.

Quality Rating



The G7 Sugar Limited plant has the capability to manufacture sugar up to 50 ICCUMSA Color value.

Captive Consumption Of Power Below 9%



The Company is adopting a latest technology for crushing of Sugarcane instead of a conventional technology. This reduces the cost of operations as well as improves recovery of sugar and reduces moisture content in bagasse.

Co-generation



Reduced consumption of captive power implies that the Company has more co-gen power for export.

Variable frequency drives



The Company provided conducting variable frequency drive motors depending on the requirements to reduce power consumption.

Planetary gears



The speed reduction gearboxes in the plant are high efficient planetary gears. Companying both VFD and planetary gears sugar plant power consumption is reduced to 22 kW/ton of cane as an average consumption of 26 kW and above in other plants.

Decanter System



First time in our country, Company installed decanter system for muddy juice separation. Because of this bagacillo requirement of sugar process is completely eliminated, thus 0.8% bagasse saved and effectively utilised in co-generation plant for additional revenue. And also the system provides 0.5% pol lesser loss in press mud. Conventional vacuum filter pol loss is 0.06-0.08% on cane but using this latest decanter system pol loss in press mud is reduced to 0.04% on cane as well as press mud quantity is reduced from 4% on cane to 1.7% on cane.

Sugar Effluent Treatment Plant (ETP)



Well equipped ETP is present in plant which treats sugar effluent effectively and outlet water of ETP having less than 30 BOD and 100 COD.

DEVELOPMENT POLICY

1. FOR SUGAR

Sugar is one of the primary products of the G7Sugar Limited. The company has taken several initiatives to maximize sugar recovery, minimize losses and transport cost and maintain harmonious relations with the farming community.

The farmers have been trained for the adoption of advanced methods of cane development. This has helped extend the crushing season beyond the present average of 160 days without any loss in sugar recovery. Village centers have been developed to encourage farmers to adopt more scientific methods of cultivation and thus, ensure an assured supply of cane to stabilize industry.

a. Drip irrigation program : The State Government's plan for subsidized irrigation on 1000 acres of land has been implemented. **b. Foundation Seeds development program:** The company has purchased and demarcated an area near the plant where foundation seeds development program is undertaken to improve the quality of Sugar Cane.

c. Financial support : The Company has providing many financial assistant and benefits to its buyers, which creates a strong bond between both the parties. UCO bank provides the financial assistance to farmers by lending them for fertilizers, advances for cane cultivation, irrigation and harvesting facilities.

d. Satellite mapping : Satellite mapping implemented in the Gangakhed region, covers a radius of 100 km and tracks the quantity of crops cultivated in the entire area, and new land available for cane cultivation. The process has been implemented since last 2 years. The cultivation area has been increased by 20% every year which ensures abundance availability of cane during the full operation phase of the plant.

e. Technological Assistance : Farmer assistance Apart from the financial support to farmers, the company also provides technological assistance to them for good quality of seeds, fertilizers, new cultivation methods and trains them to ensure good quality of crop.

f. Dedicated software : Specialized software has been developed to streamline all activities, starting from farmer registration to the delivery of cane to the sugar plant. Each cane grower is given an unique ID which helps keep track of the crop he cultivates, date of cultivation, land details, crushing patterns etc. Based on this data, the Company obtains the age of the cane and the date of harvesting, which results in better quality control.



2. FOR CO-GEN POWER (GREEN POWER)

Co-gen Power is most important revenue generating activity at G7 Sugar Limited. It has a co-generation power plant capacity of 30 MW, Sugar processing capacity of 6000 TCD, and distillery capacity of 60 KLPD with 1.8 MW co-generation power plant.

The co-generation power plant boiler 150 TPH and the turbine combine a 110 kg/cm² pressure and a temperature of 535°C to optimize co-gen power generation from renewable fuel sources. Energy optimizing devices have also been installed to maximize co-generation from bagasse.

G7 Sugar Limited has also entered into PPA (power purchase agreement) to diversify its source of revenue as stabilized way of revenue generation. The plant requires bagasse and coal to fuel the boiler of the co-gen power plant.

The co-generation plant is equipped with ESP (Electro Static Precipitate) equipment and collect all ashes from the co-generation boiler flue gas emitting only 100 mg/Cum to atmosphere. Collected ash from the ESP is used to make bricks as building construction material. Waste generated from the distillery is also channeled to produce co-gen power and steam for the distillery itself. This 1.8 MW co-generation power plant is one of the latest innovative technology in the industry.



3. DISTILLERY

Molasses, a by-product of sugar production, is distilled to produce rectified spirit, extra neutral alcohol, denatured spirit, and ethanol which find applications in the alcohol, pharmaceuticals and chemicals industries. Ethanol is also a valuable alternative fuel. Ethanol can be manufactured directly from sugarcane juice.

Sugarcane contains about 15% solids. One kg of sucrose can theoretically yield 0.644 litres of ethanol and after accounting for 88% fermentation efficiency and 98% distillation, it yields 0.555 litres of alcohol. If a sugar mill crushes 100 tons of sugarcane, on an average, it would obtain 11.5 tons of sugar and 4 tones of molasses; 1,060 litres of alcohol can be produced from this quantity of molasses. But, if the juice from cane is used to directly produce alcohol, then around 6,300 liters of alcohol can be generated.

Project Execution methodology :

- 150 TPH Boiler with 110 ATA pressure and Temp 535 degree celcius and 30 mw Turbine double extraction cum condensing route for optimizing generation from renewable energy.
- Adoption of Two roller mill tandem instead of conventional milling tandem for maximizing sugar recovery and reduction of moisture in Bagasse.
- Adoption of energy optimizing devices to maximize surplus energy from bagasse.
- Use of independent incineration boiler system instead of composting for continuous running of distillery beyond 270 days.
- Use of multi-functional micro processor based monitoring and control system for all the processes to achieve reliability and optimization.
- Adoption of advanced methods of cane development in the region to ensure extension of crushing season beyond the present average of 160 days without any loss in sugar recovery.
- Development of Village wise centres for encouragement to farmers and collection of Bio mass for power generation during non crushing season.



CARBON CREDITS

Clean Development Mechanism :

Power plant and the Distillery plant situated at Gangakhed is under the validation process for the registration under Clean Development Mechanism (CDM).

CDM benefits

Projects that reduce GHG (Green House Gases) can claim for benefits under UN legislation "Kyoto Protocol". For a project to qualify for CDM (Clean development mechanism) benefits it must generate renewable energy and the electricity supplied must displace the existing grid based power.

The benefits endowed are the reduction in carbon emission resulting into quantum of electricity supplied to the grid. Since, G7Sugar Limited, produces biomass based co-gen power, it is a clean technology plant and is eligible to earn carbon credits After the validation, the Company is projected to earn additional revenue year on year.

RENEWABLE ENERGY POLICY

Energy is a basic requirement for economic development, every sector of economy as agriculture, manufacturing, transport, commercial, and domestic uses needs inputs of energy.

In India the Economic development plans implemented since independence have necessarily required increasing amounts of energy, as a result, consumption of energy in all forms has been steadily rising all over the country. This growing consumption of energy has also resulted in the country becoming increasingly dependent on fossil fuels such as coal, oil and gas. Rising prices of oil and gas and potential shortages in near future lead to concerns about saving of energy supply to sustain our economic growth. Increased use of fossil fuels also causes environmental problems both locally and globally.

Due to the heavy demand, shortages & high prices of fossil fuels & promotional Government policies for BIOFUELS, search for the sources of renewable energy is become a necessary requirement of current century. Although current share of renewable energy is a mere 3% in the overall power sector, it is set to increase significantly in the near future, henceforth it is required to adopt the RENEWABLE ENERGY POLICY.

