

Bio-energy

Newsletter

Volume V: 15 April, 2019



Dear Readers,

It gives me pleasure to share with you our maiden Bio-energy quarterly newsletter at the beginning of new financial year 2019-20.

Let me start by sharing the exciting achievement made by Praj. The company has successfully secured 8th rank in the list of "Top 50 Hottest Companies in Advanced Bio-Economy 2019", from a pool of 1500+ eligible companies globally, released by Biofuels Digest. Praj's contribution towards sustainable Bio-Economy has helped it to take the leap from 34th position in 2018 to 8th position in 2019, and become the 1st Indian company to achieve this prestigious feat. Our achievement reflects our dedication and hard work to focus on developing clean energy to make this world a better place for people. We owe this success to you and your continued co-operation and support to Praj over the years.

While there are growing environmental concerns, the increasing awareness about biofuels as a prospective solution has triggered many positive developments in the biofuels industry. I am happy to share some landmark developments of Praj in the International, and share some exciting happenings in the domestic biofuels market.

Riding on the positive business environment created by a robust biofuels policy, this year looks promising for the bio-energy sector in India. It may be recalled that in the past 6 months, several policy interventions have taken place and some of these include expanded range of feedstock, preferential pricing and fiscal incentives for sugar industry, among others. More specifically Biofuel policy released in June 2018, allows the use of Sugarcane Juice, B-Heavy molasses and rotten grain (unfit for human consumption) as feedstock for producing Ethanol.

With a quantum leap in the procurement prices, additional tax incentives and increase in the blending ratio of ethanol in petrol from previous 2-3 per cent to the current 10 per cent, it is now crucial for sugar industries to modernize. Such conversions of existing plants to new plants need robust and reliable technology solutions for effective output. By adapting to the latest technology in the market, you can make the most of the innumerable benefits and achieve the desired output.

Praj offers an unmatched range of intelligent solutions for the Sugar Industry/Ethanol Industry. It has proven expertise gained through innovative technologies and tailor-made engineering, which is paving the way to modernization by:

- Product maximization
- Co-product maximization
- Energy and water footprint reduction
- Adherence to environmental norms

With expert domain knowledge, Praj has delivered its technologies to many companies around the globe. For example, Praj has successfully developed & stabilized the flex feedstock technology's Bolt-On model in South America which is producing Ethanol from various sugary feedstock like sugarcane syrup/cane juice/'B' Heavy molasses.

Moving further, the Government of India through Ministry of Petroleum and Natural Gas has recently launched Sustainable Alternative Towards Affordable Transportation (SATAT⁺) initiative to drive Compressed Biogas (CBG) for transport fuel, which can be produced from sugar industry waste (Press Mud, Bagasse, Biomass). Under the SATAT⁺ initiative, the Government is giving 100% product lift guarantee through OMCs. Additionally, to make these projects viable and attractive, the Government has announced various subsidies and incentives through State & Central Government.

In this Bio-energy issue we would like to introduce our new CBG technology - a step towards achieving SATAT⁺ program vision and also share our valuable customers' feedback about their experience of working with Praj.

I take this opportunity to thank you for your constant support to Praj. We completed yet another successful year and we promise to offer the best in the industry in the years to come.

We welcome your feedback. Please write to us at info@praj.net.

Yours truly,
Atul Mulay
President— Bio-energy Business

Thinking ahead of time with RenGas technology from Praj



While there has been a lot of research conducted on MSW and City waste Biomethanation, research has been lacking in achieving Biomethanation through untapped resource of Agri-residues and Agro-industrial liquidus effluent, bagasse and press mud.

Identifying this need, Praj with the help of its strong R&D centre (PRAJ-Matrix) has come up with robust energy efficient solutions for the production of CBG from various feedstocks such as biomass, press mud, variety of agri-waste, paper mill pith, dairy, and poultry waste, offering a viable commercial CBG production.

With this, Praj has set the stage and is offering an end-to-end solution for CBG production with less lead time and quick turnaround. Praj is all set to provide its technology to the customers planning to take Government of India's SATAT^{*} initiative into consideration. The SATAT^{*} initiative emphasizes on producing CBG and devise an alternative means to support fuel requirement for the transport sector.

Customer Speak



Luisa Benedicta Barona Gonzalez (Plant Manager)
DESTILERIA RIOPAILA SAS, La Paila, Zarzal, Colombia

Praj has provided us with a 400 KLPD Bioethanol plant. The plant has been in operation for 3 years now. Praj has successfully designed, engineered, erected and commissioned our Bioethanol plant. It

covers sections like feedstock handling, fermentation, vacuum distillation and MSDH, and with vinasse evaporation, it produces Bioethanol. Praj has set up our plant in such a way that the plant can be operated with B molasses and Sugarcane juice in combinations with these two streams together according to availability.

We are also happy with the technical support being provided by Praj and the Aftermarket Solutions support. Praj has also undertaken technology related workshop specific for advancements in Bioethanol technology.



V. Balsubramanian - GM (Operations)
Kilimanjaro Biochem Ltd., Tanzania.

On behalf of Kilimanjaro Biochem Ltd., Tanzania, I would like to convey my sincere appreciation to Praj Industries Ltd. - Bioproducts Division & Aftermarket Support for being our valued and

reliable technical service support partner for 20 KLPD Wash to the ENA distillery plant.

As a part of the annual package supply with technical support services, Praj has been supplying customized Effymoll+ "Fermentation Performance Enhancer" for enhancing fermentation performance and it helps to overcome the inconsistencies in our process due to variation in feedstock quality. We are glad to say that we are impressed with their professional approach and competent process support services for the last 3 years.

Customer Speak



Bolivia Technical Seminar

Mr. Marcelo Fraija, Unagro

During the recently held Praj Technical Workshop in Santa Cruz de la Sierra in Bolivia, Mr. Marcelo Fraija - Plant Head for Unagro S.A. exclusively spoke about his experience in the Molecular Sieve Dehydration plant commissioned by Praj.

While delivering his speech in the Technical workshop, Mr. Marcelo Fraija mentioned that "Unagro team had visited two plants of Praj in Colombia before and were highly impressed by the plant's performance and then decided to go with Praj for the dehydration project. Though we were approaching Praj after 8 years, our team received immediate support and assistance from Praj for supervision of erection, commissioning and achieving all the performance parameters. We are extremely happy with the quality of equipment and support given by Praj team during erection and successful commissioning of the Dehydration plant".

Praj secured 8th rank in the list of Top 50 Hottest Companies in Advanced Bio-Economy 2019



Mr. Pramod Chaudhari (Chairman - Praj Industries Ltd. India) along with Mr. Jim Lane (Editor & Publisher - Biofuels Digest) receiving citation.

Past Events:

15 successive years of participation in World Ethanol and Biofuels event



Mr. Mallikarjun N., Mr. Amol Seth and Mr. Rahul Dagwar representing Praj at World Ethanol Biofuels event.

Praj has been actively participating in the World Ethanol and Biofuels event for more than 15 years. The topics of the event this year were, New push for Cellulosic & Advanced Biofuels: Availability, Readiness, and Investment Appetite and Improving sustainability of ethanol plants using innovative technologies.

PRAJ participated in 8th Annual F.O. Licht's Ethanol Latin America 2018



Mr. Shrikant Rath delivered a presentation on - Opportunities of co-product maximization. Mr. Jayant Godbole and Mr. Shantanu Jalgaonkar delivered presentation on - Modernization opportunities in existing plants, Future of 2G ethanol in India.

Mr. Shrikant Rath, Mr. Jayant Godbole and Mr. Shantanu Jalgaonkar representing Praj at Annual F.O. Licht's Ethanol Latin America 2018.

36th Havana International Trade Fair (FIHAV) 2018, Havana, CUBA



Praj participated in the 36th Havana International Trade Fair (FIHAV) organized by FICCI with Ministry of Commerce & Industry and Government of India. Praj was chosen to be one of the 50 companies to participate in 'India Pavilion', where over 3000 companies from over 65 countries, including companies from Latin America & Caribbean (LAC) countries participated in the event.

Mr. Pradeep Dhotey representing Praj at FIHAV in Havana, Cuba.

Technical Workshop for Latin American clients



Praj received an overwhelmingly positive response for the technical workshop organized for its Latin American clients in Bolivia and Argentina. The workshop was attended by the existing & prospective customers, with 90+ attendees from various functions (Operational & Commercial).

Mr. Atul Mulay sharing his views at the Technical workshop organised by Praj for its customers.

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