

BIO-DIESEL FROM CASHEW NUT SHELL LIQUID (CNSL): A PROMISING GREEN ENERGY SOLUTION

ED3R (Extractive Distillation and 3R: Rectification, Refluxing, and Reusing)

DAVANGERE, KARNATAKA, INDIA, August 1, 2023 /EINPresswire.com/ --**BIO-DIESEL FROM CASHEW NUT SHELL LIQUID (CNSL): A SUSTAINABLE GREEN ENERGY SOLUTION**

In the face of the daunting challenge of global warming, the development of renewable energy sources has become imperative. Among the promising alternatives, biofuels hold great potential as they are considered ecofriendly, renewable, and widely accessible. Notably, bioethanol and <u>biodiesel</u> have been projected as viable



substitutes for traditional petrol and diesel fuels. However, to achieve sustainable and commercially viable <u>biofuel</u> production, key factors such as feedstock availability and production costs need to be addressed. Identifying economic resources and developing appropriate technologies are crucial steps towards achieving energy security and promoting the adoption of advanced biofuels.

At the forefront of this green energy revolution stands <u>GoGreen Bioenergy</u> India Pvt Ltd, a visionary company committed to driving innovation in the biofuels industry. Led by prominent individuals like BM Kulkarni and Madhu HN, with Naveen Pawar serving as the CEO, GoGreen Bioenergy India Pvt Ltd is dedicated to pioneering cutting-edge biofuel technologies and contributing to a greener and more sustainable future.

A notable achievement of GoGreen Bioenergy India Pvt Ltd is the utilization of acid oil as an economic resource for biodiesel production. Acid oil, a byproduct generated in substantial quantities during the processing of vegetable oils, has emerged as a promising feedstock for

biodiesel production. In India, with approximately 1060 vegetable oil refineries processing about 25 million tons of vegetable oils annually, acid oil production reaches around 4-4.2 million tons. Historically, acid oil has been considered an unwanted byproduct and is typically disposed of at a cost ranging from 40,000 to 42,000 Indian Rupees per ton.

However, the high content of free fatty acids and excess moisture in acid oil renders it unsuitable for conventional transesterification processes. As a result, alternative approaches are necessary to harness the potential of acid oil for biodiesel production. In response to this challenge, GoGreen Bioenergy India Pvt Ltd has pioneered the development of the revolutionary ED3R (Extractive Distillation and 3R: Rectification, Refluxing, and Reusing) esterification process.



The ED3R process, designed and developed at the organization's state-of-the-art R&D center, has proven to be a game-changer in the biodiesel production landscape. The process enables the efficient conversion of acid oil into biodiesel that meets international specifications. What sets the ED3R process apart is its economic viability, simplicity, and scalability to meet varying biodiesel production needs. The process is composed of three key units: an esterification unit, a methanol recovery enrichment unit, and a recycling unit. Methanol is continuously fed into the esterification vessel, producing a mixture of methanol and water vapor, which is then continuously extracted. The resulting mixture is directed to a recovery unit, where methanol is enriched, recovered, recycled, and reused, making the process both environmentally sustainable and cost-effective.

In addition to acid oil, GoGreen Bioenergy India Pvt Ltd has also expanded its horizons to explore biodiesel production from Cashew Nut Shell Liquid (CNSL). This innovative endeavor showcases the company's dedication to resource optimization and developing green energy solutions. CNSL, a byproduct derived during cashew nut processing, presents a previously underutilized resource that can now be harnessed for biodiesel production, further advancing the cause of sustainability.

For those seeking to learn more about GoGreen Bioenergy India Pvt Ltd's transformative initiatives, the company is actively engaged on various social media platforms, including Facebook, Twitter, and WhatsApp. These platforms provide a glimpse into the organization's innovative approach and commitment to driving sustainable bioenergy practices.

In conclusion, GoGreen Bioenergy India Pvt Ltd stands as an exemplary model for harnessing economic resources like acid oil and CNSL to produce biodiesel, paving the way for a greener and more sustainable future. As the world continues to confront the challenges of global warming, organizations like GoGreen Bioenergy India Pvt Ltd play a pivotal role in shaping the renewable energy landscape, fostering energy security, and reducing our carbon footprint. With their strong focus on technology development and resource optimization, they stand as pioneers of the green revolution, contributing to a cleaner and more sustainable world. As we move towards a greener future, the efforts of GoGreen Bioenergy India Pvt Ltd inspire us to embrace sustainable energy solutions and foster a cleaner, more sustainable planet for generations to come.

Madhu Honnenhalli Narayan GoGreen BioEnergy India PVT LTD +91 8047277750 email us here Visit us on social media: Facebook Twitter LinkedIn YouTube Other

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