



PRESS RELEASE

SCBI values commitment to protect and preserve environment

San Carlos Bioenergy, Inc. (SCBI), one of two ethanol facilities of Roxas Holdings, Inc. (RHI), is the first fuel bioethanol and co-generation facility in the Philippines and Southeast Asia.

Located at the San Carlos Agro-Industrial Economic Zone in San Carlos City, Negros Occidental, SCBI marks its tenth year of operations this year.

The plant had gone through four Management changes since its completion in 2008 --- the most recent of which was when RHI took over majority of SCBI in May 2015.

Like any other ethanol plant, SCBI faces the challenge of managing distillery slops, also known as spent wash.

RHI Environment Head Roselle Recreo explained that spent wash is the resulting water, colored dark brown, from the production of ethanol from molasses.

“Theoretically, for every one (1) liter of ethanol, we produce 10 to 12 liters of spent wash. Its characteristic color, acidity, and very high level of organic matter make it one of the most challenging types of wastewater to manage,” Ms Recreo said.



But SCBI is committed to protect and preserve the environment. To address concerns on the odor that emanates from the distillery slops, SCBI is putting up two additional units of Anaerobic Digesters (ADs) worth PhP200 million.

The ADs will handle 1,000 cubic meters of spent wash generated from ethanol production.

Work on the two ADs began in March 2017 and is expected for completion in September 2018. Commissioning and biological process startup will follow after the completion of the ADs.

At full capacity, the ADs are designed to generate about 52,000 cubic meters of biogas per day --- a clean and renewable energy resource. Ms Recreo said the biogas would be utilized in combination with other biomass, as fuel to produce the power requirement of the plant. The biogas is expected to replace an equivalent of 100 tons of bagasse per day.

Aside from generating clean and renewable fuel resource, the full operation of the two (2) ADs shall mitigate the odor occurrence. Meanwhile, SCBI applies daily doses of NCH-Bioamp Freeflow activated microorganisms for odor control, pending AD operation.

The Plant is also giving back to the community by distributing spent wash as fertilizer to nearby farms. After passing the ADs, the treated spent wash is returned to the soil. Backed by a scientific study conducted from November 2015 to November 2016 by the

UPLB-Biotech at the University of the Philippines Los Baños - College of Agriculture La Granja Research and Training Station (UPLBCA-LGRTS) in La Carlota City, Negros Occidental, using actual biomethanated spent wash from RHI's other ethanol subsidiary, treated spent wash had been classified as "dilute liquid fertilizer".



The study also showed that treated spent wash also has good available organic Nitrogen, Phosphorous and other important secondary elements like Calcium,

Magnesium, Potassium and needed trace elements such as Manganese, Iron, Copper, Zinc and Aluminium.

Ms Recreo said biomethanated spent wash is widely sought after by sugar cane farmers due to the added benefits of the readily available organic components that supplement inorganic fertilizer. The spent wash also reduces planters' expenses on fertilizers as it fills up the requirement for inorganic fertilizer.

Wastewater generated by distillery operations is highly organic in nature.

"Being organic makes it very vulnerable to natural fermentative actions resulting to formation of various volatile organic compounds (VOCs) --- some of which may emit gases [some with natural characteristic odors]. Knowing these natural biochemical reactions has provided the Plant better control of the potential effects of wastewater on the environment," Ms Recreo explained.

With these efforts and the other initiatives to manage concerns such as the odor from distillery slops, SCBI, led by EVP/COO for Ethanol, Luis O. Villa-Abrille and AVP/Factory Operations Manager Damaso T. Agudelo, reassures the city government and residents of its unwavering commitment to protect the health of the people and preserve the environment.

Mr. Villa-Abrille said SCBI values its commitment to protect and preserve the environment as it supports the global initiatives of the United Nations Development Programme's Sustainable Development Goals of 2030.

The AD infrastructures that SCBI is putting up will not only generate clean energy, which also supports Climate Change initiatives by reducing the emission of greenhouse gases. The Plant is also continuously exploring and implementing various programs on sustainable resource consumption.

Ms. Recreo shared that under the Hierarchy of Water Management, which is "Prevent/Reduce, Reuse, Recycle and Recover", SCBI expects to reduce raw water use and wastewater generation at an aggregate minimum of 25% by year 2020.

SCBI Admin and CSR Head Nanette Abuan, Environment Officers Bienvenido Tanaman and Saul Jerome Mantua, as well as Ms **Maria Leilanie Jerrjerine L. Oliveros** of HR & Administration also assured that they would continue collaborating with the communities and other stakeholders to ensure that Plant initiatives are aligned with the City Government's directives.

Ms Abuan said that SCBI regularly coordinates with the government and the communities, as it reaches out with its various social programs.



This press release may contain some statements which constitute “forward-looking statements” that are subject to a number of risks and uncertainties that could affect RHI’s business and results of operations. Although RHI believes that expectations reflected in any forward-looking statements are reasonable, it cannot guarantee future performance, action or events.

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ABOUT RHI

Roxas Holdings, Inc. (RHI), a bio-sugar and bio-energy company, is the largest integrated sugar business in the Philippines. It manages sugar miller/refiner Central Azucarera Don Pedro, Inc. in Nasugbu, Batangas; sugar miller Central Azucarera de la Carlota, Inc.; ethanol producers Roxol Bioenergy Corporation in La Carlota, Negros Occidental and San Carlos Bioenergy, Inc. in San Carlos, Negros Occidental; and RHI Agri-business Development Corporation. It also holds 45% of affiliate Hawaiian-Philippine Company in Silay, Negros Occidental.

RHI is listed on the Philippine Stock Exchange (PSEi: ROX). Further information can be obtained by visiting the web at www.roxasholdings.com.ph.