

AQUAECO Launches Palm Oil 'Green Tech' System

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Aqua Ecotech Sdn Bhd (AquaEco), today makes its introduction of its revolutionary 'green tech' system AquaEco-SRORS, the world's first proven and commercially viable palm oil raw sludge filtration system.

According to AquaEco's Director and principal shareholder Andrew Liew, the AquaEco-SRORS system will transform the palm oil industry by allowing millers to address long-standing palm oil waste sludge challenges that have been a major industry problem and costly affair for decades. Liew says, "AquaEco-SRORS enables the recovery of up to 80% of the oil in the raw palm oil sludge.

This translates to an improvement of 0.4% – 0.6% in Oil Extraction Rate (OER), reduction of bio-gas emission by 70%*, and the output of an oil-free filtrate with no suspended solids – that is discharged into waste water treatment ponds. *Estimated average figure that depends on the mill's processes.

This is a really big deal for palm oil millers as this technology drastically reduces the high Chemical Oxygen Demand (COD) and Biological Oxygen Demand (BOD) in waste water- this uplift the entire state of the industry to be much cleaner and environmentally friendly."



(L-R): Ow Eng Haw and Andrew Liew demonstrate the AquaECO-SRORS system to the press.

He explains the significance of the 0.4% – 0.6% OER recovery, "Annually, an average mill which processes around 300,000mt of crop will, with AquaEco-SRORS, be able to recover about 1,462mt oil or 0.5% OER, , translating to an incremental revenue of about RM3.8mil". *Amt depends on palm oil commodity market rate & mill's raw palm oil yield amt. Currently the average OER of the Malaysia's palm oil stands at 20.65%.

With AquaEco-SRORS, the entire industry's production would increase to 21.15 % (with existing palm oil fruit produce). This increase is in line with PEMANDU's EPP4* that targets to increase the country's palm oil industry OER rate to 23% by Year 2020.

*The EPP4 objective is to increase OER from palm oil fruits to 23% by Year 2020 in order to contribute RM13.7 BILLION in GNI by the same year.

EPP4 is championed by the Malaysian Palm Oil Board ('MPOB'). How it Works In a normal Palm Oil mill, the oil extraction process discharges 65% of raw waste sludge – which then requires a large number of wastewater treatment (effluent) ponds to clean.

Being high in Chemical Oxygen Demand ('COD') and Biological Oxygen Demand ('BOD'), this waste releases high amounts of biogas into the atmosphere; and if not properly treated, this wastewater is toxic to aquatic life when it inadvertently enters into the land's many waterways.

AquaEco-SRORS system solves the issue of wastewater by intercepting the raw sludge and separates it into water, solids and oil. "The system uses an innovative, self-cleaning membrane technology to filter out suspended solids and oil – leaving a filtrate for further processing or recovery. The oil is recovered back as crude palm oil, while the suspended solid is removed as decanter cake in the decanting process. All oil and suspended solids are prevented from entering the treatment ponds. Without the need to break down suspended solids, treatment pond process becomes more efficient, reducing biogas emission by an astonishing 70%," explains Liew.

"Being environmentally friendly AquaEco-SRORS provides an immediate solution for millers to better meet increasingly stringent regulatory requirements. It will help the mills to gain extra points for their Round Table Sustainable Palm Oil (RSPO) Millers can take advantage of the compliance to garner the license to export palm oil to Europe," he adds.

Directly Supports MPOB's Vision

AquaEco-SRORS fits in with MPOB's aim of introducing technologies that can enhance the industry, and also to be in line with international regulatory guidelines that have been increasingly stringent over the years. Liew says, "I am confident of MPOB's support for a 'green tech' such as AquaEco-SRORS for the industry.

After all, it is not every day that such an innovative and commercially-viable green technology is made available to market. From the palm oil community's point of view, we are aware that MPOB is always looking to help millers meet the DOE's increasingly stringent legislation to lower sludge output, or at least cleaner discharges by mills. Innovation such as this, will pave the way for a cleaner and increased commercial returns for the Malaysian palm oil industry."

The Malaysian Department of Environment, DOE, also aims to reduce the BOD discharge into water by 50% in the near future. At present, the allowed BOD in Peninsular Malaysia stands at 50-100ppm, 50ppm in Sarawak and a higher standard of 20ppm has been established in Sabah. The DOE also has strict guidelines in place; and those found guilty of violating these guidelines have been fined or jailed, with the convicted mill sometimes being shut down for months.

There are currently about 450 palm oil mills operating across the country; and this green technology offers an immediate solution adhere to international palm oil regulatory requirements – a challenge which local palm oil millers have been grappling with for years. Committing to a Cleaner and More Responsible Future AquaEco took five (5) years of R&D to develop and fine-tune the AquaEco-SRORS technology into a commercially viable and proven investment for palm oil millers. Over the past year, AquaEco has worked closely with MPOB on the technology. AquaEco has already installed the system in two Malaysian palm oil mills -in Sandakan, Sabah and in Bota, Perak.

Following their success, the company is currently in talks with a few more mills to install the system. Aqua Ecotech has appointed Integrated Green Engineering, MillGreen Technology, Nano Quest and YKL Engineering as distributors for the AquaEco-SRORS. ###

About Aqua Ecotech Sdn Bhd ('AquaEco')

AquaEco started the R&D for the AquaEco-SRORS in 2011, and this palm oil raw sludge filtration system has been patented in Malaysia, as well as internationally. This revolutionary 'green tech' system is also the first commercially viable and proven palm oil raw sludge filtration system that is available in the market.

The AquaEco-SRORS system enables recovery of up to 80% of the oil in the raw palm oil sludge – that is an improvement of 0.4% – 0.6% in Oil Extraction Rate (OER); and effectively reduces biogas emission and BOD by 70 percent. AquaEco's official distributors include Integrated Green Engineering, YKL Engineering, MillGreen Technology, and Nano Quest.