

Turn POME into valuable resource: Experts

6Kan Yaw Chong

HERE is no reason for palm oil mills in Sabah to continue discharging effluents into rivers, a gathering of international renewable energy experts said, Thursday.

The day-long EU-Sabah Biogas Seminar at Suetra Pacific heard one top mind after another from Europe and Malaysia say there is a total solution to the problem.

"It's a matter of just the head and the heart now, because the proven technology has been around for quite a while," noted Martin Schmidt, a German mini biogas expert who has installed many such rural facilities to replace expensive diesel gensets.

Danish electrical engineer, Lars Hjorth, said he looked at palm oil mill effluents with a positive note, just as Sabah should start doing.

"Palm oil mill effluents are a valuable source of organic matter and biomass for biogas and electricity production," he said.

"There is proven and reliable technology such as thermophilic digesters which can produce high quality final effluent discharge of less than 20 parts-per-million BOD (biological oxygen demand) through a combination of anaerobic thermo system with aerobic polishing, which also captures methane to run gas

engines used as electricity generator.

"This is in addition to excess gas to burn the boiler that generate steam and hot water," Hjorth noted in his presentation, "Thermophilic Process of palm Oil Mill Effluents."

"This is a sustainable solution that yields electricity from biogas which increases the diversity of electricity supply, self sufficiency in power and potential revenues from feeding to the grid system," he said.

In addition, power from a renewable source and production of CO2 neutral energy would grant such mills useful green status under Clean Development Mechanism, Hjorth added.

On a sobering note, Thomas Brandt, General Manager of Malaysian-German Chamber of Commerce & Industry, Malaysia, said Malaysia still depends on oil and gas for much of its development funds, which is destined to run dry eventually.

The danger of living from the past (meaning depleting carbon-fuel deposited underground millions of years ago) is obvious and what is also certain is price of fossil fuel world wide will only climb, Brandt cautioned.

"What once cost US\$50 per barrel now cost US\$100," he noted.

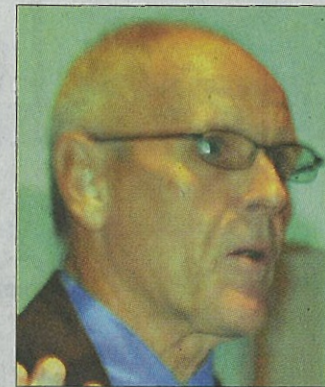
"Petrol price in Germany currently cost RM7 per litre



Martin Schmidt



Stefan Petters



Lars Hjorth



Raymond Tan



Thomas Brandt



Bas Melssen

compared to RM2 per litre in Malaysia but it will be a matter of time this high fuel cost catches up in Malaysia and so it pays to be prepared," Brandt advised.

"Europe has its unique position technologically speaking but Sabah on the other hand has its abundance of biomass," Brandt said.

Vienna-hailed Stefan Petters, owner of several Intellectual Property Rights for Green Technology and an expert in industrial materials,

said he noticed that material capture in the Malaysian oil palm industry figures only about 25%, comprising mainly crude palm oil and palm kernel oil.

The industry is, therefore, very inefficient materially speaking.

"Does it make sense for any country if it ends up handing control of 75pc of this resource to some body else?" Petters asked.

However, Bas Melssen, Executive Vice President of

Strategic Innovation Projects, Agensi Inovasi Malaysia, said Malaysia has adopted a fundamental premise that biomass "will not be treated as a commodity, nor a waste."

The idea is to keep oil palm biomass within Malaysia for downstream purposes to generate employment locally and other value added products.

"I think this is very important not to see it as a waste product but see it as an opportunity to create more

value," Melssen said, "Specifically for Sabah, I think it's a big opportunity as well to create more value and to keep the value in Sabah - to create jobs and to create high value industries and to participate in that," he added.

"But what is very important now is every body plays their role," he advised.

"Industries need to play their specific role, government needs to play its specific role in terms of facilitating and enabling and the academia need to play their role in terms of supporting the research and development in this phase," Melssen said.

"But it is an opportunity that will not be here forever because once these technologies have become commercial and everybody is investing in this and every body can see that it works, then suddenly it will become a rush. This is an opportunity now for Malaysia and Sabah to be really at the forefront," Melssen said.

"In the case of mill effluents, the use can be first to generate energy, to capture the methane. This is very critical and in our opinion every mill should do this because by capturing the methane you can convert it to energy which you can then use back for the mill and the excess energy you can feed into the grid or you can use it for other purposes like drying

the biomass and then use it for higher value purposes," he said.

"It makes a lot of sense to capture a very nice value for the country that reduces the emissions and that's a triple win for every body (People must win; profit (business) must win; planet earth must win).

"Sludge - the organic solids from POME can be used for fertiliser, the technology is out there, to extract the last bits of oil," Melssen said.

Datuk Raymond Tan, State Minister of Industrial Development, said the State has started acting with a 20MW biomass electricity plant at the Palm Oil Industrial Cluster (POIC), Lahad Datu, as part of it thrust into green and renewable energy.

The proof of this effort goes back to it rejection of the proposed 300MW coal-fired power plant in Darvel Bay two years ago and replaced that with a 300MW natural gas fired power plant in Kimanis.

However, since natural gas is quite expensive, the case for biomass fuel remains a target for further development.

Given that each mill can produce an average of over 1.5MW from their biomass, the 123 mills in Sabah can generate an estimate of over 200MW of electricity, one speaker noted.

