

KERATAN AKHBAR-AKHBAR TEMPATAN
TARIKH: 9 DISEMBER 2013 (ISNIN)

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Sirim eyes Kudat for projects

Study reveals area's vast potential to aid renewable energy

By RUBEN SARIO
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KOTA KINABALU: A four-year study by Sirim Bhd found that the constantly sunny and windy conditions in Kudat may enable Sabah's northernmost district to become a key site for environment-friendly power generation projects.

The Sirim study conducted since 2009 indicated that Kudat's climate made it possible for a solar and wind hybrid farm to be developed there.

Sirim president Dr Mohd Zainal Abdin Mohd Yusuf said that wind speeds there reached up to 36kph at an altitude of 70m, making it a

suitable site to generate power using large wind turbines.

He said the constantly sunny days there were ideal for solar photovoltaic (PV) electricity generation.

The feasibility study for Kudat saw a total capacity of 34.8kW of power generated from installations at the scenic Tanjung Simpang Mengayau, better known as the Tip of Borneo.

Of this, 25kW comes from wind turbines, while the remaining 9.8kW comes from solar PV. The electricity is being utilised by a nearby resort.

The project was launched by Science, Technology and Innovation Minister Datuk Ewon Ebin yesterday.

"Sirim is now conducting studies to determine the best wind turbines and PV thin film technologies that are most appropriate for local conditions," said Mohd Zainal.

He added that Sirim was also studying other renewable energy sources in Sabah, including biogas from the palm oil mill effluent.

Biogas could become an alternative to diesel for power generation, especially in the remote areas of Sabah that constantly experience power supply interruptions.

According to Ewon, the government welcomed any measure to harness renewable energy sources that was efficient, cost effective and

required minimum maintenance.

He said that Sabah had much potential in renewable energy generation, with some 36MW of power coming from the small renewable energy programmes, and another 74MW from similar projects in the pipeline.

Ewon said some of the abundant resources of power generation included the 180MW Ulu Padas hydroelectric project, which was currently under construction.

He added that as much as 1,720MW of hydro power could be produced at 59 other undeveloped sites, while geothermal sources could add another 405MW.

KERATAN AKHBAR
UTUSAN MALAYSIA (MEGA SAINS) : MUKA SURAT 4
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DR. Abdul Azis Ariffin (kiri) bersama rakan kerjasa dari Dolphin Applications Sdn. Bhd.



DR. Abu Bakar Mohamad Diah (duduk) tertarik melihat prototip Robo-Rest selepas melancarkan teknologi tersebut di UPM, Serdang, Selangor baru-baru ini.

Oleh ASHRIQ FAHMY AHMAD
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INDUSTRI minyak sawit dunia dianggarkan memproses 285 juta tan buah tersebut sepanjang tahun 2013 sehingga kini.

Daripada jumlah itu, terdapat sebilangan besar minyak kelapa sawit hilang di sepanjang rantaian pemrosesan produk yang mana membabitkan kerugian mencecah jutaan ringgit.

Kehilangan minyak tersebut berlaku akibat amalan pemrosesan yang tidak cekap di samping kaedah sedia ada dan memerlukan penambahbaikan.

Oleh itu, Universiti Putra Malaysia (UPM) menerusi penyelidik Jabatan Teknologi Makanan, Fakulti Sains dan Teknologi Makanan, Professor Madya Dr. Abdul Azis Ariffin menghasilkan Robo-Rest untuk mengatasi masalah tersebut.

"Robo-Rest merupakan teknologi pensterilan (peleraian) buah sawit daripada tandan menggunakan wap tekanan tinggi.

"Menerusi kaedah tersebut, kadar kehilangan minyak dapat dikurangkan serta mampu meningkatkan kadar pengeluaran antara satu hingga dua peratus," katanya ketika ditemui selepas majlis pelancaran teknologi tersebut di UPM, Serdang, Selangor baru-baru ini.

Majlis itu dirasmikan oleh Timbalan Menteri Sains, Teknologi dan Inovasi (MOSTI), Datuk Dr. Abu Bakar Mohamad Diah dengan disaksikan oleh Timbalan Naib Canselor (Penyelidikan dan Inovasi) UPM, Professor Datuk Dr. Mohd. Salleh Jaafar dan wakil syarikat Dolphin Applications Sdn. Bhd., Eric Low Teck Yin. Jelas Dr. Abdul Azis, teknologi Robo-Rest ciptaannya mampu mempercepatkan proses pensterilan dan peleraian buah kelapa sawit selama 45 minit berbanding kaedah sedia ada yang mengambil masa antara satu hingga dua jam.

"Robo-Rest bukan sahaja mampu menjimatkan masa, malah teknologi itu mampu menjimatkan kos elektrik, kos pemasangan dan kos pengeluaran dalam proses pensterilan dan peleraian buah sawit," ujarnya.

Robo-Rest atasi kehilangan minyak

Atasi masalah kehilangan minyak sawit

Kaedah pengukusan pada suhu yang tinggi menurut Dr. Abdul Azis, mampu memecahkan ikatan gula (glukosa) yang terdapat di dalam keseluruhan buah kelapa sawit menjadikan struktur hemiselulosa terurai pada tahap maksimum sekali gus memudahkan buah lerai daripada tandan.

Kaedah sebelum ini turut menggunakan konsep yang sama namun kadar pengewapan yang tidak berkesan menjadikan buah kelapa sawit tidak lerai sepenuhnya daripada tandan.

Akibatnya, tandan sawit terpaksa diproses semula bagi mengeluarkan baki buah sawit yang masih melekat dan pengulangan berkali-kali tersebut



ABDUL AZIS ARIFFIN

menyebabkan sebahagian buah sawit pecah dan minyak yang tidak sempat diperah melekat pada tandan sawit kosong.

Proses tersebut merupakan punca bermulanya, ketirisan dan kehilangan minyak sawit bermula, oleh yang demikian Robo-Rest dicipta bagi mengatasi masalah pada bahagian tersebut.

Ciptaan Dr. Abdul Azis tersebut bakal dibangunkan dengan kerjasama syarikat Dolphin Applications Sdn. Bhd. dengan kadar harga RM1 juta hingga RM 2 juta seunit dan

setiap kilang pemrosesan minyak sawit biasa memerlukan tiga set Robo-Rest.

Kerjasama pengkomersialan tersebut dimeterai sebelum ini dan syarikat Dolphin Applications Sdn. Bhd. memiliki hak perlesenan eksklusif daripada UPM untuk jangkamasa enam tahun.

Ujarnya, Robo-Rest bukan sahaja bakal menarik minat pengusaha kilang sawit dalam negara malah turut diperkenalkan ke peringkat antarabangsa.

Antara negara-negara yang disasarkan adalah negara pengeluar minyak sawit seperti Amerika Selatan (Brazil, Colombia, Honduras), Indonesia, Thailand dan Selatan Afrika.

Terdahulu Dr. Abu Bakar berkata, kerajaan telah menyediakan sebahagian besar dana

menerusi pelbagai kementerian dan agensi termasuklah MOSTI dengan harapan dapat meningkatkan hasil kajian dan inovasi berdasarkan inisiatif universiti tempatan.

Katanya, dana tersebut dilihat amat penting bagi meningkatkan inisiatif universiti tempatan menghasilkan kajian serta produk yang berkualiti tinggi sehingga berjaya dikomersialkan.

"Pelaburan yang dilakukan oleh kerajaan menerusi kementerian ini (MOSTI) adalah bagi memastikan negara mampu mencapai status negara maju berpendapatan tinggi menjelang tahun 2020," katanya.

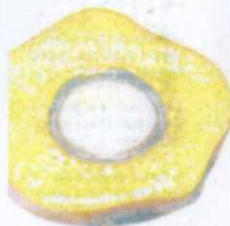


Info

→ Robo-Rest merupakan satu teknologi baharu yang lebih berkesan bagi memastikan buah kelapa sawit lebih mudah diproses di samping hasilnya tidak tiris bagi mengelakkan kerugian.

→ Teknologi Robo-Rest ini juga mampu mensteril sebanyak 15 hingga 20 tan buah kelapa sawit segar dalam satu-satu masa

→ Berdasarkan perkembangan industri minyak kelapa sawit masa kini, dijangka sebanyak 3500 unit Robo-Rest akan terjual pada peringkat awal.



When Mother Nature has final say

Kuantan records 900 millilitres of rain in three days, second wave on the way

PREPARATIONS for floods could still prove inadequate, particularly when mother nature has the final say.

Pahang Disaster Relief Committee chairman Datuk Seri Muhammad Safian Ismail was quoted by *Bernama* saying Kuantan registered a record 900 millilitres of rainfall from Dec 1 to 3, equivalent to three times the amount of rain recorded for the whole of December last year.

Muhammad Safian acknowledged an initial delay in sending food to relief centres but said it was due to floodwaters cutting off roads and disrupting transport facilities.

Heavy rainfall together with high tides worsened the condition in the east coast as the water could not flow out into the river and sea.

The Malaysian Meteorological Department's central

forecast division director Muhammad Helmi Abdullah said "extreme weather" conditions had worsened floods.

"The more severe thunderstorms and rainfall these days could be due to climate change," he said.

The department has warned a second wave of floods could hit the east coast in the third week of December due to continuous heavy rainfall.

Muhammad Helmi said the

second wave would likely hit the same states currently inundated by floods: Pahang, Terengganu, Kelantan and Johor.

"The prolonged heavy rainfall would also coincide with the presence of the full moon on Dec 17, which would result in unusually high tides," he said, adding the second wave could be caused by monsoon surges, strong bursts of cold air from Siberia.

These winds from the Pacific combined with the north-easterly winds, create rain clouds which brings about heavy rainfall.

He said there may be two more widespread floodings in January and February next year.

He advised the public to be alert and keep themselves updated with the latest developments to ensure they were prepared.

