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Malaysia

Biofuels Annual

Annual Report 2010

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Report Highlights:
2010 looks bright for the Malaysian bio-diesel exports as Malaysia takes the advantage to fill the gap caused by the EU's slap of duties on US-origin biodiesel or re-exports. The Government continues to put on hold the proposed mandatory blend of 5 percent of palm olein in diesel for the domestic market. For 2011, Post expects a sharp decline in exports as EU delists palm oil as a qualified biofuel due to its new GHG mandate.

Post:
Kuala Lumpur

Executive Summary:

The Malaysian bio-diesel sector seems to be at a crossroads with poor domestic takeoff and the GOM's reluctance to subsidize the fledging industry. The GOM continues to put on hold the proposed mandatory blend of 5 percent of palm methyl ester in diesel for the domestic market.

On the international front, the EU's elimination of palm oil from the qualified list of biofuels will have a negative impact on Malaysia's exports of bio-diesel in 2011. Malaysia and Indonesia are working hard in order to find a solution. In addition, Malaysia is also looking into laying the foundation for palm oil to qualify as an advanced biofuel source in the United States under its Renewable Fuels Standards 2 (RFS2).

Opportunities for US exports of biofuel or a biofuel feedstock to Malaysia are limited as the country already has in oil palm a plentiful feedstock. Also, retail petroleum prices in Malaysia are subsidized, diminishing the economic viability of importing biofuels as an alternative fuel source.

Jatropha, a tough bush with oil bearing fruit has excellent small-scale potential but needs more research before it could be cultivated on a larger-scale area. The shrub grows on marginal and arid land and needs little care. *Jatropha* is non-edible, so avoiding the food vs fuel controversy. Although fund has been allocated to facilitate research and development of the crop, the GOM has yet to fully endorse the significance of jatropha
Exchange Rate: US$1= RM3.267 (Jun 18, 2010)

Policy and Programs:

BIO-FUEL POLICY

Policies supporting production and use of biofuels

While the GOM is still determined to further develop the palm oil industry by promoting the production and use of palm biodiesel, the lack of clear direction in implementing the mandatory blend of 5 percent of palm methyl esters in diesel (referred to as B5) in the domestic market is causing concern in the bio-diesel sector. The GOM is indecisive as to pass the extra cost of producing B5 biodiesel to the consumers or to petroleum companies or absorb it as a Government's subsidy. Based on a market price of RM2,000/ton for palm oil, the subsidy for full implementation of B5 mandate could amount to RM250 million (US$8 million). The original plan of implementing the B5 mandate on Jan 1 2010 has long gone and the GOM has been quiet since then on the next deadline. It is estimated that at least 500,000 tons of palm olein (less than 3 percent of current palm oil production) would be required annually to fulfill the B5 mandate.

In Malaysia, the biodiesel industry has to reckon with some of the lowest fuel prices in its region. The GOM sets retail fuel prices below the market price and compensates retailers through subsidies. The GOM cancelled the sales tax on retail petroleum products to alleviate price pressure and the incidence of the sales tax borne by the retail customer. The sales tax on diesel of US$0.05 per liter was dropped since October 1999. The sales tax on gasoline of US$0.16 per liter was eliminated since June 2004.

Table 1:
Retail Price of Motor Fuels in Malaysia (per liter)

	Subsidized Retail Price	Without Subsidies or Sales Tax Exemptions
Gasoline*	US$0.63	US$0.70
Petroleum Diesel	US$0.52	US$0.60

*RON97

US$1=RM3.267 (Jun 18, 2010)

The GOM still encourages the production of methyl ester, primarily for export. New energy standards, such as those in the European Union, are making the export of methyl ester increasingly attractive to palm oil companies. The GOM is supporting the construction of biodiesel plants through tax incentives. Under the Promotion of Investments Act of 1986, biodiesel projects are eligible for Pioneer Status or Investment Tax Allowance (ITA). A company with Pioneer Status is granted tax exemption on at least 70 percent of the income derived from biodiesel production for 5 years, with more revenue being eligible under certain provisions. ITA, an alternative incentive that the companies can choose, is an allowance schedule that caters to high capital investment projects with a long gestation period. Under ITA, companies are granted an allowance of 60 percent in respect of qualifying capital expenditure incurred within 5 years of the date of the first capital expenditure. This allowance can be used to exempt up to 70 percent of the statutory income derived from biodiesel production in the assessment year. Any unutilized allowance can be carried over to following years. Under both the Pioneer Status and ITA incentive schedules, the tax allowance increases under certain criteria such as the location of the project in a promoted area. In order to further encourage the domestic palm oil processing industry, the GOM taxes exports of crude palm oil but does not levy export duties on processed palm oil or biodiesel.

Malaysia has expressed concern over a directive by the European Union (EU) to set sustainability criteria for biofuel where the material used should start by reducing greenhouse gas (GHG) emissions by 35 percent by November 2010 and increase the percentage to 60 by

2018. The problem for palm oil production lies in the default GHG savings value of only 19 percent (assigned by the EU) and hence, eliminated from the EU's list of qualified biofuel. However, Malaysian palm oil producers claimed that according to the lifecycle carbon analysis over the past two years, the GHG savings value of palm oil is actually over 50 percent perhaps with the adaptation of methane gas capture technology at mill level. A few Malaysian mills are already using such technology. Malaysia is also looking into laying the foundation for palm oil to qualify as an advanced biofuel source in the United States under its Renewable Fuels Standards 2 (RFS2). Malaysia and Indonesia are considering to bring the EU Renewable Energy Directive (RED) treatment issue to WTO.

The GOM also aims to develop Malaysia's niche in palm oil biotechnology and commercialize these technological achievements. The MPOB is responsible for most of the biotechnological advances and product development in the palm oil and palm biofuel industries. The MPOB has developed many processes which it proceeds to license to the industrial sector. The processes for making low pour point palm biodiesel and methyl esters are just a few of the technologies licensed by MPOB.

Advanced Biofuels:

BIO-FUEL MARKET SITUATION

Potential consumption of biofuel

The following tables represent the Post's estimates of the motor vehicle population in Malaysia. Registered vehicles from 1996 to 2009 were assumed to represent the current number of motor vehicles in use. Post estimates that diesel vehicles account for about 5 percent of the motor vehicle population in Malaysia.

Table 2:
#Number of New Motor Vehicles Registered from 1996 to 2009

Motorcycles	Cars	Buses Taxis Hire & Drive Cars	Goods Vehicles	Others	Total
4,917,220	5,639,672	107,261	464,737	253,554	11,382,444
43.20%	49.55%	0.94%	4.08%	2.23%	100%

Source: Malaysia Road Transport Department

The Malaysian Automotive Association (MAA) forecasts total industry volume of motor vehicles to recover from a small drop in 2009. Table 3 forecasts a healthy growth till 2014.

Table 3: Malaysian Automotive Association (MAA) Forecast of Vehicle Sales						
	2009	**2010***	**2011***	**2012***	**2013***	**2014***
Passenger vehicles	486,342	498,300	514,500	530,500	546,000	562,400
Commercial vehicles	50,563	51,700	52,000	53,000	54,000	55,600
Total industry volume	536,905	550,000	566,500	583,500	600,000	618,000
Growth	2.0%	2.4%	3%	3%	2.8%	3%

*Source: MAA *forecast*

Post foresees that diesel vehicles could make up a greater share of the total in the future when B5 is introduced and government incentives are promoted. The annual road tax that drivers must pay has always been significantly greater for diesel motor vehicles. One reason that diesel engines were originally taxed more heavily is because their engines were considered to release comparatively more harmful emissions into the environment. On January, 1 2007, the GOM reduced the annual road tax for petroleum vehicles with engine capacities less than 1600 cubic centimeters (c.c.) by 10 percent while the tax for diesel vehicles with engine capacities less than 1600 c.c. was reduced by 34 percent.

Table 4: Road Tax in Peninsula Malaysia 2010		
Engine Capacity (c.c.)	**Petrol Engine**	**Diesel Engine**
1000 and below	US$6.12	US$6.12
1001-1200	US$16.84	US$33.67
1201-1400	US$21.43	US$42.85
1401-1600	US$27.55	US$55.10
1601-1800	US$61.35-US$85.70	US$122.68-US$171.41
1801-2000	US$85.86-US$116.31	US$171.75-US$238.75
2001-2500	US$116.62-US$269.36	US$239.42-US$575.45
2501-3000	US$270.13-US$651.97	US$577.29-US$1,493.73
3001-5000	US$653.35-US$3,407.80	US$1,497.03-US$8,105.30

US$1=RM3.267 (Jun 18, 2010)

Biofuel Production

Ethanol production

Ethanol production is commercially insignificant in Malaysia. There is an opportunity for ethanol production from oil palm biomass but the technology is yet to be commercialized. Ethanol consumption is unlikely as retail gasoline prices are subsidized.

Biodiesel production in the biofuel sector

According to the Malaysian Palm Oil Board's report, about 91 licenses are approved for building biodiesel plants, only seven are in operation. Some plants operate sporadically depending for purchase orders and are able to withstand closure because they are supported by their parent companies. The total combined capacity is about 2 million tons. Post expects a 24 percent increase in 2010 as companies are receiving good orders from Europe. A decline in production could be evident in 2011 as the EU's RED will come into full force at the end of 2010. However, Malaysian companies that are making the most profit are those that have a product-mix which includes the production of vitamin E (a derivative from crude palm oil), carotene and glycerin (a co-product) and those that are using methane gas capture technology.

With the violent swing of palm oil prices, the GOM has started to look at a promising alternative feedstock, *Jatropha.* It has excellent small-scale potential but needs more research before it could be cultivated on a larger-scale area. The GOM has allocated fund to facilitate research and development of the crop. The Malaysian Palm Oil Board is tasked to carry out performance tests on *jatropha*-based biodiesel. The Malaysian Rubber Board is to engage in seed breeding and the National Tobacco Board is to gauge the suitability of cultivating *jatropha* on bris soil in the northern part of the country. A few private companies are planning to invest in *jatropha* cultivation but the impact on the biofuel sector would not be significant in the next two years.

Table 5:
BIODIESEL PLANT IN OPERATION IN MALAYSIA

1	AJ Oleo Industries Sdn. Bhd.	Segamat, Johor
2	Carotino Sdn.Bhd.	Pasir Gudang, Johor
3	Malaysiavegetable Oil Refinery Sdn. Bhd.	Pasir Gudang, Johor
4	Nexsol (Malaysia) Sdn. Bhd.	Pasir Gudang, Johor
5	PGEO Bioproducts Sdn. Bhd.	Pasir Gudang, Johor
6	Vance Bioenergy Sdn. Bhd.	Pasir Gudang, Johor
7	Mission Biotechnologies Sdn. Bhd.	Kuantan, Pahang
8	Plant Biofuels Corporation Sdn. Bhd.	Kuantan, Pahang
9	Carotech Bio-Fuel Sdn. Bhd.	Manjung, Perak
10	Lereno Sdn. Bhd.	Setiawan, Perak
11	Alternative Fuels Holdings Sdn. Bhd.	Semenyih, Selangor
12	Sime Darby Biodiesel Sdn. Bhd.-Carey Island	Pulau Carey, Selangor
13	Sime Darby Biodiesel Sdn. Bhd.-Panglima Garang	Teluk Panglima Garang, Selangor
14	Titian Asli Sdn. Bhd.	Bukit Damansara, Kuala Lumpur
15	Weschem Technologies Sdn. Bhd.	Batang Kali, Selangor
16	KLK Bioenergy Sdn. Bhd. (Zoop Sdn. Bhd.)	Shah Alam, Selangor
17	Global Bio-Diesel Sdn. Bhd.	Lahad Datu, Sabah
18	Green Biofuels Sdn. Bhd.	Sandakan, Sabah
19	SPC Bio-diesel Sdn. Bhd.	Lahad Datu, Sabah
20	Platinum Biofuels Sdn. Bhd.	Seremban, Negeri Sembilan

Sources: MPOB: http://econ.mpob.gov.my/economy/biodiesel/biodiesel_plant.pdf

Table 5 shows the biodiesel projects currently in operation or in various stages of completion.

Notes on Statistical Data:

Imports Regimes for Biofuels

There is currently no import tariff in Malaysia directly levied on biofuels. There is no import tariff on crude palm oil but there is a 5 percent duty levied on processed palm oil. There are no duties on two common biofuel feedstocks: rapeseed oil and sunflower oil. There is however a 5 percent tariff on soybean oil and its fractions.

Post has done major revisions to the PSD Table as we obtain more accurate data from Governmental source. The BTN Trade code 382490900 (other chemical Products) contains a lot of chemical other than palm oil diesel.

BIOFUEL STATISTICS

	2007	2008	2009	2010	2011
Biodiesel					
--Palm oil	106	207	236	293	106

Biodiesel production/consumption/trade (1,000 M Ton)					
	2007	2008	2009	2010	2011
Biodiesel					
Beginning stocks	2	7	20	15	19
Production 1/	100	195	222	275	100
Imports	0	0	0	0	0
Total supply	102	202	242	290	119
Exports	95	182	227	270	100
Consumption	0	0	0	1	1
Ending stocks	7	20	15	19	18

1/ One ton of Palm Oil has a 94% yield in term of methyl ester output.

Exports Trade Matrix

COUNTRY	**2008**
	Quantity (Tons)
U.S.A.	71,324
European Union	70,273
Singapore	29,485
South Korea	6,594
Taiwan	3,081
Australia	1,203
Hong Kong	70
South Africa	41
India	24
Japan	7
China	6
Indonesia	0
Kenya	0
TOTAL	**182,108**

COUNTRY	2009 Quantity (Tons)
European Union	119,277
U.S.A.	39,594
Singapore	38,821
Indonesia	23,005
Taiwan	5,571
South Korea	530
Kenya	498
India	114
Japan	47
Australia	0
Hong Kong	0
South Africa	0
China	0
TOTAL	**227,457**

Sources: MPOB