

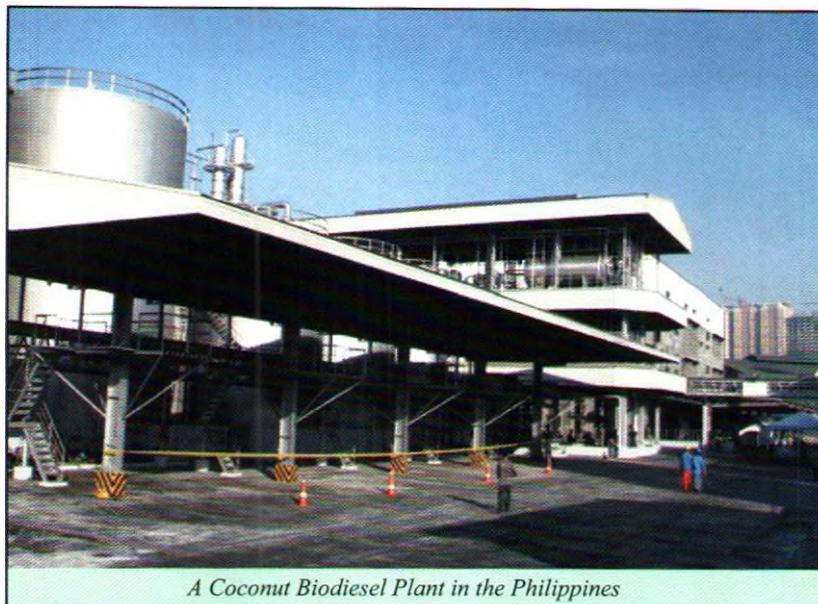
## PHILIPPINE BIOFUELS MEASURE IS FAVOURABLE FOR THE COCONUT INDUSTRY

*Yvonne T V Agustin*

In January 2007, Philippine President Gloria M. Arroyo signed Republic Act 9367, also known as the Biofuels Act of 2006. The measure serves to develop and utilize the country's indigenous, renewable and sustainable clean energy sources to reduce dependence on imported oils, lessen toxic and greenhouse gas emissions, increase rural employment and income and ensure sustainability of alternative and renewable clean energy, without harming the natural ecosystem, biodiversity and food reserves of the country.

The Act mandates the use of locally-sourced biofuels components in liquid fuel blends sold in the country for motors and engines. Referred to as 'biofuels' are biodiesel, bioethanol and other fuels from biomass, and primarily used for motive, thermal and power generation. Relevant to the vegetable oils and fats industry, this article will deal for the most part in biodiesel, especially coconut biodiesel or coconut methyl ester (CME), which is the prevailing biodiesel used in the country. The government, however, encourages the development of other alternative materials for biodiesel; notable among them being *Jatropha curcas* (*jatropha*), which has been given high priority.

The law immediately required, within three months from effectivity, all diesel engine fuels sold in the country to be blended with biodiesel at a minimum of 1% by volume (B1) and, within two years, to upgrade the blend to 2% (B2) biodiesel component. This may be further increased as



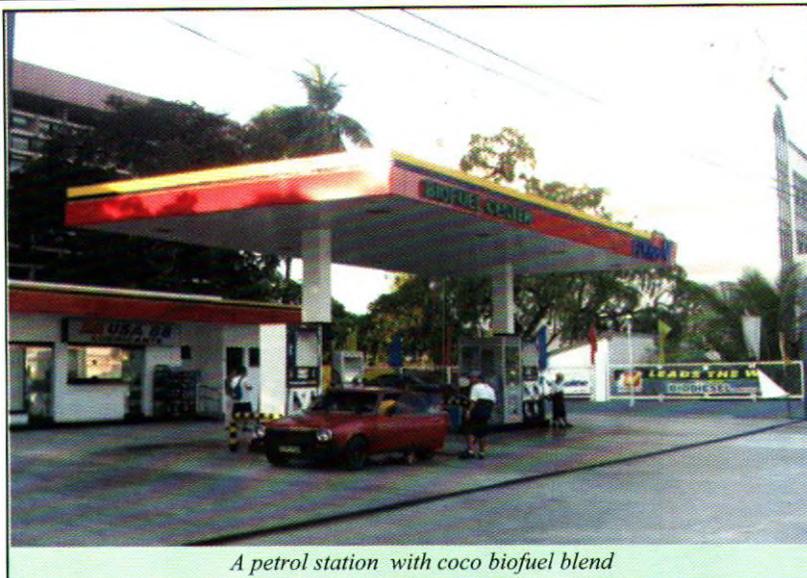
*A Coconut Biodiesel Plant in the Philippines*

the National Biofuels Board (NBB), an entity created by RA 9367, may see it feasible. The law was implemented at the beginning of May 2007 after approval of the Implementing Rules and Regulations formulated by NBB. As at present, the country's biodiesel requirement for a 1% blend is comparatively small at 65 million liters per annum, based on annual diesel fuel consumption of 6.5 billion liters, as against aggregate CME production capacity of 205.3 million liters. The biodiesel requirement translates to 65,000 MT in coconut oil equivalent.

Thus, even if the mandate is accelerated to 2% blend (B2), this would only consume 130 million liters coco biodiesel or 130,000 MT of coconut oil equivalent. One year after enactment of the Philippine Biofuels Act, the biofuels sector has already attracted private sector investments locally and overseas. Recently, Spanish firms have committed as much as USD625 million to develop

*Jatropha* plantations and refineries across the country. A Japanese firm also has teamed up with a Filipino company to produce coconut biodiesel from locally grown coconuts. The group will develop a total of 600,000 hectares of coconut plantations in the northern part of the country. Chemrez Technologies, the country's biggest coconut biodiesel producer, is infusing additional investment for the expansion of its capacity by 50% to 90 million liters this year.

Also one year after the law went into effect, came the issues on the need to balance between food and biofuel production in the country to avoid rising hunger rates. It was pointed out that increased demand for biofuels, respectively price of biofuel materials, could drive farmers to shift planting crops for fuel rather than for food consumption, consequently threatening food security. For the coconut industry, however, this issue may not be applicable.



*A petrol station with coco biofuel blend*

Coconut methyl ester has been produced in the country since the late 1970s as an intermediate chemical for various uses locally, particularly for the surfactants industry and, for the export market. The use of CME as fuel has added a new application for the product, thus expanding the utilization of CME in the domestic market with the implementation of the Biofuels Act.

That coconut biodiesel may upset the country's food supply, specifically cooking oil supply, has been a non-issue ever since, despite cooking oil taking the bulk of domestic consumption of coconut oil. It may still be a non-issue even today given the wide variety of cooking oil now available in the market made possible by the current world free trade regime that has improved market access between nations for their respective products.

The Philippines produces 1.42 billion liters of coconut oil yearly (2002-2006 average) and exports 1.06 billion liters yearly (2002-2006 average). Hence, coconut oil demand for conversion to coconut biodiesel, as required for B1, represents only 4.6% of production and 6.1% of export volume. Even if the biodiesel mandate is accelerated to 2% (B2), this would only consume

9.2% of total coconut oil output and account for 12.2% of coconut oil export.

Similarly, in the export market, coconut oil is least affected by the food versus fuel issue. Coconut oil competes with 16 other fats and oils in the world market where major players are palm oil (37.2 million MT annual output), soybean oil (35.3 million MT), rapeseed oil (18.4 million MT) and sunflower oil (11.2million MT), which are more preferred for cooking oil and other food applications. Coconut oil, at 3.1 million MT, is less than 5% of world fats and oils output.

Though used for both food and non-food products, coconut oil in the main is utilized for non-food applications such as detergents, aviation lubricants, dispersants, synthetic oil, fuel additives and other specialty esters where solvency and light lubricity play very important roles - features only unique to coconut oil's short and medium chain fatty acids properties. Thus far, except for palm kernel oil, no other vegetable oils have this advantage. In food applications, coconut oil serves a niche market, set apart by its unique fatty acid composition.

It will be recalled that the initial concept of the coco biodiesel utilization programme in the 1980s was aimed at creating a new domestic market for coconut oil due to high dependency on the export market which has worked to the disadvantage of coconut producers, particularly at times of low prices. In times of high coconut harvest, prices are dragged lower by the absence of an alternative outlet to siphon off excess volume. The enactment of RA 9367 (or Biofuels Act) decades later therefore has been a welcome development for the industry.

It is hoped that RA 9367 would be able to expand the local market for coconut oil, a potent mechanism to revive the moribund coconut industry. To be sure, it is currently the only means to revitalize the coconut industry since it is a high value, new and sustainable secondary product of coconut. Furthermore, it has a huge market potential both locally and internationally.

Apart from stimulating the coconut industry, the mandate to blend coco biodiesel with diesel will also provide multi-benefits to the country in terms of social, environmental and economic well being. Reports have shown the air quality in Metro Manila has improved substantially using B1 in less than a year of implementation of RA 9367. Such very encouraging results should serve to expand demand for coconut biodiesel, consequently promoting resource development in the form of greater interest in coconut planting to support the processing sector in general, encouraging new investments in coconut.

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