

MALAYSIA INTRODUCES THE NATIONAL BIOFUEL POLICY

Introduction

The government has announced the introduction of a National Biofuel Policy on August 10 2005. The policy is primarily aimed at reducing the country's fuel import bill, promoting further the demand for palm oil which will be the primary commodity for biofuel production (alongside regular diesel), as well as to shore up the price of palm oil especially during periods of low export demand.

Brief on new policy

Malaysia's National Biofuel Policy (interchangeably known as the National Biodiesel Policy) introduced by the government basically entails a four-prong strategy, which encompasses:

1. Producing a bio-diesel fuel blend of 5% processed palm oil with 95% petroleum diesel.
2. Encouraging the use of biofuel among the public, which will involve giving out incentives for oil retail companies to provide biodiesel pumps at stations.
3. Establishing an industry standard for biodiesel quality, which will be the responsibility of SIRIM.
4. Setting up of a palm oil biodiesel plant, which is targeted to be built in Labu, Negri Sembilan.

In addition, the government will set up a demonstration mill for the production of biofuel for cold climates, which is a strategy for the marketing of Malaysia's biofuel in the export markets. The government will also award a contract to a plantation company to ensure a consistent supply of palm oil for the production of palm oil biofuel. It will also provide some sort of incentive to automotive companies to produce biofuel-ready engines. To encourage the use of biofuel on a trial basis, oil companies will be asked to cooperate with the Malaysian Palm Oil Board (MPOB) to create pioneer kiosks.

In the longer term, the National Biodiesel Policy will include establishing a national Biofuel Industry Act as well as providing several more incentives.

What is Biofuel/Biodiesel?

Biofuels are fuels made from biological ingredients instead of fossil fuels. These ingredients range from vegetable oil to animal fat, depending on the type of fuel being made and the production method.

Biodiesel, meanwhile, is an alternative or additive to standard diesel fuel that is made from biological ingredients instead of petroleum. Biodiesel is usually made of bio oils through a series of chemical reactions but is non-toxic and renewable. There are a few different ways to make biodiesel, but most manufacturing facilities in the world produce industrial biodiesel through a process called transesterification. In this process, the fat or oil is first purified and then reacted with an alcohol, usually methanol (CH₃OH) or ethanol (CH₃CH₂OH), in the presence of a catalyst such as potassium hydroxide (KOH) or sodium hydroxide (NaOH). When this happens, the triacylglycerol (i.e., the oil or fat) is transformed to form esters and glycerol. The esters that remain are called biodiesel.

Biodiesel blend is the blend of petroleum diesel and biodiesel. A blend of 5% biodiesel and 95% regular diesel is called a B5 blend.

Why introduce a National Biofuel Policy?

Boosting the palm oil industry

Producing our own palm oil biofuel is an attractive avenue to increase the market for palm oil, both domestically as well as for exports. Stronger demand for palm oil will also boost its price during periods of slow demand from our traditional markets such as China and India.

The production of biodiesel from palm oil had long been promoted by the Malaysian government, i.e., since 2001. According to the Malaysian Palm Oil Board (MPOB) Strategic Plan 2001-05, the focus on developing the country's capabilities in the production of biodiesel from palm oil is regarded as a 'defensive' strategy to increase the usage of the country's palm oil output while also propping up the commodity's price. The MPOB Strategy Plan had identified its focus on 1) developing scaled up technologies for extraction of the minor component nutraceuticals from palm oil methyl ester (palm oil biodiesel), 2) attracting venture capitalists, and 3) getting government support through tax and regulatory measures.

Need for alternative fuel

Another reason for introducing the policy is the need for the country to develop alternative fuels. This is especially crucial now in an environment of high oil and gas prices.

The primary initiative of the Policy, and which is the prerequisite for the other measures in the policy, is for the country to start the blending of diesel with palm oil-based biodiesel to power cars and electricity generators. Diesel, which is heavily subsidized by the government, will be mixed with 5% palm oil biodiesel before being sold to consumers. The government envisages that Malaysia will be able to cut its diesel imports by 500,000 tonnes a year as a result of producing the new palm oil biodiesel product.

Market opportunities

At the same time, having our own blend will give us an edge to cater to the growing global demand for biofuel. For example, ethanol, which is an alcohol-based alternative fuel produced from biological feedstock such as sugarcane and corn, is already used in many countries, such as in North and South America. Brazil, the world's second largest producer of soybean, has passed a Bill making it compulsory to produce a 2% bio-diesel fuel blend, made from castor oil and soyaoil. This percentage will be increased to a 5% blend (i.e., 5B) in 2008. Brazil has indicated its aim to increase production capacity in edible oil refinery since a 5% bio-diesel blend requires 2.2 million tonnes of additional edible oils per year.

In addition, rapeseed oil is being substituted for fuel in Europe, while the US plans to increase the use of soybean oil as a source for biofuel, as indicated in its new Energy Bill. Edible oils analysts, meanwhile, indicate that European countries use rapeseed oil more for bio-diesel than for processing into edible oil.

For Malaysia, it is envisaged that our palm oil diesel blend will receive strongest demand from countries such as Japan and South Korea. Malaysia is already set to invest in large-scale biodiesel plant with Petronas planning to build a 200,000 tonne per year methyl ester plant within the next three years.