

Research Brief on Energy

Summary of Biofuels Act

Office of Senator Win Gatchalian

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Version 1

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- The Biofuels Act of 2006 was formulated and promulgated in order to attain the following goals:
 - Reduce dependence on imported fuels through the development and utilization of indigenous, renewable, and clean energy sources.
 - Protect public health through the reduction of toxic gases
 - Protect the environment through the reduction of greenhouse gas emissions
 - Promote sustainable job-generating economic growth through inducing demand-driven growth in rural products
- Section 4 of the Biofuels Act of 2006 pertains to the phasing out of harmful gasoline additives such as, but not limited to, methyl tertiary butyl ether. The wording of Section 4 indicates that the government can prohibit the use of fuel additives that are deemed harmful.
- Section 5 of the Biofuels Act of 2006 pertains to the mandatory use of biofuels. In the wake of the promulgation of the Biofuels Act of 2006, all liquid fuels for motors and engines sold in the Philippines are mandated to contain locally-sourced biofuels.
 - The mandated minimum level of biodiesel in the first three months of the promulgation of the Biofuels Act of 2006 was set at 1%. The National Biofuels Board (NBB) is given the capacity to determine the feasibility of increasing the mandatory minimum to 2% within two years from the effectivity of the Biofuels Act of 2006.
 - The mandated minimum level of bioethanol in the first two years of the promulgation of the Biofuels Act of 2006 was set at 5%. The NBB is given the capacity to determine the feasibility of increasing the mandatory minimum to 10% within four years from the effectivity of the Biofuels Act of 2006.
 - In the event of a supply shortage of locally-produced bioethanol, oil companies are allowed to import bioethanol. The extent of the shortage and the extent of the capacity to import will be determined by the NBB.
- Section 6 of the Biofuels Act of 2006 provides incentives to encourage the development of biofuels in the Philippines. It eliminates any specific tax on local or imported biofuel additives. In addition, the sale of raw materials used in the production of biofuels such as, but not limited to, coconut, jatropha, sugarcane, cassava, corn, and sweet sorghum shall be exempted from the value-added tax. Similarly, water effluents derived from the production of biofuels are exempted from wastewater charges. Firms engaged in the production, storage, handling, and transport of biofuel / biofuel feedstock that are certified by the Department of Energy shall be prioritized in government lending / financial institutions (e.g. Land Bank of the Philippines, Development Bank of the Philippines, etc.).
- Section 7 of the Biofuels Act of 2006 enumerates the powers and functions of the Department of Energy (DOE) in the promotion of biofuels in the Philippines. In particular, the DOE is mandated to perform the following:
 - Prepare the Philippine Biofuel Program and incorporate it into the Philippine energy plan
 - Develop quality standards for biofuels and biofuel-blended fuels
 - Establish guidelines for the transport, storage, and handling of biofuels

- Impose fines and penalties against persons or entities found to have committed any of the prohibited acts under the Biofuels Act of 2006 (e.g. sale of unblended fuels)
 - Stop the sale of biofuels and biofuel-blended fuels that do not conform with established specifications and standards
 - Conduct information campaigns to promote the use of biofuels and biofuel-blended fuels.
- Section 8 of the Biofuels Act of 2006 mandates the creation of the NBB. This section also enumerates which government agency secretaries will be included in the NBB (e.g. DOE, DTI, DOST, DA, DOF, DOLE, PCA, and SRA).
- Section 9 of the Biofuels Act of 2006 enumerates the powers and functions of the NBB. The NBB is tasked to monitor the implementation of the National Biofuel Program formulated by the DOE as well as the supply and utilization of biofuels and biofuel-blended fuels. The NBB is equipped with the power to compel entities engaged in the production, blending, and distribution of biofuels to submit reports of their actual and projected sales and inventory. In addition, the NBB is mandated to determine the availability of locally-sourced biofuels and submit recommendations regarding the appropriate percentage of locally-sourced biofuels to the total annual volume of gasoline and diesel sold and distributed within the country. It is of note that the NBB has the capacity to adjust the minimum level of blending upwards. The NBB cannot reduce the minimum level of blending below the mandated minimums for gasoline (5%) and diesel (2%).
- Section 10 of the Biofuels Act of 2006 establishes the manner in which biofuel use shall be reconciled with domestic sugar production and consumption. The Sugar Regulatory Administration (SRA) is mandated to ensure that the supply of sugar is sufficient to meet the domestic demand and that the price of sugar remains stable. In this regard, the SRA is also mandated to determine the necessary levels of sugar importation and make the necessary adjustments to minimum access volume parameters for sugar within the Tariff and Customs Code.
- Section 11 of the Biofuels Act of 2006 establishes the roles of government agencies. The DOF is mandated to monitor the production and importation of biofuels and biofuel components through the BIR and BOC. The DOST and DA are mandated to work together in order to develop domestic feedstock for the domestic production of biofuels. The DOLE is mandated to facilitate the development of gainful livelihood opportunities within the biofuel production chain. The Tariff Commission is tasked to formulate a tariff structure for biofuels and biofuel blends in consideration of any and all existing foreign trade agreements. LGUs are tasked to help the DOE in monitoring the distribution, sale, and use of biofuels and biofuel blends.
- The IRR of the Biofuels Act of 2006 indicates that the supply of biofuels shall be sourced only from biofuel producers accredited by the DOE
- The IRR of the Biofuels Act of 2006 indicates that oil companies are allowed to apply for a certification to import bioethanol from the DOE during supply shortages.
- The Biofuels Act of 2006 has been in effect since 2007. The following are several salient points that were derived from its ten-year implementation:
 - Philippine ethanol production is derived from sugarcane and molasses.
 - Philippine biodiesel production is derived from coconut oil.
 - The Philippines presently has no issues meeting its mandated 2% biodiesel target
 - The Biofuels Act of 2006 does not allow the importation of biodiesel. It can be inferred that the NBB has chosen not to increase the minimum cap given existing and projected biodiesel supply response constraints

- The Philippines presently has issues meeting its mandated 10% bioethanol blend using only local ethanol. Domestic production of bioethanol is increasing but the supply response could be described as sluggish at best – especially given its steadily increasing fuel demand. Given that rising fuel demand translates to rising biofuel demand, domestic bioethanol production has to grow at a faster clip if it intends to reduce bioethanol imports to zero.
 - The Philippines imported 339 million liters in 2014 and 311 million liters in 2015.
 - The Philippines constituted the 3rd largest market for U.S. ethanol in 2015. The Philippines registered an estimated import sales value of 170 million USD.
 - The observation above indicates that while the Biofuels Act of 2006 may have reduced gasoline imports, it has also increased bioethanol imports. Given prevailing price trends, it can be argued to have increased gasoline pump prices for Filipino consumers.
- It is of note that Filipino fuel consumers have not felt the full benefit of worldwide declines in gasoline prices because of rising ethanol and biodiesel prices. Increasing the mandated blend levels in the next four to five years for bioethanol and biodiesel could thus be expected to raise pump prices ceteris paribus.
 - According to an August 2016 report published by the SRA, bioethanol has a reference price of 60.52 pesos per liter. This is 4.62 pesos higher than its price in September 2015. Given that gasoline prices generally hover around 35 pesos per liter to 45 pesos per liter, it can be intuited that the prevailing price of bioethanol and the mandated 10% bioethanol mix are pulling gasoline prices upwards.

Table 1. Domestic Bioethanol Production and Domestic Bioethanol Fuel Demand, (million liters)

	2008	2009	2010	2011	2012	2013	2014	2015	2016
Ethanol Refineries	1	2	3	3	4	4	8	8	10
Nameplate Capacity*	9	49	79	79	133	133	222	222	282
Fuel Ethanol Usage	14	87	150	219	283	369	454	479	547
Gasoline	3,508	3,784	3,918	3,882	4,114	4,365	4,547	5,211	5,472
Blend Rate	0.4%	2.3%	3.8%	5.6%	6.9%	8.5%	10.0%	9.2%	10%
Ethanol Imports	5	38	71	140	150	236	232	257	265
Percent Imported	35.7%	43.7%	47.3%	63.9%	53.0%	64.0%	51.1%	53.7%	48.4%

Source: U.S. Department of Agriculture Foreign Agricultural Service

- The domestic production of bioethanol has grown substantially in the wake of the promulgation of the Biofuels Act of 2006.
- Domestic production of bioethanol is presently inadequate given the mandated 10% bioethanol into gasoline blend. As a result, ethanol imports have been increasing from 2008 to 2016.
- Additional data points are necessary in order to assess whether or not the Philippines is on pace to dramatically reduce its reliance on imported bioethanol.

Table 2. Domestic Biodiesel Production and Consumption, (million liters)

	2008	2009	2010	2011	2012	2013	2014	2015	2016
Beginning Stocks	1	2	7	6	16	17	19	28	62
Production	66	137	124	133	138	155	172	204	360
Consumption	64	131	125	123	137	153	163	170	382
Ending Stocks	2	7	6	16	17	19	28	62	40
Biodiesel, on-road use	64	131	125	123	137	153	163	170	382
Diesel, on-road use	5,080	5,454	5,631	5,566	5,819	6,187	6,579	7,334	7,701
Blend Rate	1.3%	2.4%	2.2%	2.2%	2.4%	2.5%	2.5%	2.3%	5.0%

Source: U.S. Department of Agriculture Foreign Agricultural Service

- Domestic production of biodiesel has grown substantially in the wake of the promulgation of the Biofuels Act of 2006.
- Domestic production of biodiesel has outpaced domestic biodiesel demand. As a result, the Philippines has the capacity to increase the mandated blend rate for biodiesel.