
A Delicate Balance: The Biofuels Law in the Philippines

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R.A. 9367: Biofuels Act of 2006

An Act to direct the use of biofuels, establishing for this purpose the Biofuel Program, Appropriating Funds therefore, and for other purposes

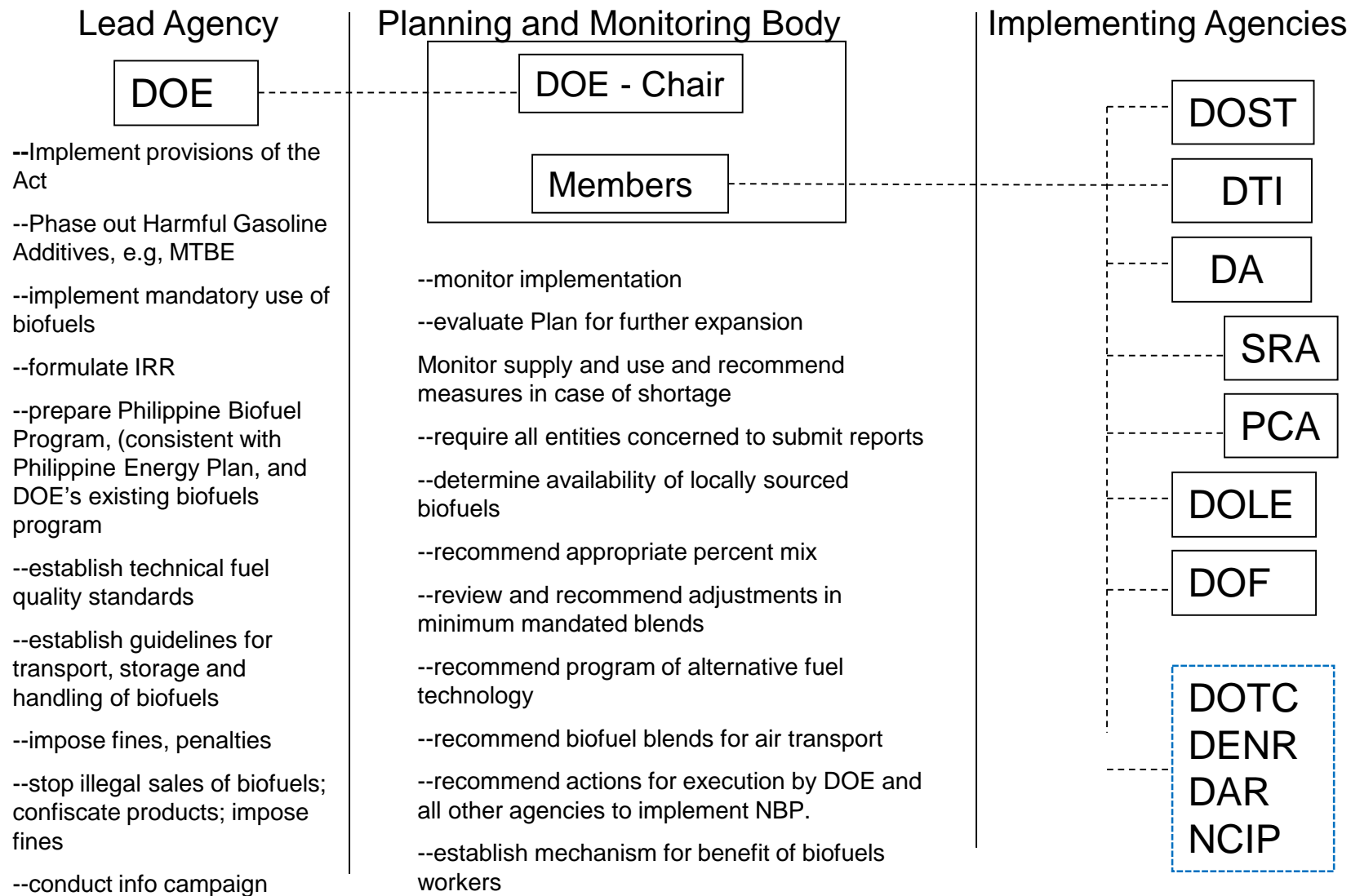


Signed into law on January 12, 2007



National Biofuels Program

Powers and Functions of the DOE



Biofuels Act: Provides fiscal incentives & mandates use of biofuel-blended fuels



63.3ML JNJ Oleochemicals, Inc. Biodiesel Plant
Lucena City, Quezon



90ML Chemrez Technologies, Inc. Biodiesel Plant
Bagumbayan, Quezon City



40ML Phil. Biochem Products, Inc. Biodiesel Plant
Buli, Muntinlupa City



15ML ARChemicals Corp. Biodiesel Plant
Tagoloan, Misamis Oriental



Targets and Accomplishments

Targets	Accomplishment
2009 Biodiesel - 2% diesel blend Bioethanol - 5% gasoline blend	<ul style="list-style-type: none"> Formulated JAO No. 2008-1, Series of 2008 providing the “Guidelines Governing the Biofuel Feedstocks Production, and Biofuels and Biofuel Blends Production, Distribution and Sale under Republic Act No. 9367” which took effect on March 20, 2009 Established the viability of implementing the minimum blend of 2% biodiesel and recommended to the DOE the implementation of the 2% blend (B2) for diesel (Resolution dated January 19, 2009) and 5% bioethanol blend (E5) for gasoline (DOE DC NO. DC2011-02-001 “Mandatory Use of Biofuel Blend” dated February 25, 2011)
2012 Biodiesel - 2% diesel blend Bioethanol - 10% gasoline blend	<ul style="list-style-type: none"> Spearheaded the conduct of regional public consultations on the 10% bioethanol mandate in Metro Manila, Tagaytay, Bacolod and Bukidnon (October/November 2010) Recommended to the DOE the implementation of the general mandate of 10% blend of bioethanol for gasoline fuel under specific terms and conditions (Resolution dated February 3, 2011) Spearheaded the conduct of consultations with various stakeholders (bioethanol producers and oil companies) related to the optimum utilization of locally-produced bioethanol in the production of E-gasoline (September 2011) Conducted joint write shop/workshop in the review and updating of the National Biofuels Program 2007-2012 among NBB-member agencies, academe and HOR-Committee on Energy (September 2012)



Targets and Accomplishments

Targets	Accomplishment
2013-2017 Biodiesel - 5% diesel blend Bioethanol - 10% gasoline blend	<ul style="list-style-type: none">• Spearheaded the conduct of further regional public consultations to determine the feasibility of increasing the biodiesel blend to 5% and National Biofuels Program 2013-2030 in Leyte, Davao and Quezon City (August 2013)• Participated in the 1st Philippines-Brazil Joint Commission Meeting in relation to the Memorandum of Understanding (MOU) between the Department of Energy of the Republic of the Philippines (PDOE) and the Ministry of Mines and Energy of the Federative Republic of Brazil on Bioenergy Cooperation including Biofuels signed on June 24, 2009 (October 1-4, 2013)• Established the NBB-Biodiesel Committee (BDC) and Bioethanol Committee (BC) pursuant to NBB Resolution dated September 10, 2013 and DOE-DC2011-12-0013, respectively• Conducted consultations among major stakeholders (oil companies, car manufacturers, CME producers) relative to the proposal to increase the biodiesel blend mandate from 2% to 5% (B2 to B5)• Conduct of a <i>Study on the Economic Impacts of the Increased Use of Biodiesel in the Philippines</i> through the University of the Philippines Los Banos Foundation Inc. (UPLBFI); result of study was presented and accepted by the NBB on August 25, 2017



Where are we now?

BIOETHANOL

10% bioethanol blend to all gasoline on Feb. 6, 2012

Supply

- 12 accredited bioethanol producers with total production capacity of 380.50 MLPY as of end 2019;
- Additional capacity of 113 ML will be on-stream beginning 2020.

Demand

- Total sales of local bioethanol reached 355.55 ML in 2019 or an increase of 17% compared to 2018 level;
- About 355.55 ML or 45% of volume requirement for E10 mandate as of end 2019.

BIODIESEL

2% biodiesel blend on Feb. 6, 2009

Supply

- 12 accredited biodiesel producers with total production capacity of 607.9 MLPY as of end 2019;
- Additional capacity of 277.65 ML will be on-stream beginning 2020.

Demand

- Total sales of local biodiesel reached 217.52 ML in 2019 as compared to 304.18 ML in 2018;



Demand Outlook, 2018-2040

BIODIESEL

Year	Diesel Demand (in million liters)	Targeted Blend	Biodiesel Requirement (in million liters)	Biodiesel Production Capacity (million liters)
2019	10,730.13	2	214.60	607.9
2020	11,501.42	5	575.07	707.9
2025	13,833.24	5	691.66	
2030	16,575.44	5	830.04	
2035	19,502.28	5	975.09	
2040	22,804.11	5	1,140.21	

BIOETHANOL

Year	Gasoline Demand (in million liters)	Targeted Blend	Bioethanol Requirement (in million liters)	Bioethanol Production Capacity (million liters)
2019	7,999.50	10	799.85	380.5
2020	8,476.11	10	847.61	410.5
2025	11,266.27	10	1,126.63	
2030	15,518.58	10	1,551.86	
2035	20,185.21	10	2,018.52	
2040	26,163.83	10	2,616.38	



NBB CONDITIONS ON THE INCREASE OF **BIODIESEL** BLEND FROM B2 TO B5

1. SUPPLY SUFFICIENCY AND SUSTAINABILITY REPORT
2. ECONOMIC IMPACT STUDY
 - A. [NEDA-EPDP](#)
 - B. [UPLBFI](#)
3. [STANDARD FOR B5](#)
4. ACTUAL ON ROAD TEST
 - A. [JEEPNEYS](#)
 - B. [IN-USE VEHICLE](#)
 - C. [BRAND NEW VEHICLES](#)
5. [PUBLIC CONSULTATIONS](#)
6. [VALIDATION OF PRODUCTION PLANT CAPACITY](#)

NBB CONDITIONS ON THE INCREASING OF **BIOETHANOL** BLEND FROM E10 TO E20

- NO EXISTING PLAN TO INCREASE



Price Differential – may have Economic Impact

Ethanol vs. Gasoline

Month/Year	Gasoline	Ethanol	Ethanol/Gas
	Peso per liter*		Price Differential
June 2016	41.14	59.62	18.48
July	39.86	59.14	19.28
August	37.68	60.52	22.84
September	38.65	59.61	20.97
October	42.46	58.45	15.99
November	42.67	58.09	15.43
December	44.77	56.49	11.72
January 2017	46.69	56.01	9.32
February	47.53	54.70	7.17
March	45.74	51.61	5.87
April	44.25	48.69	4.44

CME vs. Diesel

Month/Year	Diesel	CME	CME-Diesel Price Differential	
	Peso per liter*		Low End	High End
June 2016	27.86	45-85	17.14	57.14
July	27.54	45-82	17.46	54.46
August	25.44	45-82	19.56	56.56
September	25.96	45-82	19.05	56.05
October	27.93	45-82	17.07	54.07
November	27.32	45-82	17.68	54.68
December	29.03	45-82	15.97	52.97
January 2017	30.72	45-92	14.28	61.28
February	31.16	45-92	13.84	60.84
March	31.01	45-90	13.99	58.99
April	30.74	50-90	19.26	59.26
May	30.29	70.50-90	40.21	59.71
June	N.A.	N.A.	N.A.	N.A.



Do the benefits actually cascade? Food Security Issues?



Actual On-Road Test For Higher Biodiesel Blend (B5)

1. Actual on-road test has covered 17,489 kms of flat and elevated/high altitude terrains.
2. Initial results show an increase of about 10% mileage compared to B2.



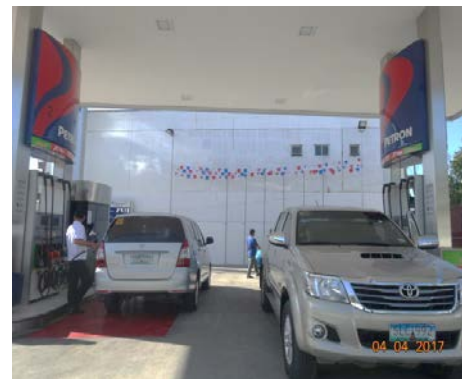
Toyota Innova



Toyota Hilux



Blending (B5)



Refueling (B2)



Refueling (B5)



Emission Testing

BIOFUELS ROADMAP

OVERALL
OBJECTIVE
BY 2040

Short-Term
(2017-2019)

Medium to Long Term
(2020-2040)

BIODIESEL

B2

Maintain 2%
biodiesel blending on
diesel

BIOETHANOL

E10

Review the
bioethanol mandate

- Revisit blending requirement and available feedstock
- Continuous conduct of research and development on feedstock sources

**Pursue the development of Biofuels in
compliance with the Biofuels Act of 2006 (R.A.
9367)**

The Way Forward

**Revisit
relevant
laws and
amend
accordingly
based on
actual data**

- Find the balance between local production and importation
- Support Research and Development
- Establish Energy Investment Coordinating Center and Linkages with other Government Regulatory Agencies
- Capacity Building / Information, Education and Communication Campaigns
- More Investment Missions / Business Meetings