


THIRTEENTH CONGRESS OF THE)
REPUBLIC OF THE PHILIPPINES)
Second Regular Session)

5 DEC 20 P3:09

RECEIVED BY: 

SENATE

S. B. NO. 2185

Introduced by SENATOR EDGARDO J. ANGARA

EXPLANATORY NOTE

Today, Philippines supply 65% of the world's requirements for vegetable oil, making it the single leading provider of the world's vegetable oil market.

Vegetable oils and their derivatives, particularly the methyl esters, or "biodiesel" is one of the most promising fuel alternative in a world screaming for a better air quality, and a cleaner and safer environment, in general. Fuel and energy crisis and the depletion of the world's non-renewable resources prompted various sectors to look into fuel alternatives or fuel substitute as the better option.

Interestingly, the use of vegetable oils as diesel is as old as the diesel engine itself. This is because diesel engine inventor Rudolf Diesel reportedly used groundnut (peanut) oil as a fuel for demo purposes in 1900. Research activities in the years that followed using oils from coconut, soy bean, sunflower, peanut, linseed and palm were used depending on what country they grow most abundantly. Philippines alone conducted quite a number of studies for more than three (3) decades on the fuel application of coconut oil or coconut methyl ester (CME).

But there were delays encountered in the widespread use of coco-biodiesel as alternative fuel, mainly due to economics (technologically but not economically viable due to high cost of raw materials) and the properties of biodiesel (which cause injector cooking, engine deposits, ring sticking and thickening of the engine lubricant). To address the economic issues, CME will not be used as diesel fuel substitute but as an economically viable petroleum diesel fuel (PDF) quality enhancer as proposed in this bill by mandating its pre-blending on all diesel used as motor fuel at 1% per volume; To address the biodiesel properties issue, efforts were made to develop production of CME, an ester derivative of coconut oil.

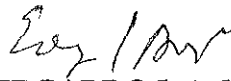
The lifecycle production and use of biodiesel produces approximately 80% less carbon dioxide emissions, and almost 100% less sulfur dioxide. Combustion of biodiesel alone provides over a 90% reduction in total unburned hydrocarbons, and a 75-90% reduction in aromatic hydrocarbons. It further provides significant reductions in particulates and carbon monoxide than petroleum diesel fuel. Last, it provides a

slight increase or decrease in nitrogen oxides depending on engine family and testing procedures.

By and large, biofuels, which include bioethanol and biodiesel, are reliable, renewable, indigenous, and non-toxic. It can be produced from any kind of oil, even used frying oil, both vegetable and animal source. As agricultural products, all countries, especially Philippines, have the ability to produce and control this energy source as oppose to crude oil. Its use in the petroleum industry will provide new and significant market for our agricultural products.

Biofuels, therefore, are not only alternatives, but are in fact, imperatives for the country's energy requirements and environmental and economic concerns.

I, therefore, express support for this measure and urge my colleagues to do no less.


EDGARDO J. ANGARA
Senator

THIRTEENTH CONGRESS OF THE)
REPUBLIC OF THE PHILIPPINES)
Second Regular Session)

5 DEC 20 P 3 19

RECEIVED BY: _____

SENATE

S. B. NO. 2185

Introduced by SENATOR EDGARDO J. ANGARA

AN ACT MANDATING THE USE OF BIOFUELS AS QUALITY-ENHANCING
ADDITIVES IN GASOLINE AND DIESEL FUEL FOR TRANSPORT USE,
ESTABLISHING FOR THE PURPOSE THE NATIONAL
BIOFUELS PROGRAM, APPROPRIATING FUNDS THEREFOR,
AND FOR OTHER PURPOSES.

*Be it enacted by the Senate and House of Representatives of the Philippines in
Congress assembled:*

1 SECTION 1. *Short Title.* This Act shall be known as the "*Philippine Biofuels*
2 *Act of 2005.*"
3
4

5 SEC. 2. *Declaration of Policy.* It is hereby declared the policy of the State to
6 pursue a policy towards energy independence through the use of alternative and
7 renewable energy sources consistent with the country's sustainable economic growth
8 plan that would attain energy self-sufficiency and expand opportunities for
9 livelihood, with due regard to the protection of public health and the environment by
10 mandating the use of bioethanol and coco-diesel as pre-blends in gasoline and diesel
11 fuels, and supporting the development and use of other indigenous Fatty Acid Methyl
12 Esters (FAME) as a measure to:

- 13
14 (a) Mitigate toxic and greenhouse gas (GHG) emissions;
15 (b) Develop and utilize indigenous renewable energy sources to reduce
16 dependence on imported fuel oil; and
17 (c) Increase rural employment and income.
18
19

20 SEC. 3. *Definitions.* For purposes of this Act,
21

- 22 (a) "*AFTA*" shall refer to the ASEAN Free Trade Area initiated by the Association of
23 Southeast Asian Nations (ASEAN) at the fourth ASEAN Summit in January 1992,
24 which laid out a comprehensive program of regional tariff reduction, to be carried
25 out in phases through the year 2008;

- 1 (b) *"Biodiesel"* shall refer to any Fatty Acid Methyl Ester (FAME) which is a diesel-
2 like fuel sourced from plant oil that conforms to pertinent standards such as the
3 Philippine National Standards (PNS) for biodiesel; the European Standard (EN
4 14214); and the American Standard;
5
- 6 (c) *"Bioethanol"* shall refer to ethanol (C₂H₅OH) produced from biomass;
7
- 8 (d) *"Bioethanol Fuel"* shall refer to hydrous or anhydrous bioethanol suitably
9 denatured for use as motor fuel;
10
- 11 (e) *"Biofuels"* shall refer to liquid fuels and blending components produced from
12 biomass feedstocks, such as: ethanol from corn, cassava, sugarcane and biodiesel
13 from coconut and vegetable oil, and primarily used as substitute or additive to
14 fossil-petroleum fuels;
15
- 16 (f) *"Biomass"* shall refer to any organic matter, particularly cellulosic or ligno-
17 cellulosic matter, which is available on a renewable or recurring basis, including
18 trees, crops and associated residues, plant fiber, poultry litter and other animal
19 wastes, industrial wastes, and the biodegradable component of municipal solid
20 waste;
21
- 22 (g) *"Coco-biodiesel"* refers to CME that complies with the Philippine National
23 Standards (PNS), the European Standard (EN 14214), and the American Standard
24 (ASTMD6751) for biodiesel. CME's which are non-compliant with the foregoing
25 standards or other future standards established for biodiesel shall not be referred
26 to as biodiesel. (Note: Coco-biodiesel is methyl ester as distinct from the coco-
27 diesel of 80s which was pure coconut oil);
28
- 29 (h) *"Coco Methyl Ester (CME)"* shall refer to FAME sourced from coconut oil used
30 either as CME sulfonates in soap productin, CME amines for foam boosting, and
31 CME biodiesel as additive and / or substitute for diesel fuel;
32
- 33 (i) *"Department of Agriculture (DA)"* shall refer to the government agency created
34 under Executive Order No. 116, as amended;
35
- 36 (j) *"Department of Energy (DOE)"* shall refer to the government agency created
37 under Republic Act No. 7638, as amended;
38
- 39 (k) *"Department of Environment and Natural Resources"* shall refer to the
40 government agency created under Executive 22 Order No. 192, as amended;
41
- 42 (l) *"Department of Finance (DOF)"* shall refer to the government agency created
43 under Executive Order No. 127;
44
- 45 (m) *"Department of Science and Technology (DOST)"* shall refer to the government
46 agency created under Executive Order No. 192;
47
- 48 (n) *"Department of Transportation and Communications (DOTC)"* shall refer to the
49 Department of Transportation and Communications created under Executive 26
50 Order No. 125-A, as amended;

- 1 (o) *"Diesel Fuel"* is fossil fuel for diesel engines representing the middle distillate
2 component of crude oil produced through fractional distillation and conforms to a
3 set of quality parameters established by Philippine National Standards (PNS) for
4 diesel fuel;
5
- 6 (p) *"Fatty Acid Mether Ester (FAME)"* refers to the remaining component of plant oil
7 (fatty acid) when glycerine is removed, and has been neutralized of its acidity by
8 way of an alcohol (methanol) reaction in a process known as esterficiation. The
9 remaining fatty substance is methyl ester, a product that has the same features as
10 diesel fuel;
11
- 12 (q) *"Esterification"* involves the separation of glycerine from fatty acid by a reaction
13 process with an alcohol aided by a catalyst. After recovering the alcohol, what
14 remains is a fatty substance or ester which has a carbon chanin profile similar to
15 diesel plus an oxygen molecule at the end of its carbon chain making it an
16 oxygenated fuel;
17
- 18 (r) *"Feedstock"* shall refer to organic sources such as molasses, sugarcane, cassava or
19 other biomass used in the production of bioethanol;
20
- 21 (s) *"Gasohol"* shall refer to gasoline blended with ethanol that meets the motor fuel
22 specification standards developed by the Technical Committee on Petroleum
23 Products and Additives, and promulgated by the Bureau of Product Standards of
24 the DTI;
25
- 26 (t) *"Gasoline"* shall refer to a complex mixture of relatively volatile hydrocarbons
27 with or without small quantities of additives, blended to form a fuel suitable for
28 use in spark-ignition engines with Research Octane Number (RON) of 93 or
29 above;
30
- 31 (u) *"Motor fuel"* shall refer to all volatile and inflammable liquids produced, blended
32 or compounded for the purpose of, or which are suitable or practicable for,
33 operating motor vehicles;
34
- 35 (v) *"National Biofuels Board"* shall refer to the Board created under Section 8 hereof;
36
- 37 (w) *"Oxygenate"* shall refer to substances, which, when added to gasoline, increase the
38 amount of oxygen in that gasoline blend;
39
- 40 (x) *"Renewable Energy Sources"* shall refer to energy sources that do not have an
41 upper limit on the total quantity to be used, are renewable on a regular basis, and
42 whose renewal rate is relatively rapid to consider availability over an indefinite
43 period of time;
44
- 45 (y) *"World Trade Organization, or hereafter referred as WTO"* is the only global
46 international organization established in Geneva, Switzerland on 1 January 1995,
47 that deals with the rules of trade among nations to help producers, exporters and
48 importers of goods and services conduct their businesses.
49

1 SEC. 4. *Phasing Out of the Use of Harmful Gasoline Additives and/or*
2 *Oxygenates.* Within six (6) months from the effectivity of this Act, the DOE shall
3 gradually phase out the use of harmful gasoline additives and/or oxygenates found to
4 be detrimental to human health and the environment. Within three (3) years from
5 the effectivity of this Act, such harmful gasoline additives and/or oxygenates shall
6 have been totally phased out nationwide.

7
8
9 SEC. 5. *Mandatory Use of Bioethanol.*

10
11 a) In pursuance of the above policy, the DOE is hereby directed to immediately
12 adopt a National Bioethanol Program that will implement the following:

13
14 1) *A mandated blending of gasoline with bioethanol fuel:* Within two (2)
15 years from the effectivity of this Act, a minimum of five percent (5%)
16 bioethanol by volume shall be blended into all gasoline to be distributed,
17 sold and used as motor fuel. Thereafter, the NBB shall periodically review
18 and assess the impact of the use of bioethanol as well as the availability of
19 local supply of bioethanol fuel and shall recommend, whenever
20 appropriate, an increase in the mandated minimum blend by up to five
21 percent (5%) every two (2) years thereafter until such time when the NBB
22 shall determine a higher limit: *Provided, however,* That the octane rating
23 of the gasohol shall in no case be lower than eighty-seven (87); and

24
25 2) *A mandated blending of diesel fuel with coco-biodiesel:* Upon effectivity of
26 the Implementing Rules and Regulations (IRR) of this Act, a minimum of
27 one percent (1%) coco-biodiesel by volume shall be blended into all locally
28 refined and imported diesel fuel distributed, sold and used as motor fuel:
29 *Provided, however,* That the coco-biodiesel blend is certified by the DOE
30 as compliant to the Philippine National Standard for biodiesel as evidenced
31 by a Certificate of Fuel Additive Registration (CFAR). The blend shall
32 increase to a minimum of two percent (2%) coco-biodiesel by volume after
33 four (4) years from the effectivity of this Act.

34
35
36 b) Subsequently and every two (2) years thereafter, the National Biofuels Board
37 (NBB) shall review and assess the impact of the use of bioethanol and coco-
38 biodiesel as well as the availability of local supply and shall determine the
39 appropriate increase in the mandated minimum blend beyond ten percent
40 (10%) and five percent (5%), respectively; and

41
42 c) Beginning 1 January 2015, only biofuel-compatible vehicles, engines, and parts
43 shall be manufactured, imported, and sold in the Philippines, except for
44 vehicles, engines, and parts that run on alternative fuels such as, but not
45 limited to, compressed natural gas, LPG, electricity, and fuel cells.

46
47 SEC. 6. *Incentive Scheme.* To encourage private entities to invest in the
48 production and distribution of biofuels, the following incentive scheme is hereby
49 provided:

1 (a) *Fiscal Incentives*

- 2
- 3 1. All entities engaged in the production, storage, handling, and transport of
- 4 biofuels and feedstock, including the blending of biofuel with petroleum
- 5 and other fuels, as may be certified by the DOE shall, for a period of ten
- 6 (10) years from the effectivity of this Act, be subject to a duty of one
- 7 percent (1%) in the importation of all types of inputs, machinery,
- 8 equipment, and planting and breeding materials as duly certified by the
- 9 DA: *Provided*, That the imported inputs, machinery, equipment, and
- 10 planting and breeding materials shall be for the exclusive use of the
- 11 importing entity: *Provided, further*, That such duty rate shall not apply to
- 12 imported biofuels and feedstock; and
- 13
- 14 2. The sale of biofuels shall be VAT zero-rated, pursuant to Section 6,
- 15 paragraph B, sub-paragraph 7 of 7 Republic Act No. 9337.
- 16

17

18 (b) *Non-Fiscal Incentives*

19

- 20 1. Subject to the rules and regulations of the Board of Investments, all
- 21 investments in the production and blending of biofuels and biofuel
- 22 feedstocks within three (3) years after the effectivity of this Act shall be
- 23 classified as pioneering and / or preferred areas of investments under its
- 24 annual investment priorities plan (IPP) and shall enjoy the applicable fiscal
- 25 and non-fiscal incentives provided for under the Omnibus Investment
- 26 Code, as amended; and
- 27
- 28 2. All water effluents such as, but not limited to, distillery slops from the
- 29 production of biofuels used as liquid fertilizer, or for other agricultural
- 30 purposes are considered reuse and are therefore not covered under Section
- 31 13 of Republic Act No. 9275, the Philippine Clean Water Act: *Provided*,
- 32 *however*, That such application shall be in accordance with the guidelines
- 33 issued pursuant to R. A. 9275, subject to the monitoring and evaluation by
- 34 the DENR and approval of the DA.
- 35

36

37 (c) *Financial Assistance*

38

39 Government Financial Institutions such as the Development Bank of

40 the Philippines, Land Bank of the Philippines, Quedancor and such other

41 government institutions providing financial services shall, in accordance with

42 and to the extent allowed by the enabling provisions of their respective

43 charters or applicable laws, accord high priority to extend financing to entities

44 that shall engage in activities involving production of biofuels and feedstocks

45 such as, but not limited to, sugarcane, coconut palm, jatropha, cassava, sweet

46 sorghum and corn.

47

48

1 **SEC. 7. Powers and Functions of the Department of Energy.** In addition to its
2 existing powers and functions, the DOE is hereby mandated to take appropriate and
3 necessary actions to implement the National Biofuels Program.

4
5 In pursuance thereof, the DOE shall:

- 6
7 (a) Prepare the National Bioethanol Program consistent with the Philippine
8 Energy Plan;
- 9
10 (b) Establish, within six (6) months from the effectivity of this Act, the following:
- 11 (1) Standards for the minimum alcohol content of anhydrous bioethanol fuel,
12 denaturing, addition of color, blending and labeling of bioethanol fuel and
13 gasohol for motive fuel; and
14 (2) Guidelines for the transport and handling of bioethanol fuel;
- 15
16
17 (c) Impose fines and penalties against persons or 1 entities found to have
18 committed any of the prohibited acts under Section 11 (b) through (e) hereof;
- 19
20 (d) Confiscate gasoline and gasohol sold in the market that are found to be not
21 compliant with the specifications provided for under Sections 4 and 5 hereof
22 and corresponding issuances of the DOE;
- 23
24 (e) Monitor the production and importation of biofuels intended for motor fuel
25 use through the Bureau of Internal Revenue (BIR) and the Bureau of Customs
26 (BOC); and
- 27
28 (f) Conduct an information and education campaign (IEC) to promote the use of
29 gasohol and other biofuels.
- 30
31

32 **SEC. 8. The National Biofuels Board and its Composition.** The National
33 Biofuels Board, hereafter referred to as the "*Board*," is hereby created. It shall be
34 composed of the Secretary of the DOE or his designated undersecretary as chairman
35 and the secretaries or the designated undersecretaries or assistant secretaries of the
36 DTI, the DOF, the DOTC, the DOST, the DA, the DENR, the Department of Labor
37 and Employment (DOLE), the Administrator of the Sugar Regulatory Administration
38 (SRA), the Administrator of the Philippine Coconut Authority (PCA), and one
39 representative each from the feedstock producers for bioethanol and biodiesel, from
40 an accredited advocacy for "clean" fuels, from the Biodiesel Manufacturers
41 Association of the Philippines (BMAP), from the Philippine Biodiesel Association
42 (TBPA), from the major oil companies through their association (PIP), from
43 independent oil companies through their association (IPPCA) and from the
44 automotive manufacturers association (CAMPI), duly endorsed by their respective
45 industry associations and appointed by the President of the Republic of the
46 Philippines, as members.

47
48 The chairman shall, within one (1) month from the effectivity of this Act,
49 convene the Board.

50

1 The Board shall be assisted by a technical secretariat whose personnel shall be
2 on detail from the DOE and/or other departments/agencies comprising the Board. The
3 Technical Secretariat shall be attached to the Office of the Secretary or the
4 Undersecretary of the DOE.

5
6
7 **SEC. 9. *Powers and Functions of the Board.*** The Board shall have the
8 following powers and functions:

- 9
10 (a) Formulate, within six (6) months from the effectivity of this Act, the
11 implementing rules and regulations (IRR) under Section 14 hereof for approval
12 by the Congressional Biofuels Oversight Committee;
- 13
14 (b) Approve the National Bioethanol Program and other biofuels programs as may
15 be proposed by the DOE;
- 16
17 (c) Approve the DA Program to ensure the availability of feedstock for the
18 production of biofuels for motor fuel;
- 19
20 (d) Monitor and review the implementation of the National Biofuels Program;
- 21
22 (e) Monitor the supply and utilization of biofuels and recommend appropriate
23 measures in cases of shortage of feedstock supply for approval by the Secretary
24 of the DOE;
- 25
26 (f) Evaluate plans for further expansion of the National Bioethanol Program and
27 other biofuels programs;
- 28
29 (g) Review and increase the minimum mandated blending rates of biofuels as it
30 deems appropriate;
- 31
32 (h) Recommend specific actions concerning the implementation of the National
33 Biofuel Program to be executed by the DOE and other appropriate agencies of
34 government; and
- 35
36 (i) Monitor the development and implementation of a research and development
37 (R&D) program supporting a sustainable improvement in biofuels production
38 and utilization technology by the DOST through the Philippine Council for
39 Industry and Energy Research Development (PCIERD);
- 40
41

42 **SEC. 10. *Role of various Government Agencies.*** To ensure the effective
43 implementation of this program, concerned agencies shall perform the following
44 functions:

- 45
46 (a) The Department of Finance shall:
- 47
48 (1) In coordination with the Tariff Commission, create and classify a tariff line
49 for bioethanol fuel and gasohol and other biofuels;

- 1 (2) Review existing levels of tax rates on petroleum products, and re-align to
2 consider the biofuel blends vis-à-vis other petroleum products;
- 3 (3) Identify suitable incentives to encourage investments in domestic
4 production of biofuels and to cause the petroleum companies operating in
5 the Philippines to blend and retail biofuel blends;
- 6 (4) Monitor the production and importation of biofuels through the Bureau of
7 Customs and the Bureau of Internal Revenue; and
- 8 (5) Through the BIR and the BOC, impose fines and penalties to any person or
9 juridical entity committing the prohibited act under Section 11(a) of this
10 Act and coordinate with the DOE on the enforcement of specifications and
11 standards for biofuels and biofuel-blended gasoline and diesel.
12
- 13 (b) The DOST and the DA shall coordinate in identifying and developing viable
14 feedstock for the production of biofuels;
15
- 16 (c) The DOST, through the PCIERD, shall develop and implement a research and
17 development (R&D) program supporting a sustainable improvement in biofuel
18 production and utilization technology. It shall also publish and showcase
19 related technologies developed locally and abroad.
20
- 21 (d) The DA, through its relevant agencies, shall:
22
 - 23 (1) Within six (6) months from the effectivity of this Act, develop a national
24 program for the production of crops for use as feedstock;
 - 25 (2) Ensure increased productivity and sustainable supply of bioethanol
26 feedstock. It shall institute a program, which would guarantee sufficient
27 and reliable supply of feedstock is allocated for biofuel production; and
 - 28 (3) Publish information on available and suitable areas for cultivation and
29 production of such crops. The Secretary of DA shall instruct the
30 Administrators of the Sugar Regulatory Administration and the Philippine
31 Coconut Authority, and other DA-attached agencies to develop and
32 implement policies supporting the National Biofuels Program.
33
- 34 (e) The DTI shall ensure the inclusion in its Motor Vehicle Development Program
35 the development and promotion of the manufacture and / or investment in
36 production of biofuel vehicles; and
- 37 (f) The LGUs shall assist the DOE in monitoring the distribution, sale and use of
38 bioethanol fuel and gasohol.
39
40

41 **SEC. 11. *Prohibited Acts.*** The following acts shall be prohibited:
42

- 43 (a) Diversion of biofuels, whether locally produced or imported, to non-fuel
44 uses;
- 45 (b) Distribution, sale and use of straight gasoline or diesel without biofuel blended
46 gasoline or diesel not complying with the requirement under Section 5 of this
47 Act;
- 48 (c) Noncompliance with the established standards and guidelines of the DOE; and
- 49 (d) Inappropriate and fallacious labeling of biofuel and biofuel-blended gasoline
50 and diesel.

1 SEC. 12. *Penal Provisions.* Any person or entity that commits any of the
2 prohibited acts or any provision of this Act and its IRR shall be subject to:

- 3
4 (a) Imprisonment of three (3) months to one (1) year or a fine of not less than Fifty
5 thousand pesos (P50,000.00) but not more than One hundred thousand pesos
6 (P100,000.00) per day of violation or both;
7 (b) Confiscation of gasoline not complying with the specifications provided for under
8 Sections 4 and 5 hereof and corresponding issuances of the DOE; and
9 (c) Closure of distribution facilities for nonpayment of fines and blatant disregard of
10 DOE orders.

11
12
13 SEC. 13. *Appropriations.* The fund necessary for the initial implementation of
14 this Act shall be charged against the current appropriations of the DOE. Thereafter,
15 the fund necessary to carry out the provisions of this Act shall be included in the
16 annual General Appropriations Act.

17
18
19 SEC. 14. *Implementing Rules and Regulations.* The DOE, through the Board,
20 in consultation with the Committees on Energy of the Senate and the House of
21 Representatives, the stakeholders and other agencies concerned shall, within six
22 months after the effectivity of this Act, promulgate the IRR of this Act: *Provided,*
23 *however,* That the draft of the IRR shall be posted in the DOE Website for one (1)
24 month prior to the approval by the Congressional Biofuels Oversight Committee:

25
26
27 SEC. 15. *Congressional Oversight Committee.* Upon the effectivity of this Act,
28 the Committee on Energy and the Committee on Agriculture and Food of the Senate
29 and of the House of Representatives, shall jointly monitor the implementation of this
30 Act. Likewise, the Oversight Committee shall be co-chaired by the Chairpersons of
31 the Committee on Energy and the Committee on Agriculture and Food of both
32 Houses of Congress.

33
34
35 SEC. 16. *Repealing Clause.* – All laws, presidential decrees, executive orders,
36 presidential proclamations, rules and regulations or parts thereof inconsistent with
37 the provisions of this Act are hereby repealed or modified accordingly.

38
39
40 SEC. 17. *Separability Clause.* IF any provision of this Act is declared
41 unconstitutional, the same shall not affect the validity and effectivity of the other
42 provisions hereof.

43
44
45 SEC. 18. *Effectivity.* This Act shall take effect upon its approval and
46 publication in at least two newspapers of general circulation.

47
48
49 *Approved,*