



PROMOTION OF BIOFUELS IN TRANSPORTATION SECTOR

PHILIPPINES

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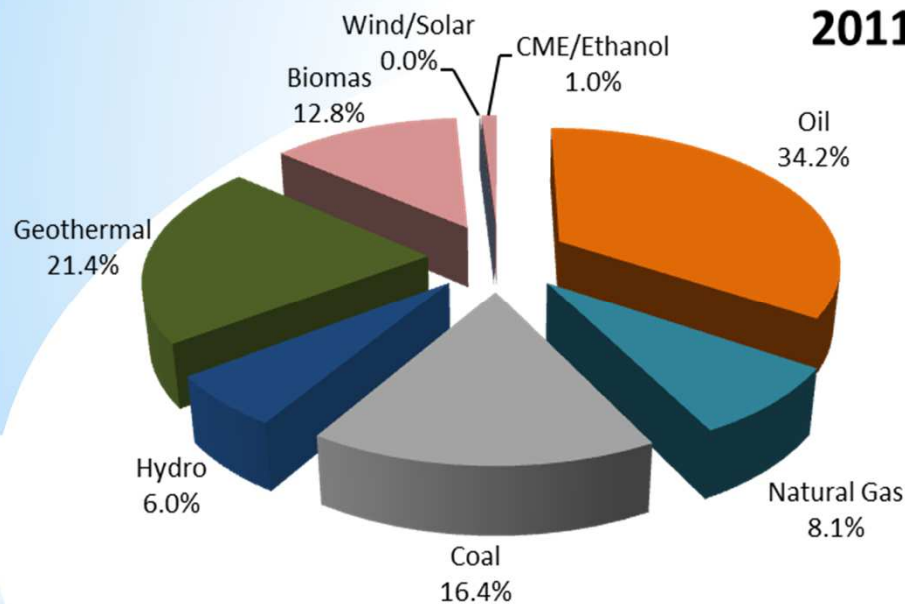
Department of Energy

EGNRET42, Honolulu City



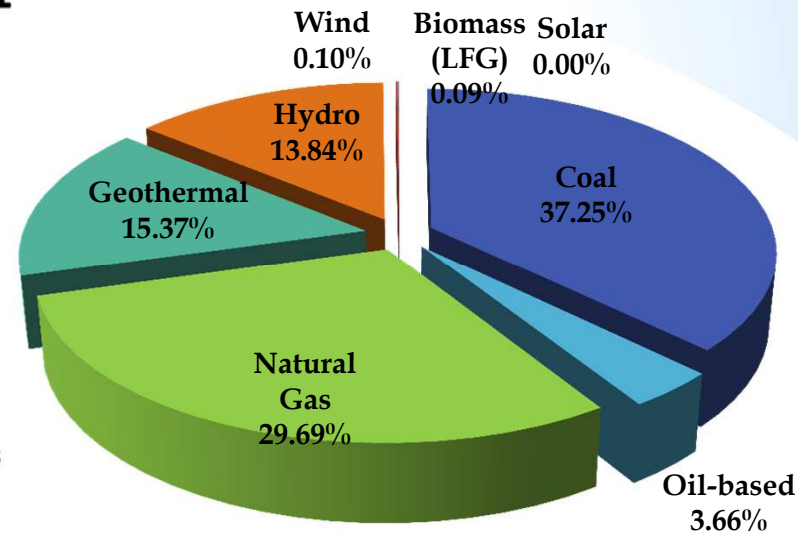
PHILIPPINE ENERGY MIX

2011



Total Energy: 42.2 MTOE
Self Sufficiency: 63.2%

- 10% of the population does not have access to power
- 71% of generation is from fossil fuels
- Heavily reliant on imports, primarily from fossil fuels, to meet growing energy demand



Total Generation = 68,279 GWh

Shares:

Self-sufficiency = 61.8%
Green (Clean) Energy = 59.3 %
RE = 29.4%



REPUBLIC ACT NO. 9367 – BIOFUELS ACT OF 2006

The Biofuels Act of 2006 aims to:

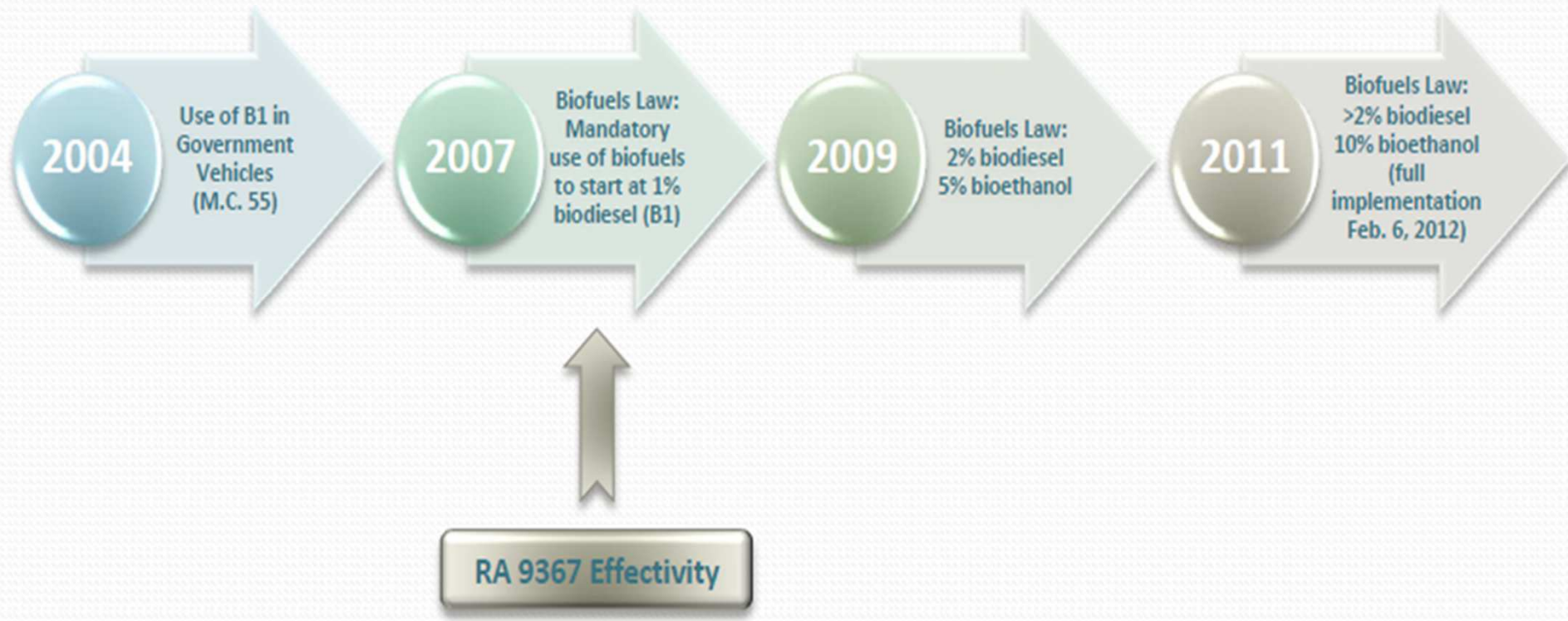
- to increase the contribution of biofuels in the country's energy mix thereby reducing its dependence on imported fossil-based fuels
- enhance the quality of the environment
- create opportunities for countryside socio-economic development

Incentives under the Act:

- Specific Tax per liter of volume is zero (0) for biofuels component;
- Exemption from Value Added Tax (VAT) on the sale of raw materials used in the production of biofuels;
- Exemption from Wastewater Charges of all water effluents from the production of biofuels under Philippine Clean Water Act;
- High priority from Government Financial Institutions (GFIs) to entities that will engage in the production, storage, handling and transport of biofuel and biofuel feedstock, including the blending with petroleum as certified by DOE.



IMPLEMENTATION PLAN



REPUBLIC ACT NO. 9513 – RENEWABLE ENERGY ACT OF 2008

The Renewable Energy Act of 2008 affirms the government's commitment to accelerate the exploration and development of renewable energy (RE) resources.

Under the RE Act, the government set a 20-year National Renewable Energy Program (NREP) in June 2011 for the accelerated development of RE resources including biofuels.

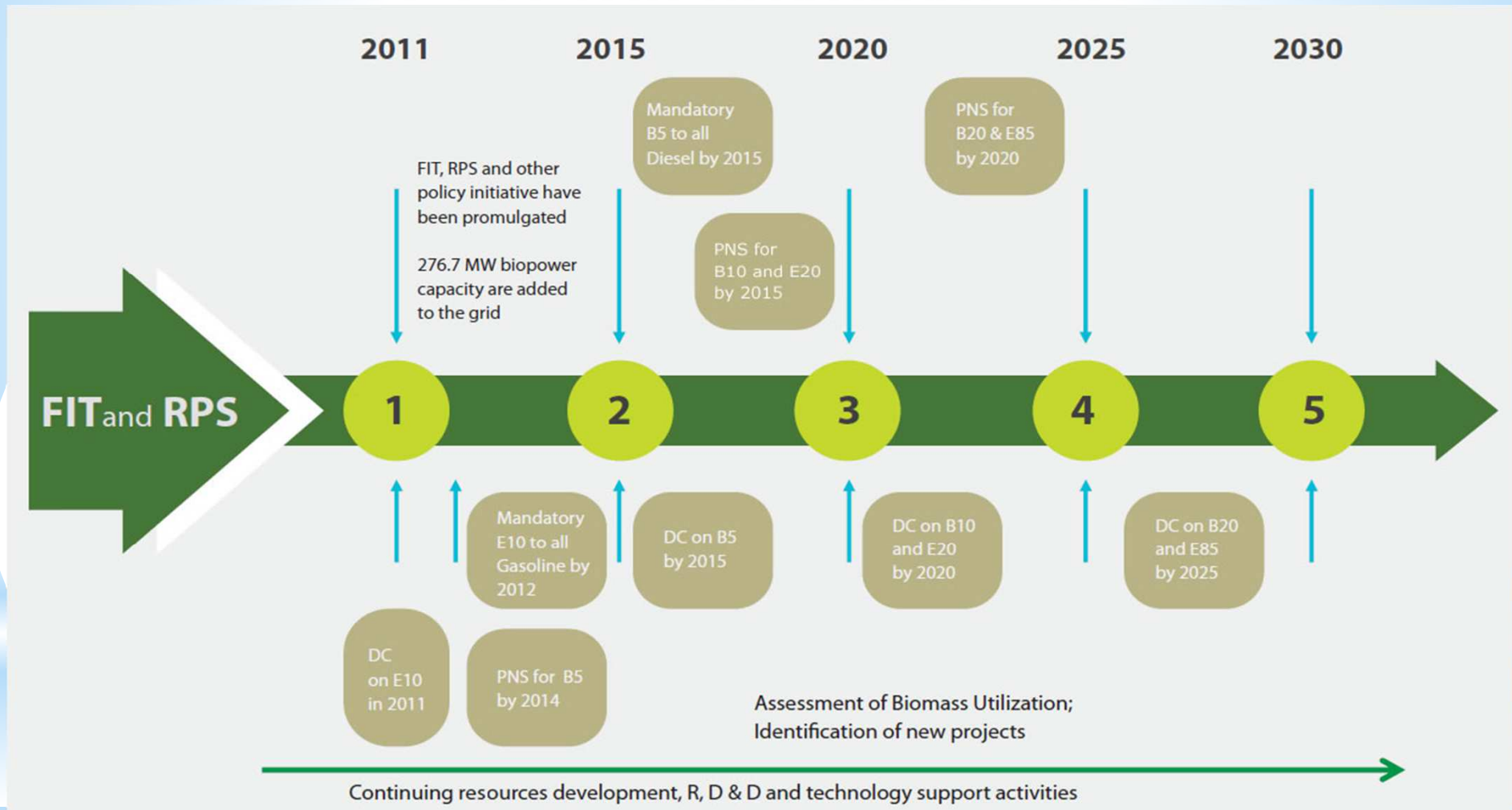
Additional Incentives under the RE Act of 2008:

- 7-year Income Tax Holiday and Low Income Tax Rate (10%)
- Reduced Government Share (biomass/biofuels exempted)
- Duty-free Importation of Equipment and VAT-zero Rating
- Tax Credit on Domestic Capital Equipment
- Special Realty Tax Rate on Equipment and Machinery

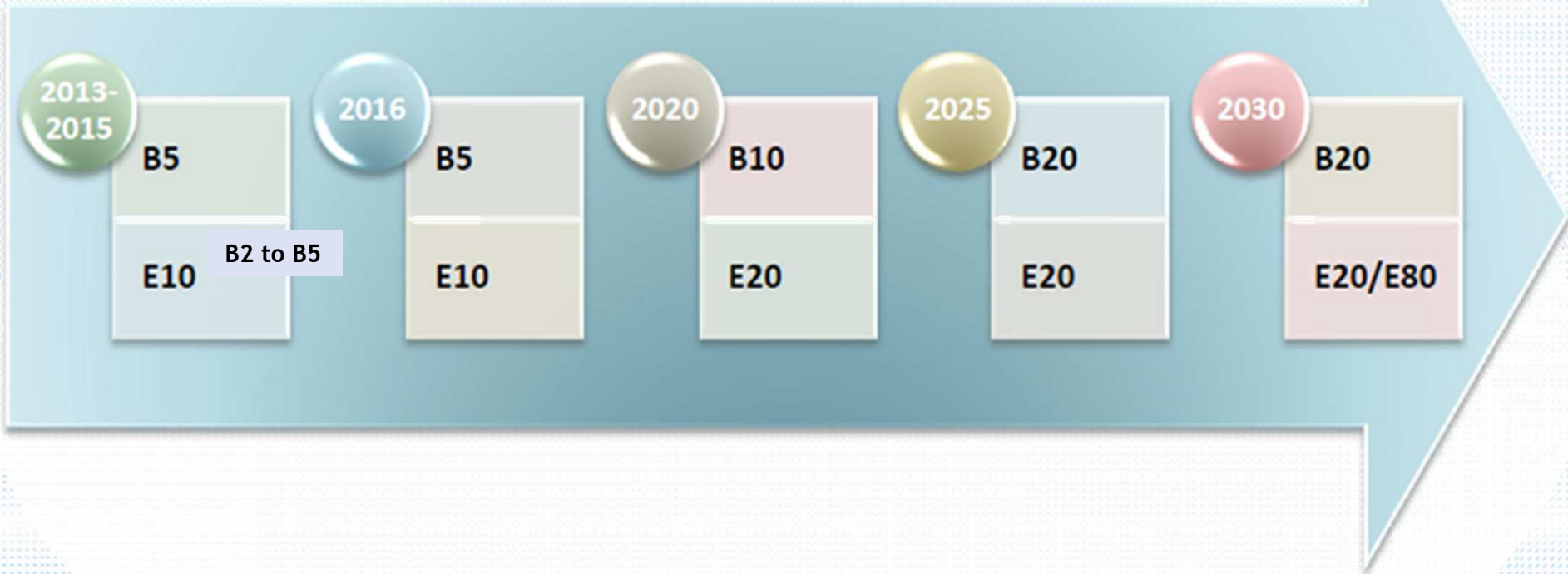


NATIONAL RENEWABLE ENERGY PROGRAM (NREP)

BIOMASS SECTOR ROADMAP, 2011-2030



TARGET BIOFUELS BLEND, 2013-2030



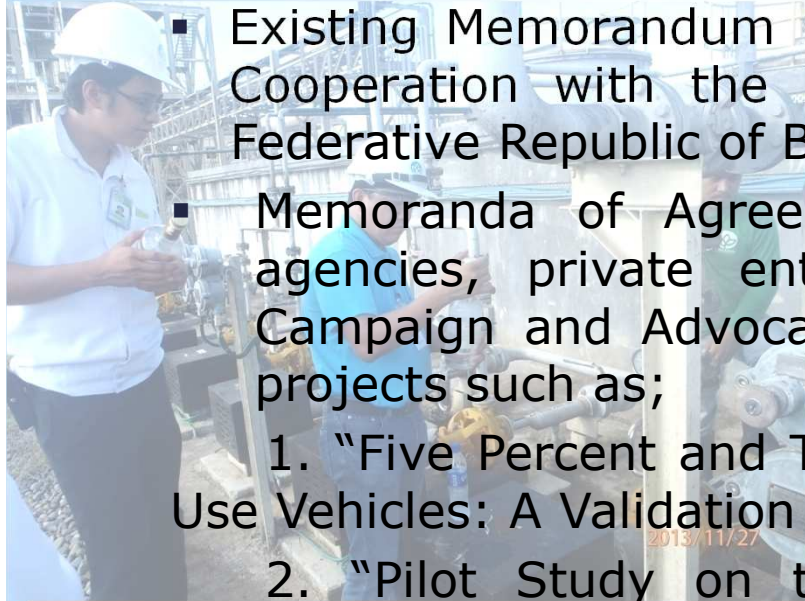
PROGRAMS PROMOTING BIOFUELS

- Nationwide consultations with biofuels manufacturers, car manufacturers, oil companies, gov't agencies, transport group, feedstock producers, academe, GFI's, NGOs stakeholders on higher biofuels blend, tariff on imported ethanol, price index for local ethanol and guidelines to maximize local ethanol utilization
- Developed biofuels communication plan
- Drafted a compendium on bioethanol
- Joint workshop on life cycle assessment of bioethanol
- Hosted the ASEM Conference on the Harmonization of Biofuels Standards and Application to Vehicle Technologies
- initiated a project on "B5 Testing on Public Utility Jeepneys"
- Participated in FAO's BEFs ASEAN & BEFs Rapid Appraisal Projects Introductory Meeting
- Conducted the "6th Asia Biomass Energy Workshop" in cooperation with New Energy Foundation of Japan and the "Waste to Energy Workshop" in cooperation with EU-SWITCH.



PROGRAMS PROMOTING BIOFUELS

- Existing Memorandum of Understanding (MOU) on Bioenergy Cooperation with the Ministry of Mines and Energy of the Federative Republic of Brazil (June 24, 2009)
- Memoranda of Agreement (MOA) with other government agencies, private entities and academe for the IEC Campaign and Advocacy Plan for Biofuels Program and the projects such as;
 1. "Five Percent and Twenty Percent Biodiesel Blends for In-Use Vehicles: A Validation Road Test"
 2. "Pilot Study on the Performance of Engines of Light Vehicles using 4% Esterified Used Vegetable Oil"
 3. "Village Scale Production of MMSU Hydrous Ethanol as Feedstock for R&D in Biofuel Trials and Anhydrous Ethanol Production"
 - 4 "Bioethanol Production from Macroalgae and Socio-ecological Implications"
 5. "Bioethanol Production Potential of Different Cassava Varieties under Northern Mindanao Condition and Development of a Pilot-scale Cassava Bioethanol Plant"



ACCREDITED BIODIESEL PRODUCERS

BIODIESEL PRODUCERS	PROJECT LOCATION	CAPACITY <i>(in million liters)</i>
<i>On-going Production</i>		
1 Chemrez Technologies, Inc.	Quezon City	90
2 Mt. Holly Coco Industrial Co., Ltd.	Quezon	60
3 Pure Essence International, Inc.	Pasig City	72
4 Golden Asian Oil International, Inc.	Pasig City	60
5 Bioenergy 8 Corporation	Davao City	30
6 Tantuco Enterprises	Quezon	60
7 Phil.Biochem Products, Inc.	Muntinlupa City	12
8 Freyvonne Milling Services	Davao City	15.6
9 JNJ Oleochemicals, Inc.	Quezon	63.3
10 Phoenix Petroleum Philippines, Inc.	Misamis Oriental	24
11 Econergy Corporation	General Santos City	30
TOTAL		516.9

FEEDSTOCK:

- Coconut oil (current)
- Jatropha (under study)
- Palm oil (potential)



BIODIESEL HISTORICAL SUPPLY-DEMAND, 2007-2013

Actual Annual CME Report *(in million liters)*

Year	SALES	PRODUCTION
2007	48.48	49.10
2008	64.48	65.67
2009	130.93	136.52
2010	124.51	123.55
2011	122.51	132.99
2012	137.47	137.88
2013	152.49	154.92



BIODIESEL SUPPLY-DEMAND OUTLOOK, 2013-2030

Year	Diesel Demand <i>(in million liters)</i>	Biodiesel Blends (Target)	Supply Requirement <i>(in million liters)</i>
2013	7,095.18	2%	141.90
2014	7,214.23	2%	144.28
2015	7,382.23	5%	369.11
2020	7,968.81	10%	796.88
2025	8,746.34	20%	1,749.27
2030	9,087.52	20%	1,817.50



ACCREDITED BIOETHANOL PRODUCERS

Bioethanol Producers (<i>in operation</i>)	Project Location	Annual Production Capacity (<i>in million liters</i>)
Green Future Innovations, Inc.	Isabela	54
San Carlos Bioenergy, Inc.	Negros Occidental	40
Roxol Bioenergy Corporation	Negros Occidental	30
Leyte Agri Corporation	Ormoc, Leyte	9
	TOTAL	133



ACCREDITED BIOETHANOL PRODUCERS

Bioethanol Producers <i>(Registration with Notice to Proceed)</i>	Project Location	Annual Production Capacity <i>(in million liters)</i>
Cavite Biofuels Producers, Inc.	Magallanes, Cavite	38
Canlaon Alcogreen Agro Industrial Corporation	Bago City, Negros Occidental	45
Universal Robina Corporation**	Bais, Negros Oriental	30
Balayan Distillery Inc.*	Calaca, Batangas	30
	TOTAL	143

Bioethanol Producers <i>(with Pending Application)</i>	Project Location	Annual Production Capacity <i>(in million liters)</i>
Far East Alcohol Corporation	Apalit, Pampanga	50
	TOTAL	50

* - on-going commissioning/accreditation

** - commissioning by May 2014; start of commercial operation by June 2014

FEEDSTOCK:

- Sugar Cane, Molasses (current)
- Sweet sorghum, cassava (under study)



BIOETHANOL HISTORICAL SUPPLY-DEMAND, 2007-2013

Actual Annual Bioethanol Report (in million liters)

Year	Local Production	Local Sales	Imported
2007	-	-	3.18
2008	0.97	0.42	12.56
2009	23.28	23.11	64.24
2010	10.17	9.17	140.40
2011	4.14	2.87	218.78
2012	35.09	38.18	246.88
2013	71.54	63.20	253.69



BIOETHANOL SUPPLY-DEMAND OUTLOOK, 2013-2030

(in million liters)

Year	Gasoline Demand	Bioethanol Blends (Target)	Supply Requirement
2013	3,813.18	10%	381.32
2014	3,839.31	10%	383.93
2015	3,818.61	10%	381.86
2020	4,328.87	20%	865.77
2025	4,712.28	20%	942.46
2030	5,084.05	20%/85%	1,016.81



Foreign Exchange Savings

	Biodiesel	Bioethanol
2007-2012*	US\$ 384.98 Million	US\$ 34.53 Million

**January to June 2012*

Improvement of Air Quality— CO₂ Avoided

	Biodiesel	Bioethanol
2007-2012*	8.71 MMT	10.06 MMT

**January to June 2012*



THANK YOU!!!
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