DIRECTORATE GENERAL OF NEW RENEWABLE ENERGY AND ENERGY CONSERVATION
MINISTRY OF ENERGY AND MINERAL RESOURCES REPUBLIC OF INDONESIA

INDONESIAN BIOFUEL PROMOTION IN TRANSPORTATION SECTOR

EGNRET 42 Meeting
Honolulu, Hawaii
7 - 10 APRIL 2014

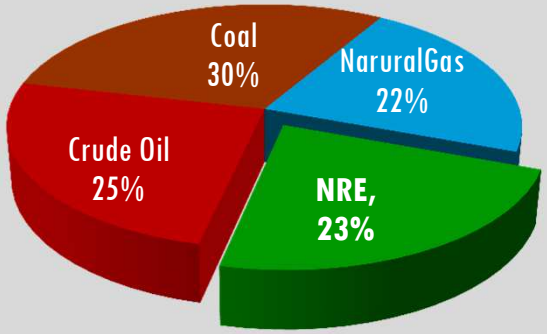
OUTLINE

Energi & Sumber daya Mineral
Untuk Kesejahteraan Rakyat

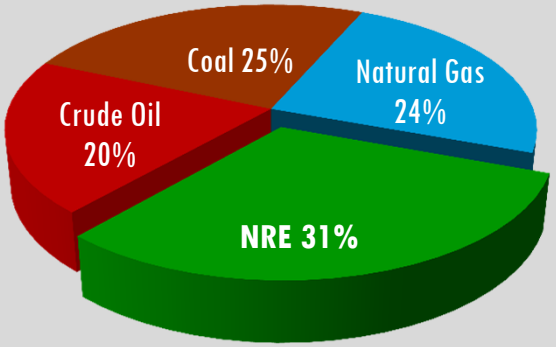
I. OVERWIEW ...(1/3)

INDONESIAN ENERGY MIX 2025 AND 2050

YEAR 2025



YEARN 2050



- Preparing primary energy until 400 MTOE in 2025 and 1.000 MTOE in 2050
- Energy elasticity < 1 pada 2015 confirmed with economical grow
- Declining of energi intencity 1% per year until year 2025
- Electrification Ratio 85% in 2015 and approach 100% in 2020
- Using Gas Rasio in household 85% in 2015

I. OVERVIEW ...(2/3)

INDONESIAN POLICY IN ENERGI
(MINISTERIAL EMR DECREE NO.4051 K/07/MEM/2013)

Role of New Renewable Energy

1. **TO UPGRADE ENERGY CAPACITY.**
   Demand of Energy in Indonesia grow up about 7% per year, so increasing capacity is necessary

2. **<u>TO SUBSTITUE FOSSIL FUEL</u>**
   Utilization of Biodiesel and Bioethanol as domestic production. Indonesia imports fuel oil about 500 thousand barrels per day.

3. **TO ACELERATE ACCESS OF MODERN ENERGY IN RURAL AND REMOTE AREA**
   NRE exsist on almost all area in Indonesia. There are some program running as electricity for rural area such as mikrohydro, solar cell, biomass, biogas.

4. **TO CONTRIBUTE TOWARD REDUCING GREENHOUSE GAS EMISSION**.
   New Energy is an less emission energy.

II. BIOFUELS DEVELOPMENT AND UTILIZATION POLICY ...(1/5)

LAW NO. 30 YEAR 2007 about energy	The priority of supply and utilization NRE including Biofuels
PRESIDENTIAL REGULATION NO. 5 YEAR 2006 about national energy policy	Target of Biofuel in 2025 is 5% for National Energy Mixed
PRESIDENTIAL INSTRUCTION NO. 1 YEAR 2006 about supply and utilization of *biofuel* as other fuel	Instruction for Minister, Governoor, and Major to take accelerating way to supply and utillize biofuels
MINISTERIAL EMR REGULATION NO. 32 YEAR 2008 about biofuel supply, utilization, and trade system as other fuel	Biofuel mandatory in transportation, industry, commerce, and power
MINISTERIAL EMR REGULATION NO. 25 YEAR 2013 about alteration of Ministerial EMR Regulation No. 32 Year 2008	**Accelerating and Upgrading Biofuels Mandatory**
MINISTERIAL REGULATION . 4 YEAR 2012 and NO. 19 YEAR 2013 about supply of electricity based on Bioenergy	Price of electricity by PT. PLN (Persero) for power sourced by biomass, biogas and municipal waste

INCENTIVES FOR BIOFUELS DEVELOPMENT

1. **Guaranty for domestic market** by mandatory in Ministerial Regulation No. 25 Year 2013;
2. **Releasing on import tax** for technology/equipment in bioenergy invesment (regulated by Ministry of Finance regulation);
3. **Incentive on income tax** for new biofuels invesment (regulated by Ministry of Finance regulation);
4. **Subsidizing of price** for biofuels in tranportation sector (plafond alocation until Rp 3,000/litre untuk biodiesel);
5. **Subsidizing of loan interest** in development of biofuels source ;
6. **Simplification getting lisence.**

MINISTERIAL REGULATION NO. 25 YEAR 2013

1. Accelerating mandatory of biofuels utilization.
2. **Focus on implementation of biodiesel**, whereas on bioethanol attempted gradually since supply and infrastructure are still limited.
3. Obligation to implement biofuels mandatory target is enforced to fuel oil distribution companies in transportation, industry, and power sector.
4. **There is a Road map** for utilization of Biodiesel from 2013 to 2025.

II. BIOFUELS DEVELOPMENT AND UTILIZATION POLICY ...(5/5)

BIODIESEL (Minimum)

Sector	September 2013	January 2014	January 2015	January 2016	January 2020	January 2025
Transportation, PSO	10%	10%	10%	20%	20%	25%
Transportation, Non PSO	3%	10%	10%	20%	20%	25%
Industry	5%	10%	10%	20%	20%	25%
Power Plant	7,5%	20%	25%	30%	30%	30%

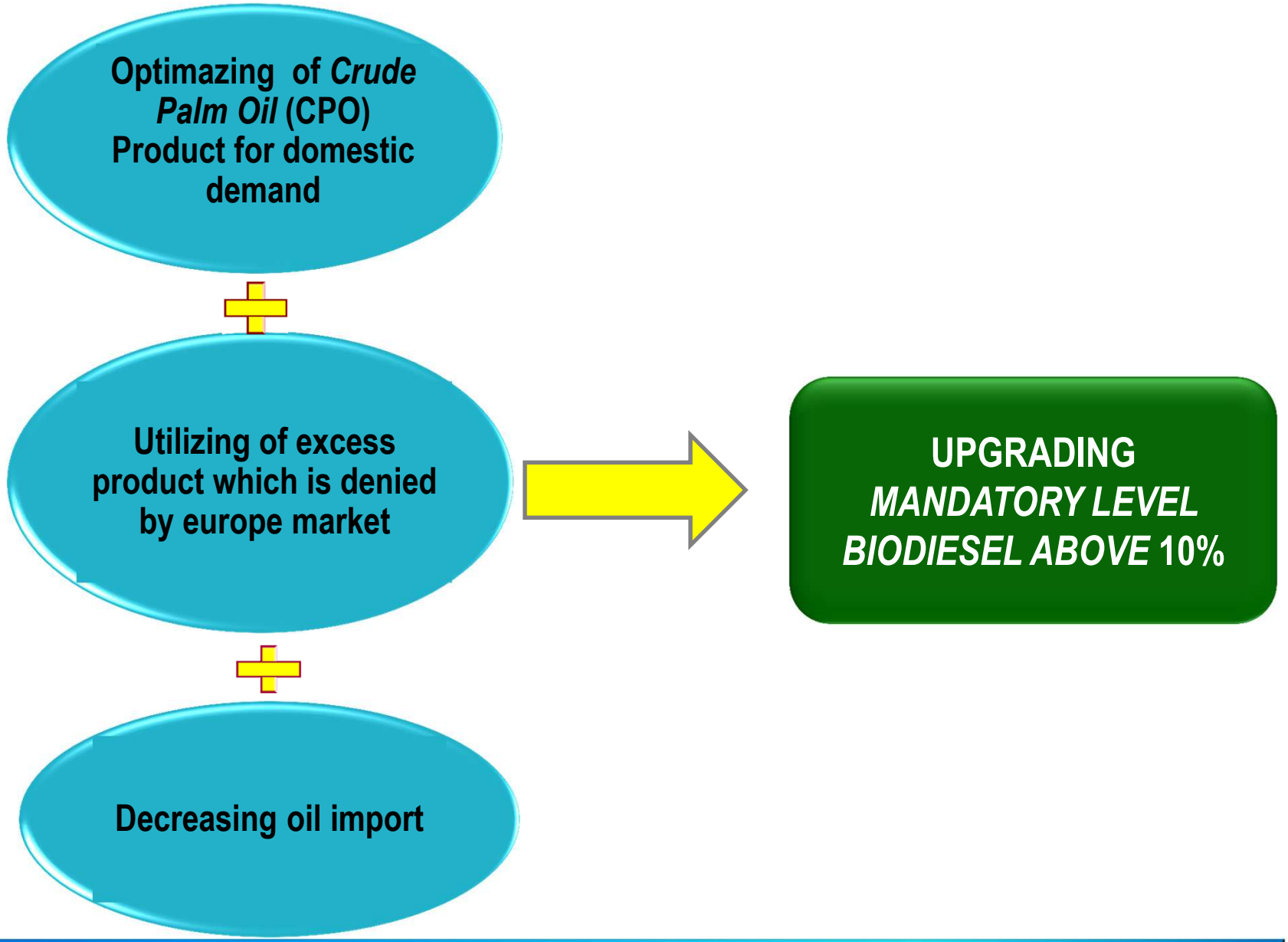
BIOETHANOL (Minimum)

Sector	September 2013	January 2014	January 2015	January 2016	January 2020	January 2025
Transportation, PSO	-	0,5%	1%	2%	5%	20%
Transportation, Non PSO	1%	1%	2%	5%	10%	20%
Industry	-	1%	2%	5%	10%	20%
Power Plant	-	-	-	-	-	-

PURE PLAM OIL(Minimum)

Sector		September 2013	January 2014	January 2015	January 2016	January 2020	January 2025
Industry and Transportation (*Low and Medium Speed Engine*)	Industry	1%	5%	10%	20%	20%	20%
	Water Transportation	-	5%	10%	20%	20%	20%
	Air Transportation	-	-	-	2%	3%	5%
Power Plant		1%	6%	15%	20%	20%	20%

II. BIOFUELS DEVELOPMENT AND UTILIZATION POLICY ...(4/5)

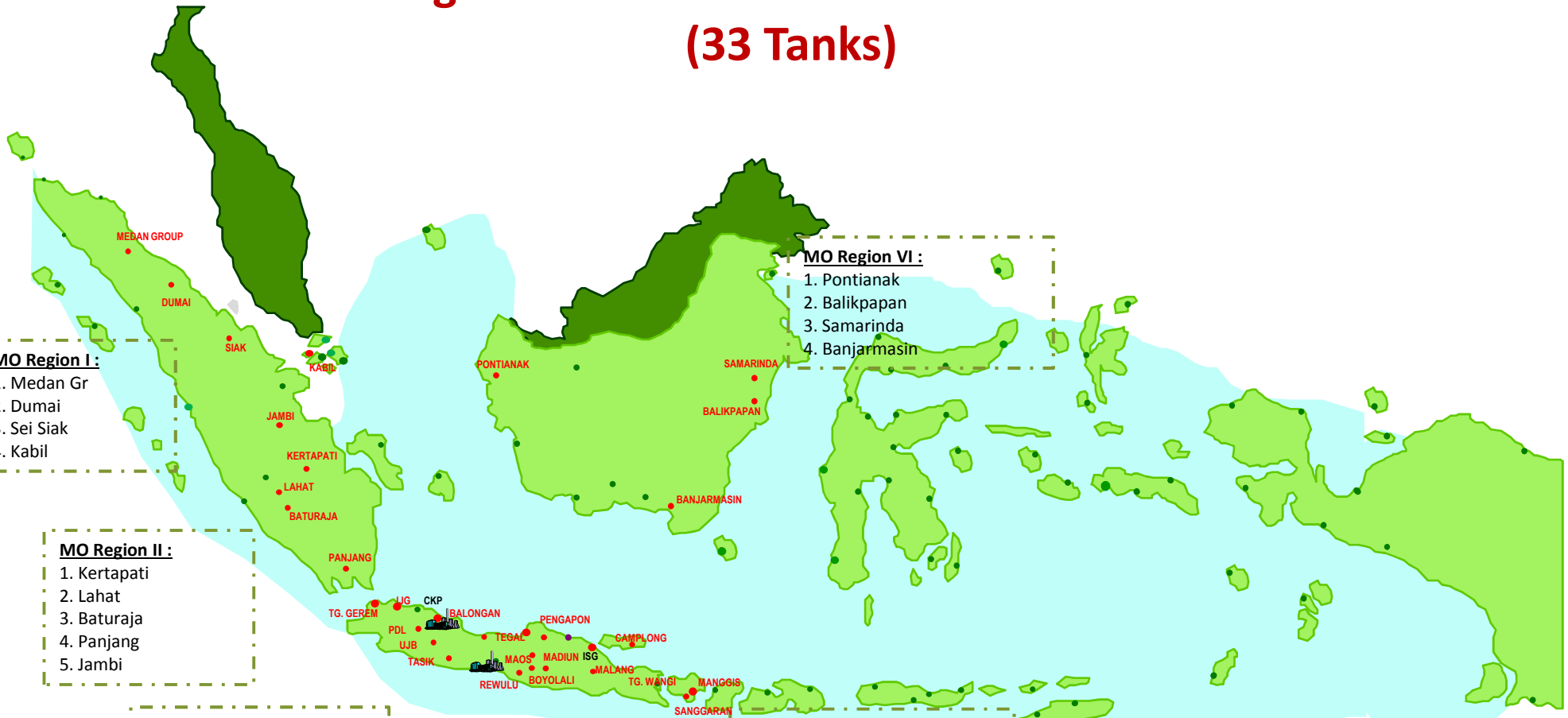


III. ACCOMPLISHMENT OF BIOFUELS MANDATORY...(1/7)

1. Installed capacity for biodiesel is 5.6 million KL/year (provided by 14 producers with production capacity 4.6 million KL/year). Whereas Installed capacity for bioethanol is 416 thousand KL/year (provided by 9 producers which ready to produce fuel grade ethanol until 166 thousand KL/year
2. **Production of biodiesel in 2013 is estimated 2.8 million KL, increase for 24% compared in 2012 (2.2 million KL)**
3. Since total production in biodiesel still under installed capacity, there is an opportunity to use biofuels replacing fuel oil.
4. Since 1 September 2013, the percentage of biodiesel blending in diesel has increased from 7,5% to 10% as stated on Ministerial Regulation No. 25 Year 2013.
5. There is nothing realization for bioethanol due to its Index Price is being processed.

III. ACCOMPLISHMENT OF BIOFUELS MANDATORY…(2/7)

Pertamina's Storage Tanks used as blended Biodiesel facilities in 2013 (33 Tanks)



MO Region I :
1. Medan Gr
2. Dumai
3. Sei Siak
4. Kabil

MO Region II :
1. Kertapati
2. Lahat
3. Baturaja
4. Panjang
5. Jambi

MO Region III :
1. Tg Gerem
2. Jakarta Gr (PLP)
3. Cikampek
4. Ujung Berung
5. Tasikmalaya
6. Balongan
7. Padalarang

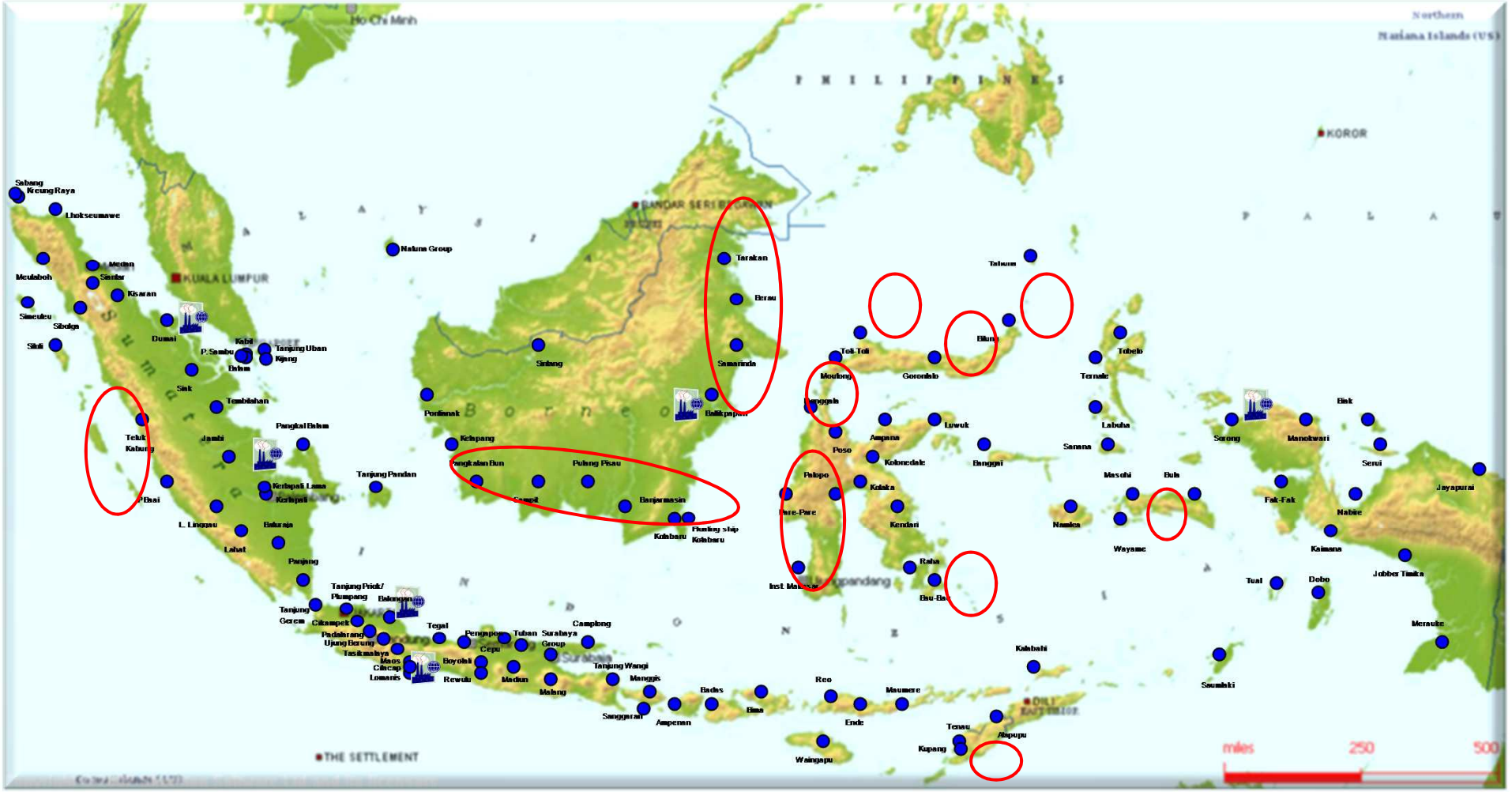
MO Region IV :
1. Tegal
2. Pengapon
3. Rewulu
4. Boyolali
5. Maos

MO Region V :
1.Camplong
2.Malang
3.Madiun
4.Surabaya Group
5.Tanjung Wangi
6.Manggis
7.Sanggaran
8.Tuban

MO Region VI :
1. Pontianak
2. Balikpapan
3. Samarinda
4. Banjarmasin

III. ACCOMPLISHMENT OF BIOFUELS MANDATORY...(3/7)

PERTAMINA BIDDING IN SUPPLAY (STAGE III)

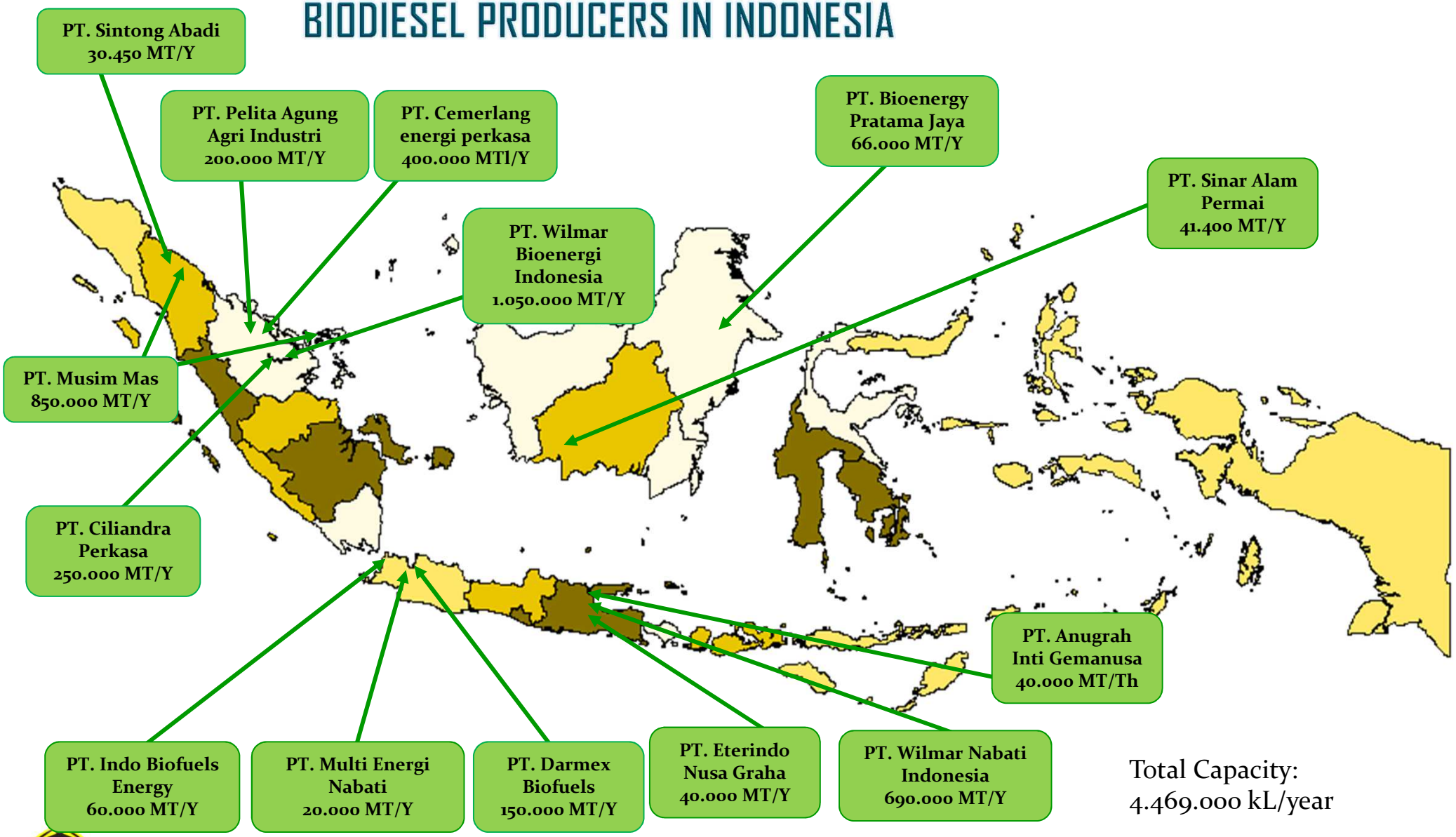


Notes:

Total Number of Tank is 116 point with total capacity is 1,727,438 kL

III. ACCOMPLISHMENT OF BIOFUELS MANDATORY...(4/7)

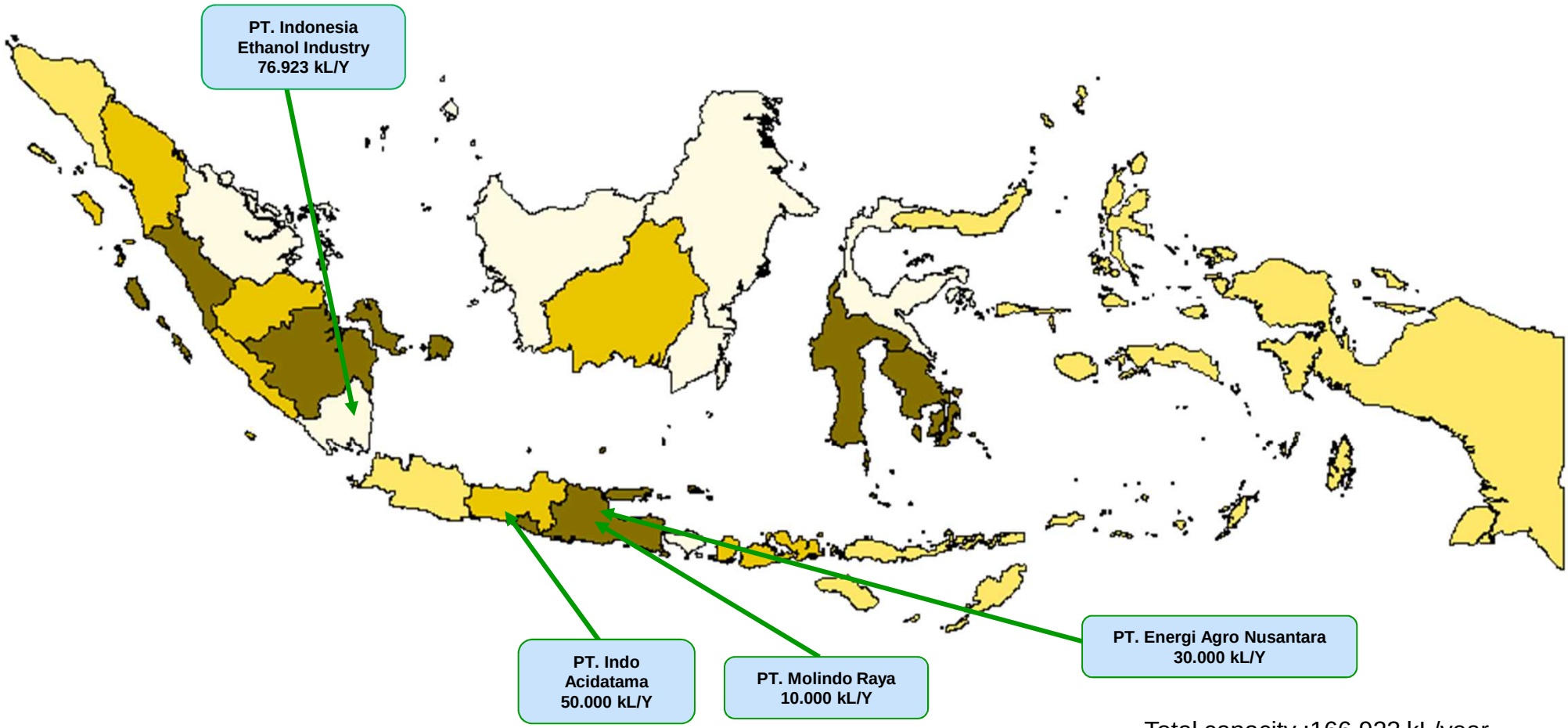
BIODIESEL PRODUCERS IN INDONESIA



Total Capacity:
4.469.000 kL/year

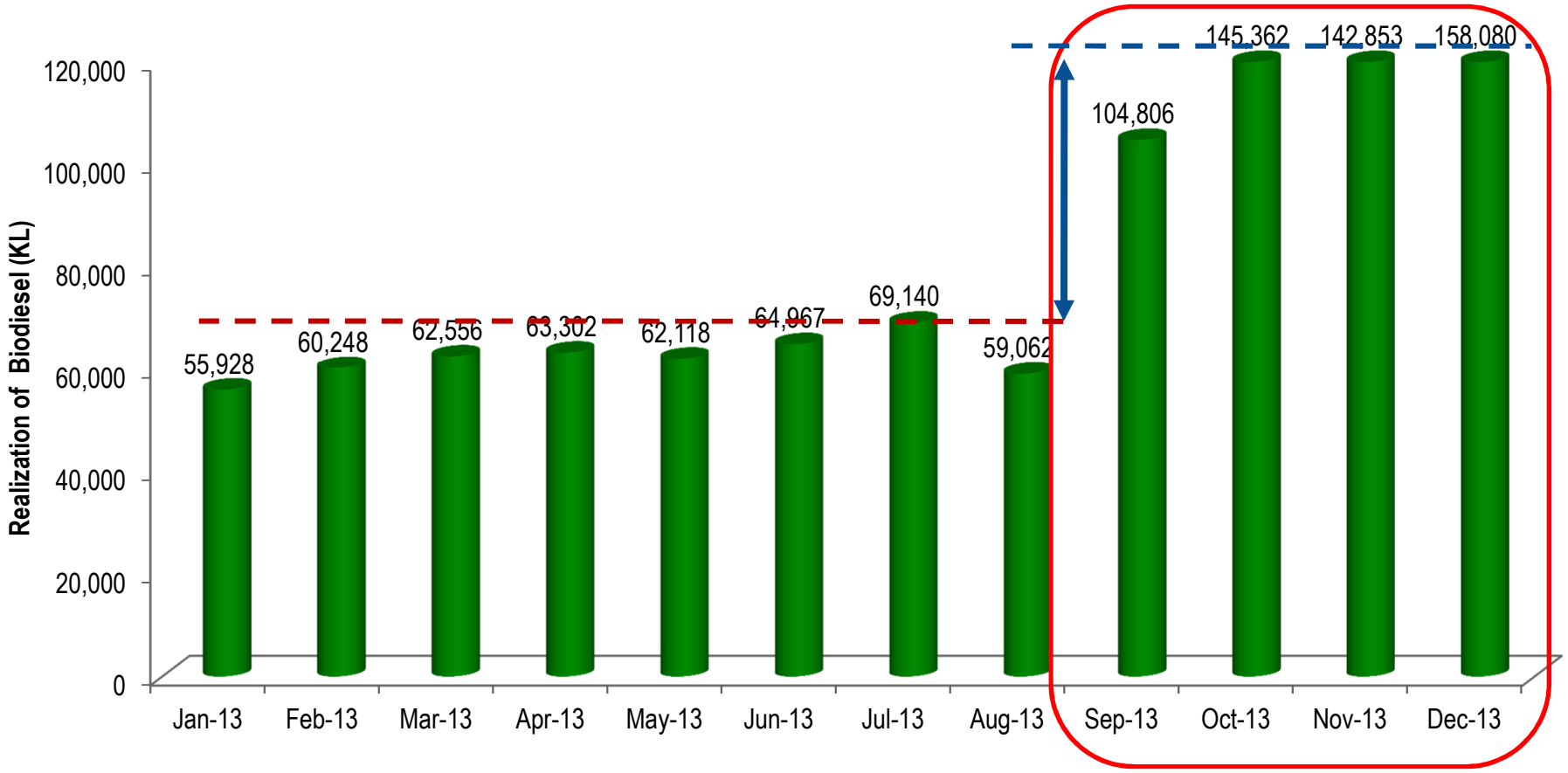
III. ACCOMPLISHMENT OF BIOFUELS MANDATORY...(5/7)

BIOETHANOL PRODUCER FOR *FUEL GRADE*



Total capacity :166,923 kL/year

III. ACCOMPLISHMENT OF BIOFUELS MANDATORY...(6/7)



In 2013, consumption of biofuels reached 551,101 KL since mandatory in September 2013. It means savings about 429 million USD

III. ACCOMPLISHMENT OF BIOFUELS MANDATORY...(7/7)

BIODIESEL

	2011 (KL)	2012 (KL)*)	2013 (KL) **)	2014 (KL) ***)
Mandatory on Transportation PSO	590,650	694,440	1,202,250	1,644,000
Realization	358,812	669,398	930,561	78,371
Percentage	60.75 %	96.39 %	77.40 %	4.77 %

BIOETHANOL

	2011 (KL)	2012 (KL)*)	2013 (KL) **)	2014 (KL) ***)
Mandatori pada Transportasi PSO	229,600	244,110	146,000	164,800
Realization	-	-	-	-
Percentage	-	-	-	-

Notes:

*) Blending percentage of Biodiesel in Diesel is 7.5% since 15 February 2012

**) Blending percentage of Biodiesel in Diesel is 10% since 1 September 2013

***) Realization until 31 January 2014

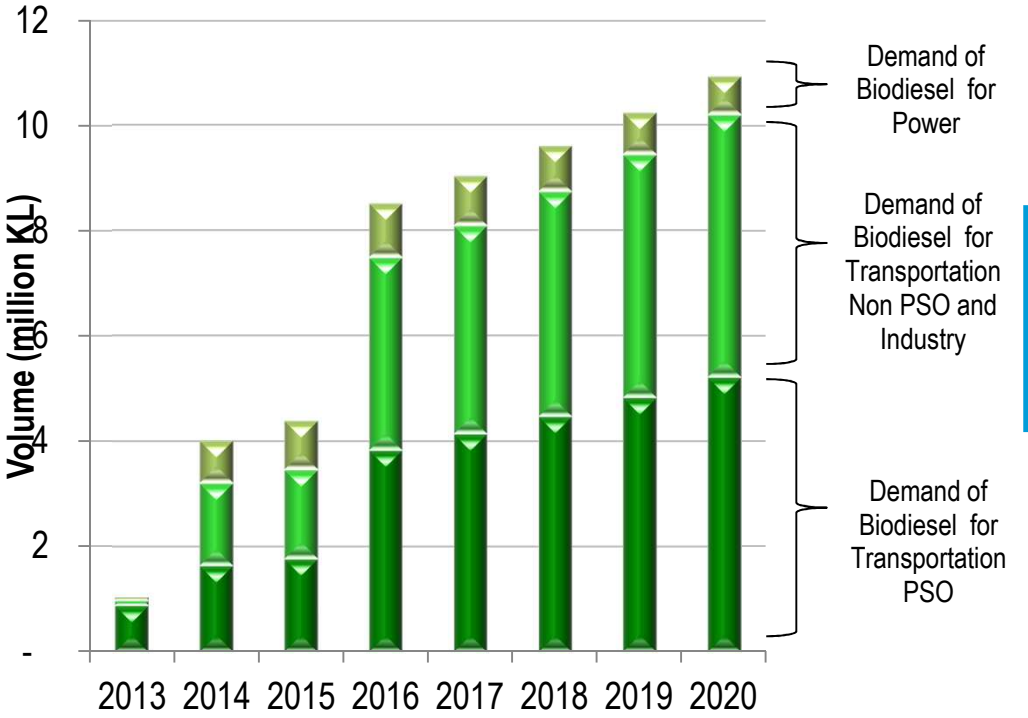
IV. PLAN AND TARGET TOWARD BIODIESEL MANDATORY...(1/2)

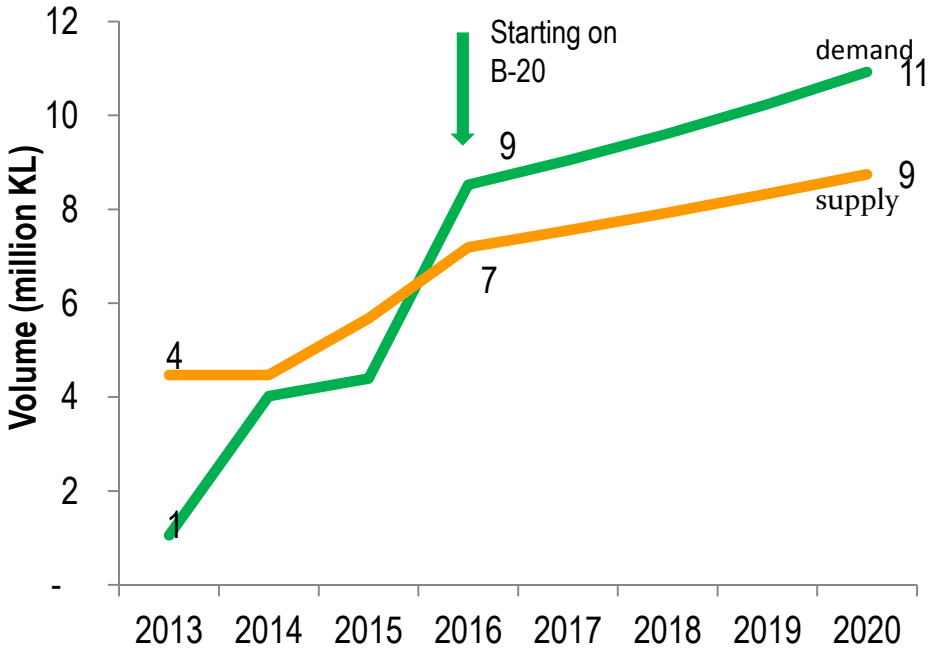
MANDATORY TARGET USING OF BIOFUELS IN 2014

No	NOTE	Volume fuel oil 2014 (kL)	Percentage of biofuels (%)	Estimated biofuel Volume (kL)
1	Upgrading of blending Biodiesel in transportation (PSO) is from 7.5% (B-7.5) to 10% (B-10)	16,440,000	10%	1,644,000
2	Utilization of Biodiesel for power electricity (PT PLN)	4,040,000	20%	808,000
3	Utilization of Biodiesel for Non PSO (Industry and Transportation)	15,672,510	10%	1,567,251
Total Biodiesel		**36,152,510**		**4,019,251**
4	Utilization of Bioethanol for Transportation PSO	32,960,000	0.5%	164,800
5	Utilization of Bioethanol for Non PSO	85,5426	1%	8,554
Total Bioethanol		**33.815.426**		**173.354**

Mandatory Target for Biodiesel in 2014: ≈ 4.01 million KL
(≈ 3.1 billion USD for saving foreign exchange)

IV PLAN AND TARGET TOWARD BIODIESEL MANDATORY ...(2/2)





1. **Demand of Biodiesel will be twice in 2016 when B-20 is starting**
2. **In 2016, there is scarcity of supply about ± 2 million KL**
3. **Indonesia needs an accelerating invesment to new Biodiesel plant to anticipate increasing biodiesel demand**

VII. GOVERNMENT'S STRATEGY

1
- SHORT TIME: Focus on utilization of biodiesel from **economical sources** and **producers**:
  - For biodiesel, up to B20, applied to existing engine (with no engine modification). More than B20, applied with engine modification and green diesel combined.
  - For bioethanol, up to E20, applied to existing engine. To encourage and to secure domestic supply, developing of bioethanol focused in second generation and biogasoline.

2
- MIDDLE AND LONG TIME, focus on *drop-in* biofuel which is begun with bioaviation fuel.

3
- Raising up invesment climate to create good condition

4
- Compossing price formula for biofuels which is more interesting for producers and creating positive impact for subsidize.

5
- Doing collective test for B20 to prepare implementation of B20 in 2016.

6
- Doing revision on Indonesian National Standard (SNI) for biofuels to fit with international standard.

THANK YOU
TERIMA KASIH

Energi Sumber daya & Mineral
Untuk Kesejahteraan Rakyat