



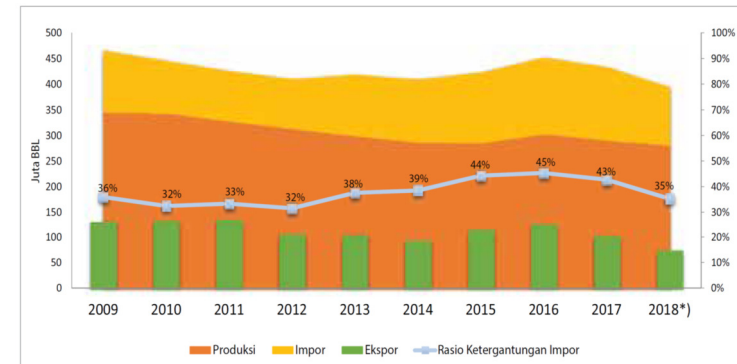
Industri Biodiesel, Realita, Potensi, Hambatan & Tantangannya (Status Juni 2020)

Masih Perlukah Indonesia Memperluas Kebun Sawit
Dialog Auriga
24 Juni 2020

Paulus Tjakrawan
Asosiasi Produsen Biofuels Indonesia



Ketergantungan Impor Bahan Bakar



Sumber: Kementerian ESDM, diolah oleh Setjen DEN, 2019

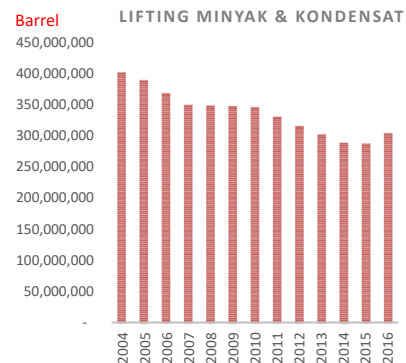
Catatan: Rasio Ketergantungan Impor = Impor dibagi penyediaan domestik (Produksi+Impor-Ekspor)

*) Data Sementara

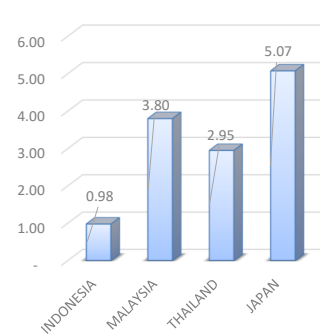


2

Lifting Minyak & Konsumsi



KONSUMSI PER ORANG-LITER



2018, Lifting Minyak 778.000 barrel/hari, Konsumsi 1.598.000 barrel/hari.
IMPORT 820.000 barrel/hari

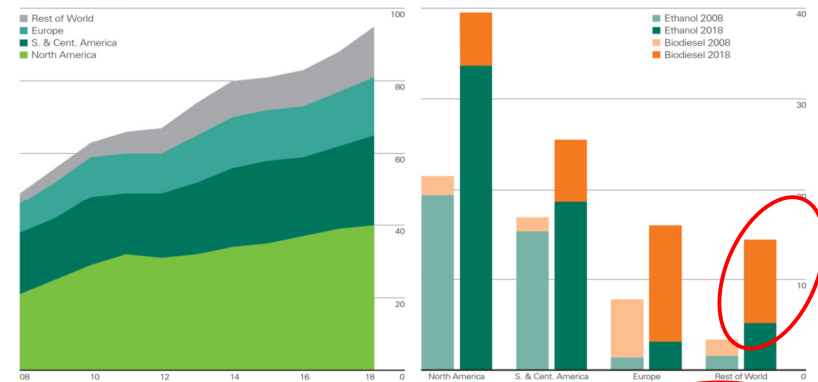


Sumber ESDM, CEICdata, CIA Fact Book

3

World Biofuels Production

World biofuels production
Million tonnes oil equivalent



Biofuels production growth averaged 9.7% in 2018, the highest growth since 2010 and slightly above the 10-year average. Brazil (3.1 mtoe) and Indonesia (2.2 mtoe) together accounted for almost two thirds of global growth (8.5 mtoe). By fuel, ethanol production in 2018 totalled 60.4 mtoe with North America representing 37%.



Sources, BP Statistical Review of World Energy 2019.

4

Pokok Paparan

1. Kebijakan Pemerintah
2. Sawit untuk Energi
3. Keunggulan Biodiesel
4. Industri Biodiesel & Implementasi
5. Tantangan dan Kesimpulan



What Drives the Biofuels Program?

2005-2006



Oil Fuel NETT IMPORTER

- Current Consumption ~1,5 Mil BARREL, Production ~ 800.000 BARRELS



FUELS PRICE CLOSE TO US\$ 140/BARREL

- Today, US\$ 63,68 (OPEC Basket)



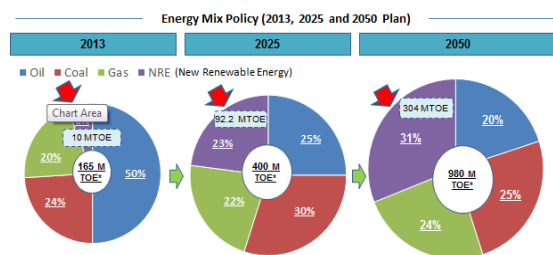
POVERTY ALLEVIATION & EMPLOYMENT OPPORTUNITIES.



ENVIRONMENT & EMISSION REDUCTION.

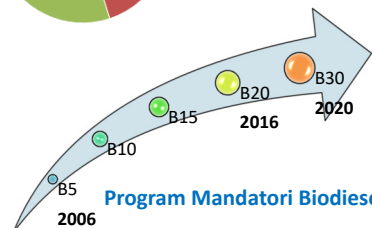
1. KEBIJAKAN PEMERINTAH

Kebijakan Pemerintah Dalam Bauran Energi, Program Biodiesel & Komitmen Pengurangan Emisi Gas Rumah Kaca



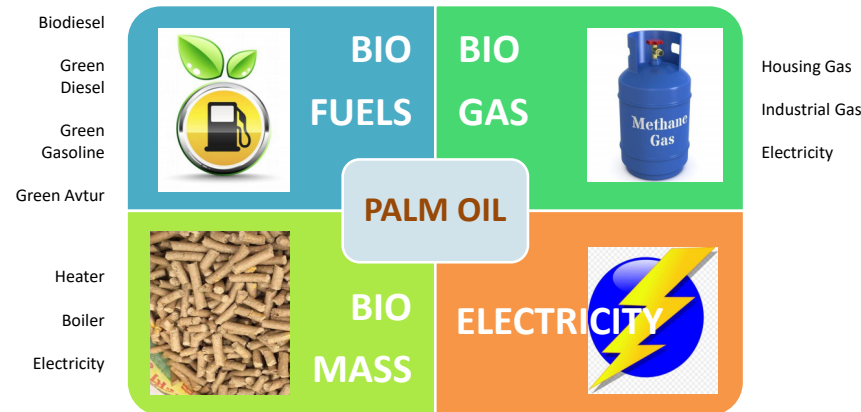
Meningkatkan penggunaan Energi Terbarukan pada bauran Energi Indonesia dari 6% di tahun 2013 sampai 23% pada tahun 2025, dan 31% di tahun 2050.

Indonesia, Nationally Determined Contributions UNFCCC	
2020	2030
26%	29%



1. KEBIJAKAN PEMERINTAH

Oil Palm Based Energy



2. SAWIT UNTUK ENERGI

Keunggulan Biodiesel

• LINGKUNGAN

1. Biodegradable, lebih tidak beracun dibandingkan solar, bebas Sulphur
2. Diproduksi dari tumbuhan/tanaman yang berkesinambungan
3. Menghasilkan emisi Gas Rumah Kaca yang lebih kecil dari penggunaan solar, dan mengurangi polusi
4. Tahun 2019, Biodiesel Indonesia telah berhasil mengurangi emisi dari minyak solar sebesar 45% atau setara dengan ~17,5 Juta Ton CO2 Equivalent

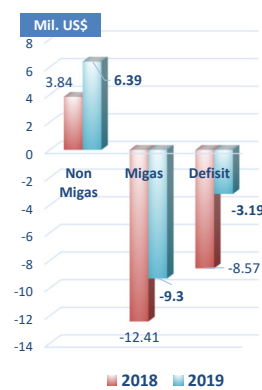
• KETAHANAN ENERGI

1. Mengurangi ketergantungan impor bahan bakar. Pemakaian bahan bakar di Indonesia sekitar 1,4 Juta Barel perhari, sedangkan Indonesia menghasilkan hanya 778 ribu barel perhari.
2. Tahun 2019, produksi Biodiesel untuk domestik sebesar 6,39 Juta Kl ~ 40 Juta Barel (~51 Hari Produksi Minyak Indonesia)

• KEKONOMIAN

1. Mengentaskan kemiskinan dan memberikan lapangan kerja sekitar 650 ribu petani-pekerja Sawit di sektor hulu
2. Menghemat devisa sekitar 50 Triliun Rupiah pada 2019 ~ **3,34 Milyar US\$**
3. Dapat di produksi dimana saja asal ada bahan baku nya
4. Potensi lain nya, semisal dari Minyak Kelapa seperti yang di kembangkan di Philippines. Indonesia ber potensi 2,5 juta kl pertahun (3,2 juta ton Kopra dengan rendemen sekitar 68%)

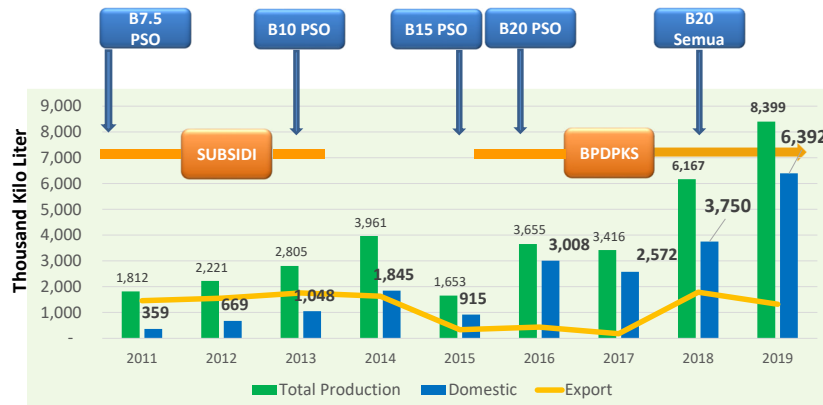
NERACA PERDAGANGAN



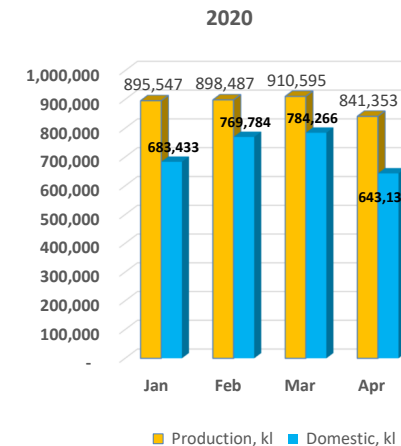
Kapasitas Terpasang

No	Badan Usaha BBN	Kapasitas (Kl/Tahun)
1	Batara Elok Semesta Terpadu, PT.	287,356
2	Bayas Biofuels, PT.	862,069
3	Cemerlang Energi Perkasa, PT.	689,655
4	Ciliandra Perkasa, PT.	287,356
5	Dabi Biofuels, PT.	413,793
6	Darmex Biofuels, PT.	287,356
7	Intibenua Perkasatama, PT.	442,529
8	Kutai Refinery Nusantara, PT.	419,540
9	LDC Indonesia, PT.	482,759
10	Multi Nabati Sulawesi, PT.	475,862
11	Musim Mas, PT.	459,770
		896,552
12	Pelita Agung Agrindustri, PT.	229,885
13	Permata Hijau Palm Oleo, PT.	417,241
14	Sinarmas Bio Energy, PT.	455,400
15	SMART, Tbk PT.	440,517
16	Tunas Baru Lampung, PT.	402,299
17	Wilmar Bioenergi Indonesia, PT.	1,603,448
18	Wilmar Nabati Indonesia, PT.	1,665,517
19	Sukajadi Sawit Mekar	402,299
KAPASITAS TERPASANG		11,621,203

Capaian Program Biodiesel



Biodiesel Production & Consumption 2020

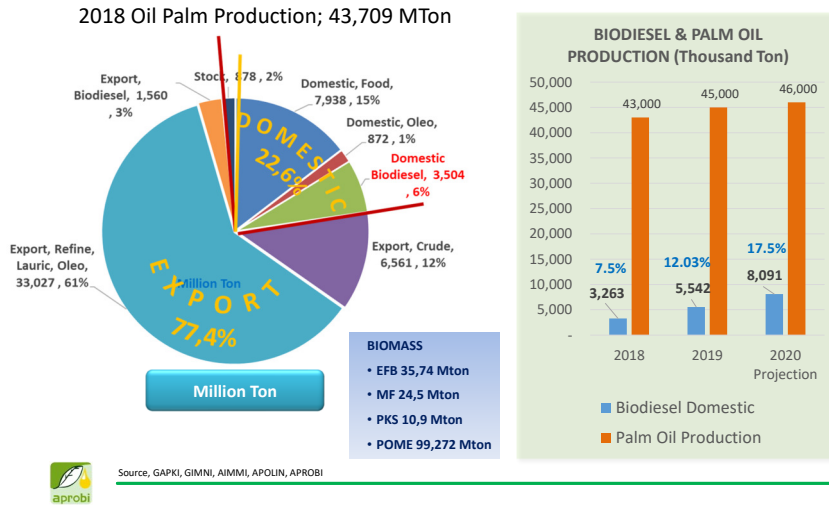


2020	Production, kl	Domestic, kl
Jan	895,547	683,433
Feb	898,487	769,784
Mar	910,595	784,266
Apr	841,353	643,132
Total	3,545,982	2,880,615



Feedstock Position

4. INDUSTRI BIODIESEL & IMPLEMENTASI



Program B20, 2019

Biodiesel 20%, 6.37 Juta KI (~40 Juta barrel) ~ 50 hari hasil minyak

19 Perusahaan, 11.6 Juta KI Kapasitas Terpasang

~650,000 Tenaga Kerja Hulu

Meningkatkan Pendapatan Petani

Mengurangi ~17 Juta Ton CO₂eq (44% dari Target pengurangan Energi & Transpot)



Sumber APROBI 2020

14

Program B30, 2020 (Projeksi)

4. INDUSTRI BIODIESEL & IMPLEMENTASI

Biodiesel 30%, 9,6 Juta KI (~60 Juta barrel) ~ 77 hari hasil minyak

19 Perusahaan, 11.6 Juta KI Kapasitas Terpasang

~795,000 Tenaga Kerja Hulu

Meningkatkan Pendapatan Petani

Mengurangi ~25 Juta Ton CO₂eq (73% dari Target pengurangan Energi & Transpot)



Sumber APROBI 2020

15



Toward Sustainability

- Indonesia has implemented the moratorium on deforestation for any use since 9 years ago (2011), and moratorium for new Palm plantation in 2018. Also, it has been formed Peat Restoration Board 2016
- Palm Oil Sustainability Standard RSPO (Roundtable on Sustainable Palm Oil) standard. 51% from Indonesia Plantation
- ISPO (Indonesia Sustainable Palm Oil) standard. More than 500 Indonesia plantations already ISPO certified
- ISCC (International Sustainability & Carbon Certification), lot of Indonesian Companies got the ISCC certification.
- Continue to develop the Biofuel environment friendly processing technology

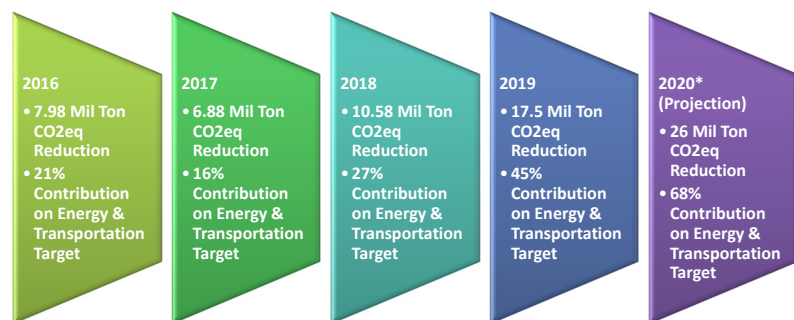


Source: APROBI

16

Significant Biodiesel Contributions to GHG Emission Reduction Target

Emission reduction target for 2020 from Energy and Transportation sector is **0,038 Giga Ton CO₂eq**



Source, APROBI Februari 2020

17

Kontribusi B30 Pada NDC Indonesia

Table 1. Projected BAU and emission reduction from each sector category

No	Sector	GHG Emission Level 2010* (MTon CO ₂ e)	GHG Emission Level 2030 (MTon CO ₂ e)			GHG Emission Reduction (MTon CO ₂ e)				Annual Average Growth BAU (2010-2030)	Average Growth 2000-2012*
			BaU	CM1	CM2	CM1	CM2	CM1	CM2		
1	Energy*	453.2	1,669	1,355	1,271	314	398	11%	14%	6.7%	4.50%
2	Waste	88	296	285	270	11	26	0.38%	1%	6.3%	4.00%
3	IPPU	36	69.6	66.85	66.35	2.75	3.25	0.10%	0.11%	3.4%	0.10%
4	Agriculture	110.5	119.66	110.39	115.86	9	4	0.32%	0.13%	0.4%	1.30%
5	Forestry**	647	714	217	64	497	650	17.2%	23%	0.5%	2.70%
TOTAL		1,334	2,869	2,034	1,787	834	1,081	29%	38%	3.9%	3.20%

* Including fugitive

** Including peat fire

Notes: CM1 = Counter Measure (unconditional mitigation scenario)

CM2 = Counter Measure (conditional mitigation scenario)

Kontribusi B30 Pada NDC Sektor Energi adalah **8,82%**
(Proyeksi 2020)



18

Penugasan Untuk B30

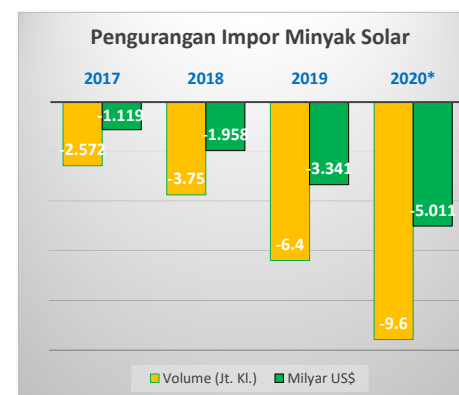
SECTOR: ENERGY			
	BAU	Mitigation Scenario 1 (CM 1)	Mitigation Scenario (CM 2)
1. Efficiency in final energy consumption.	In-efficiency in final energy consumption.	75%	100%
2. Implementation of clean coal technology in power plant.	0%		
3. Renewable energy in electricity production.	Coal power plant	19,6% (Committed 7,4 GW based on RUPTL)	Electricity production of 132,74 TWh
4. Implementation of biofuel in transportation sector (Mandatory B30).	0%	90%	100%
5. Additional gas distribution lines.	0%	100%	100%
6. Additional compressed-natural gas fuel station (SPBG).	0%	100%	100%

Penugasan Untuk B30, TERPENUHI



19

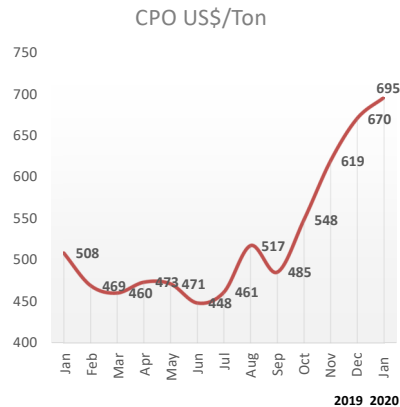
Mengurangi Import Minyak Solar



Source, APROBI Juni 2020

20

CPO Price Movements 2019-2020, Increasing Farmer Incomes



Sources, APROBI 2020, MENKO Perekonomian, MPOB

4. INDUSTRI BIODIESEL & IMPLEMENTASI



Upcoming Indonesia Biofuels Industry To develop the Advanced Biofuels

Biodiesel	- B30 implementations in 2020 could absorb 9.6 M KI Biodiesel ~ 5 B US\$ - Study in B40 & B50
Product Development	- Green Diesel, Gasoline, Avtur, Bio Jet Fuel/Bio Avtur - HVO - Biomass-based Biofuels
Feedstock	- Cellulose, hemicellulose, or lignin - Micro algae - Biomass, Crop residue
Technology	Unique technologies and processes that transform a wide range of plant, waste, and cellulosic molecules into hydrocarbon molecules like those produced at conventional refineries

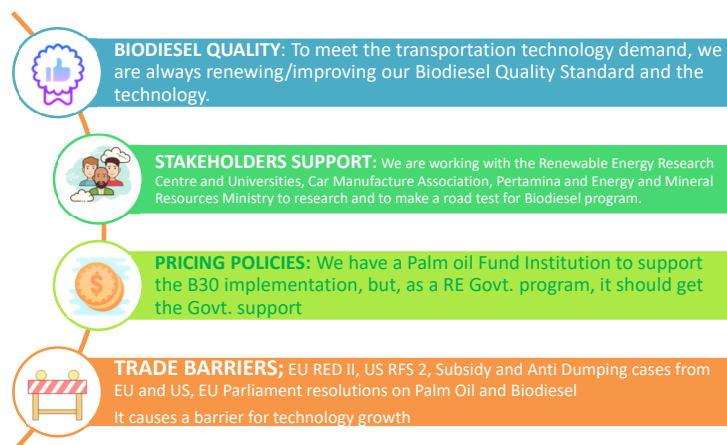


Source, APROBI

22

4. INDUSTRI BIODIESEL & IMPLEMENTASI

Apa Saja Tantangan Pengembangan BBN?

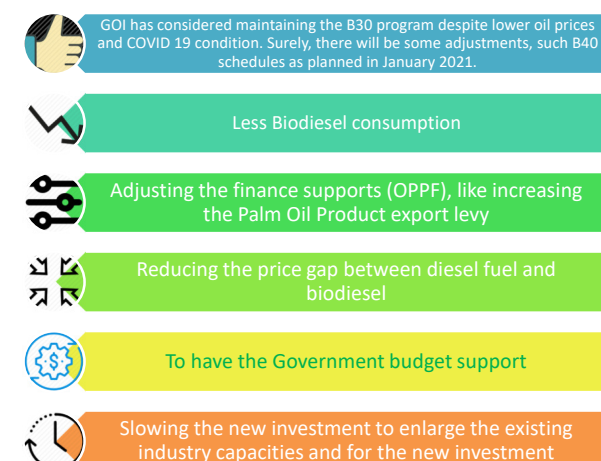


Source, APROBI Februari 2020

23

5. TANTANGAN & KESIMPULAN

B30 Program in Covid 19



24

5. TANTANGAN & KESIMPULAN

Mengapa Program Biodiesel berhasil?

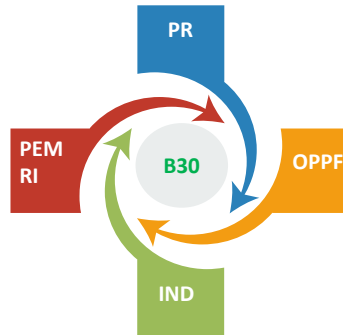
PEMRI

Sebagai inisiator program BBN, Pemerintah Indonesia (Kementerian Pertanian, Energi, Industri, Keuangan, Perdagangan) KONSISTEN mendukung program BBN..

Industri

Industri Biodiesel, Pertamina dan BU BBM, Industri Otomotif, Asosiasi Industri dan pengguna alat berat, Kereta Api dll mendukung dengan berpartisipasi dalam Uji Coba dan menggunakan BBN.

SINERGI



PUSAT RISET

LEMIGAS, BPPT, Badan LitBang ESDM, BSN, ITB dan PT lain nya berusaha bahu membahu mengembangkan dan menguji BBN

BPDPKS

Badan Pengelola Dana Perkebunan Sawit mendukung riset dan uji kinerja serta uji jalan Biodiesel

5. TANTANGAN & KESIMPULAN

Program Biodiesel Mendukung SDG's



SUSTAINABLE DEVELOPMENT GOALS

5. TANTANGAN & KESIMPULAN

Kesimpulan



Ketahanan Energi dan terjangkau



Dapat meningkatkan pendapatan petani



Berkontribusi pada SDG's



Memenuhi NDC, Perubahan Iklim



Meningkatkan jumlah tenaga kerja



Menuju ke B40 dan mengurangi Defisit Perdagangan



5. TANTANGAN & KESIMPULAN



Asosiasi Produsen Biofuel Indonesia (APROBI)

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