

# Indonesia Biodiesel Program for Energy Transition : Addressing Challenges and Overcoming Obstacle

World Bioenergy Association –  
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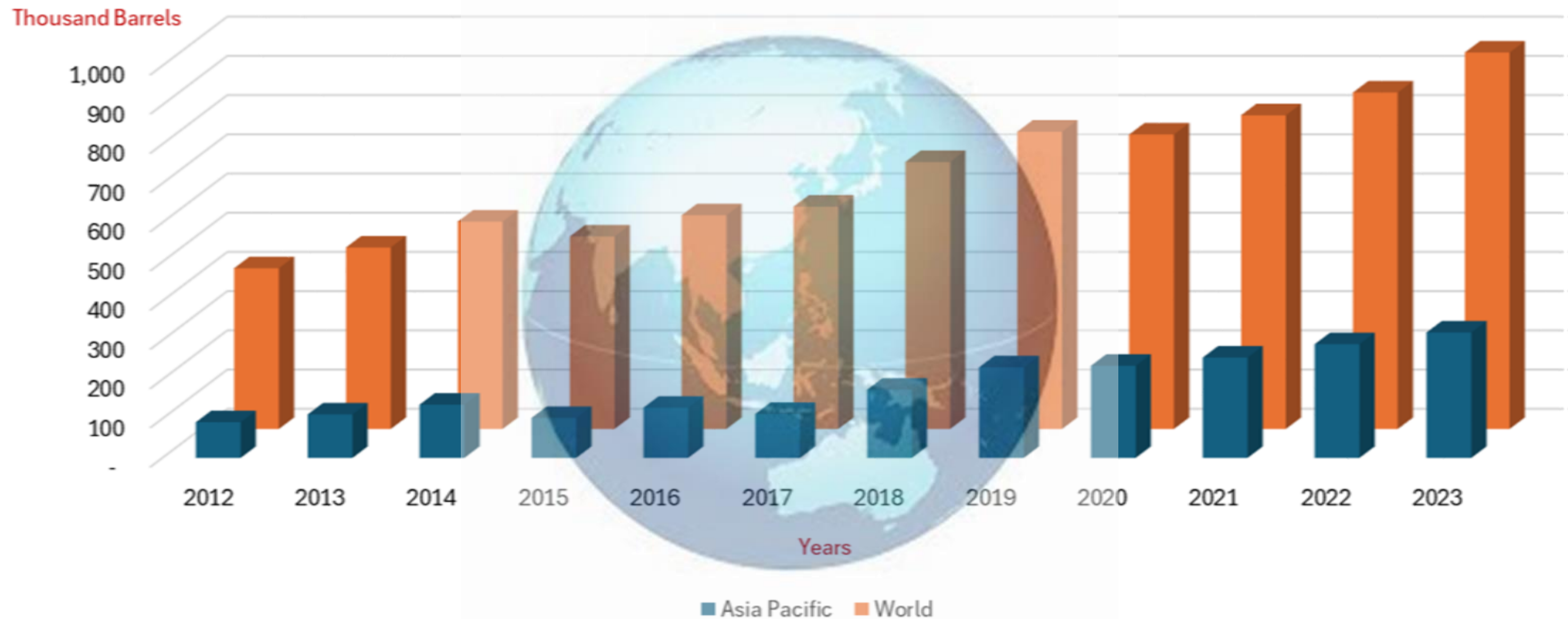


**Conclusions**



# Biodiesel Production

## Asia Pacific & World



Sources: Energy Institute Statistical Review of World Energy 2024

# World Biodiesel Mandatory

Country	Regulation
Argentina	B10 since April 2016, est.750 million gallons/year. Decision to underblend in 2021 due to COVID
Brazil	B2 in 2008. In 2017 increased to B8, B10 in 2019, and B12 in 2020. Has eyes on B15 in 2023.
Colombia	B10 mandate nationwide since 2018
Costa Rica	B20 mandate in place
Ecuador	B5 mandate since May 2013
European Union	New directive, RED II for 2021 - 2030 proposed biofuel reduction from 7% to 3,8% in 2030.
Norway	B3,5 as current mandate. Increased from B2,5 in 2012
Australia	Queensland: 0,5% biodiesel New South Wales: B2 mandate
<b>Indonesia</b>	<b>B15 in 2015, B20 since 2016, B30 mandate since 2020, B35 mandate since 2023, B40 Mandates start 2025</b>
Malaysia	B20 mandate postponed due to COVID
Peru	B2 mandate in January 2019, plan to boost to B5 over the next five years
Philippines	B2 mandate , using coconut oil
South Korea	B2,5 mandate since August 2015
Thailand	B10 mandate in effect in 2018 with plan for subsidized B20 in trucks on voluntary basis
Uruguay	B6 mix in gasoil
USA	Minnesota: B20 mandate since 2008, will be fully implemented in summer months (Apr-Sep) Oregon: B5 for transportation diesel supply

# What Drives Us To Run Biofuel Program In 2005 – 2006



INDONESIA BECAME NETT IMPORTER

*(Consumption 2023 ~1,18 m Barrels, Production ~607.000 Barrels/hr)*



Oil Price was Approacing US\$ 140/BARREL

*(US 78.88/Barrel (OPEC Basket Price, 11 Jan. 2024)*



POVERTY ALLEVATION AND EMPLOYMENT OPPORTUNITY



ENVIRONMENT & GHG EMISSION REDUCTION



INDONESIA BECAME THE BIGGEST PALM OIL PRODUCER



# Installed Capacity Biodiesel Industries 2025



## NORTH SUMATERA

- 1 PT Musim Mas (Medan) 459,770 KL
- 2 PT Permata Hijau Palm Oleo 417,214 KL

## WEST SUMATERA

- 3 PT Padang Raya Cakrawala 413,793 KL

## RIAU

- 4 PT Sari Dumai Oleo 413,793 KL
- 5 PT Intibenua Perkasatama 442,529 KL
- 6 PT Ciliandra Perkasa 287,356 KL
- 7 PT Pelita Agung Agrindustri 229,885 KL
- 8 PT Pelita Agung Agrindustri 568,966 KL
- 9 PT Sari Dumai Sejati 689,655 KL
- 10 PT Wilmar Bioenergi Indonesia 1,603,448 KL
- 11 PT Adhitya Serayakorita 574,713 KL

## LAMPUNG

- 12 PT LDC Indonesia 482,759 KL
- 13 PT Tunas Baru Lampng 1,005,747 KL

## RIAU ISLAND

- 14 PT Musim Mas (Batam) 896,552 KL

## BANTEN

- 15 PT Multimas Nabati Asahan 568,966 KL

## WEST JAVA

- 16 PT Sinarmas Bio Energy 455,400 KL

## EAST JAVA

- 17 PT Batara Elok Semesta terpadu 780,459 KL
- 18 PT Willmar Nabati Indonesia 2,250,000 KL
- 19 PT Eco Prima Energi 579,310 KL

## SOUTH KALIMANTAN

- 20 PT SMART Tbk 1,132,758 KL
- 21 PT Jhonlin Agro Raya 568,966 KL

## CENTRAL KALIMANTAN

- 22 PT Sukajadi Sawit Mekar 402,299 KL

## EAST KALIMANTAN

- 23 PT Kutai Refinery Nusantara 1,143,247 KL
- 24 PT Energy Unggul Persada 1,403,448 KL

## WEST KALIMANTAN

- 25 PT Energy Unggul Persada 910,345 KL

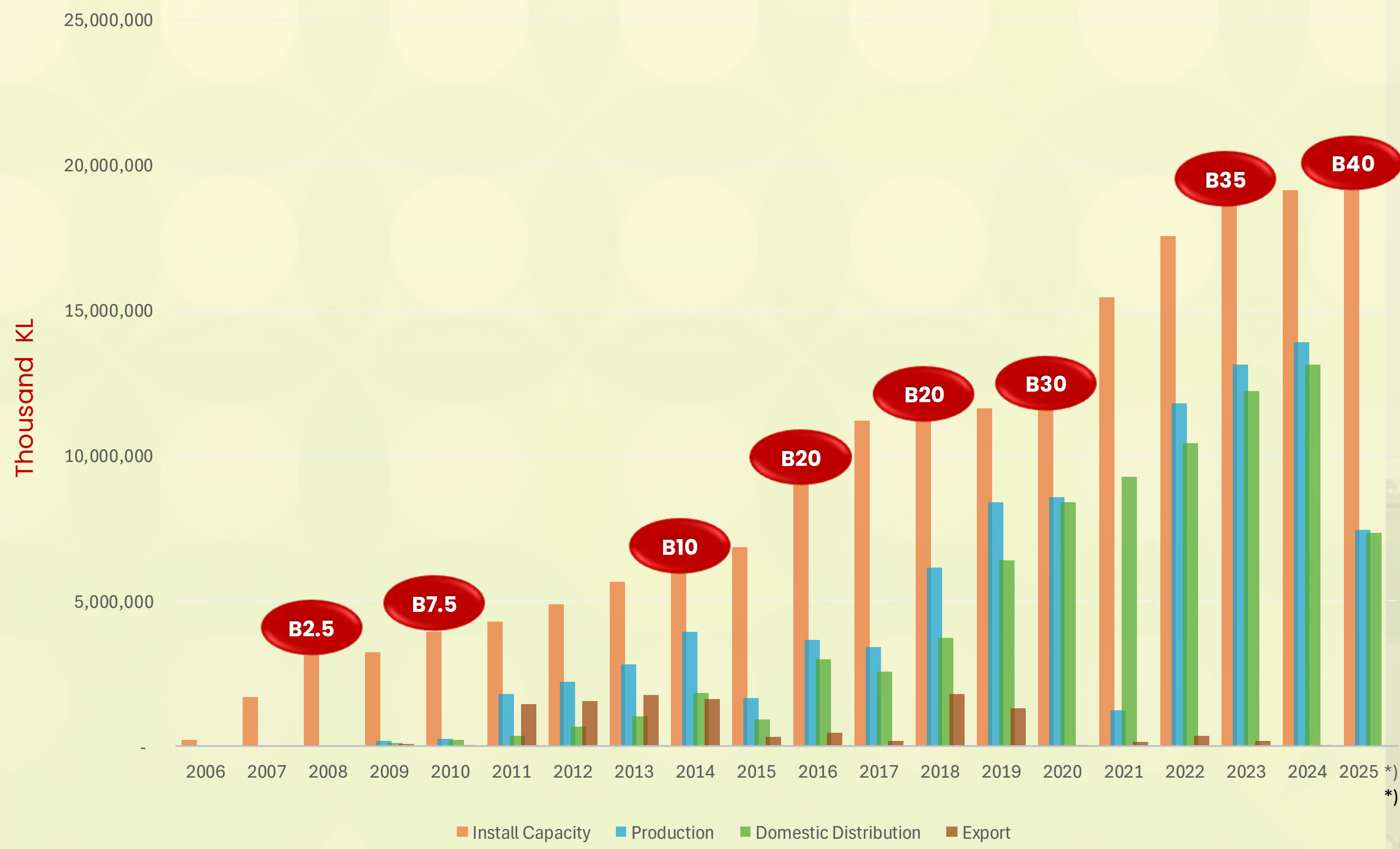
## NORTH SULAWESI

- 26 PT Multi Nabati Sulawesi 475,862 KL

(Mil KL)	2020	2021	2022	2023	2024	2025
Consumption/Projection	8.4	9.3	10.45	12.29	13.1	13.5
Installed Capacity (Active)	11.62	15.46	17.56	18.68	19.15	19.15

Source : EBTKE

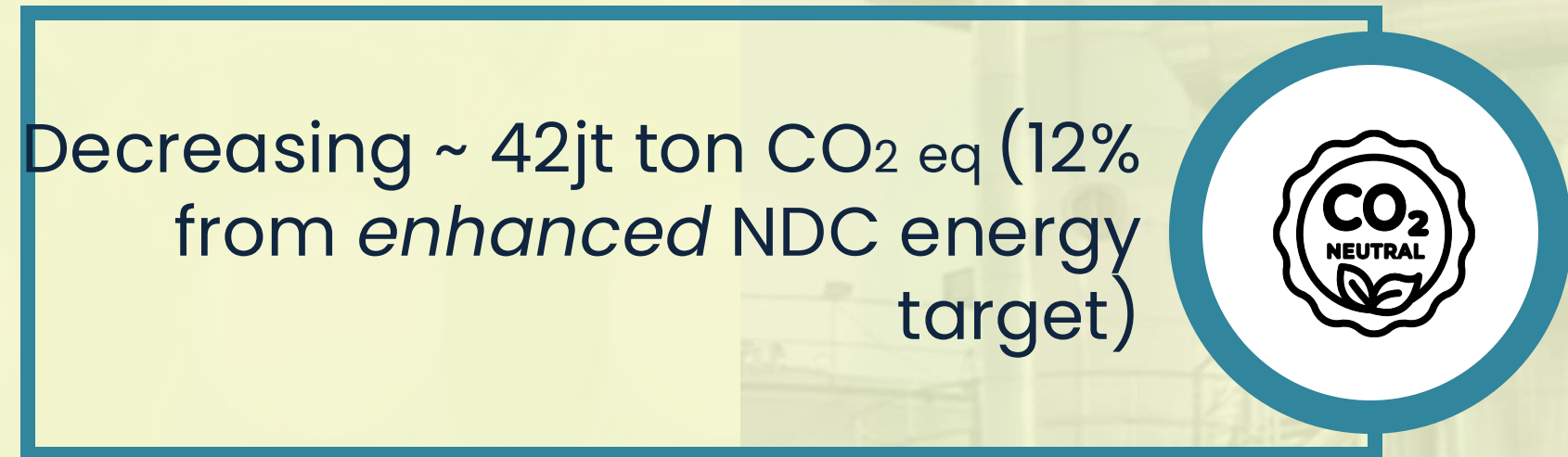
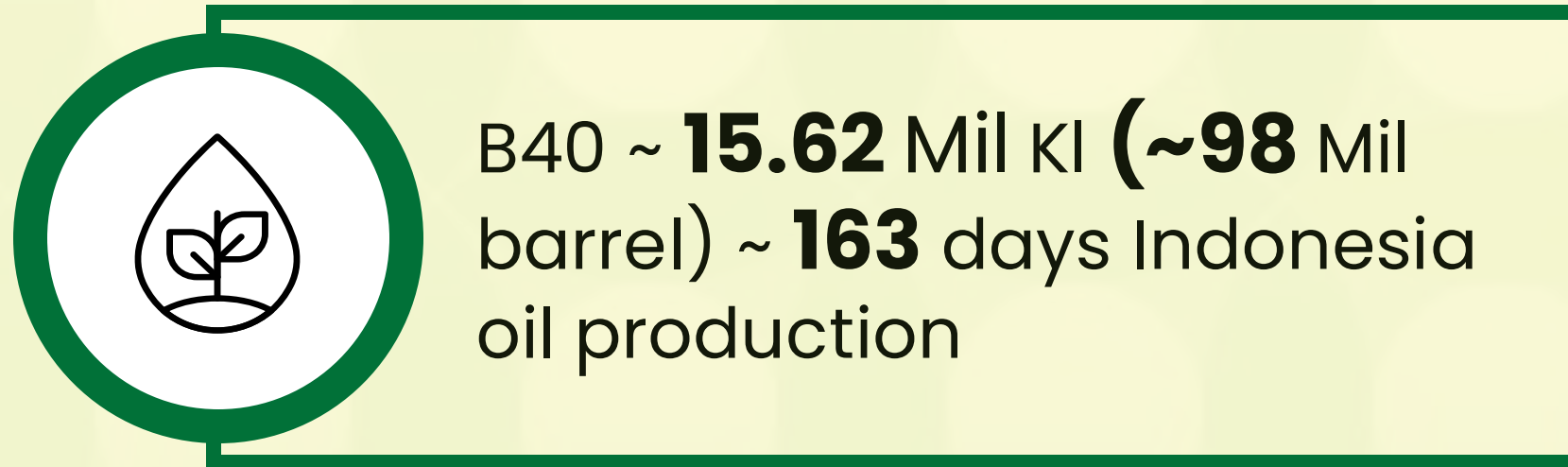
# Production and Consumption



Since 2005, the installed capacity has been continuously increasing and is projected to reach around 20 million kiloliters in 2025, while the consumption is targeted to be 15.6 million kiloliters



# B40 Program, 2025 (Projection)



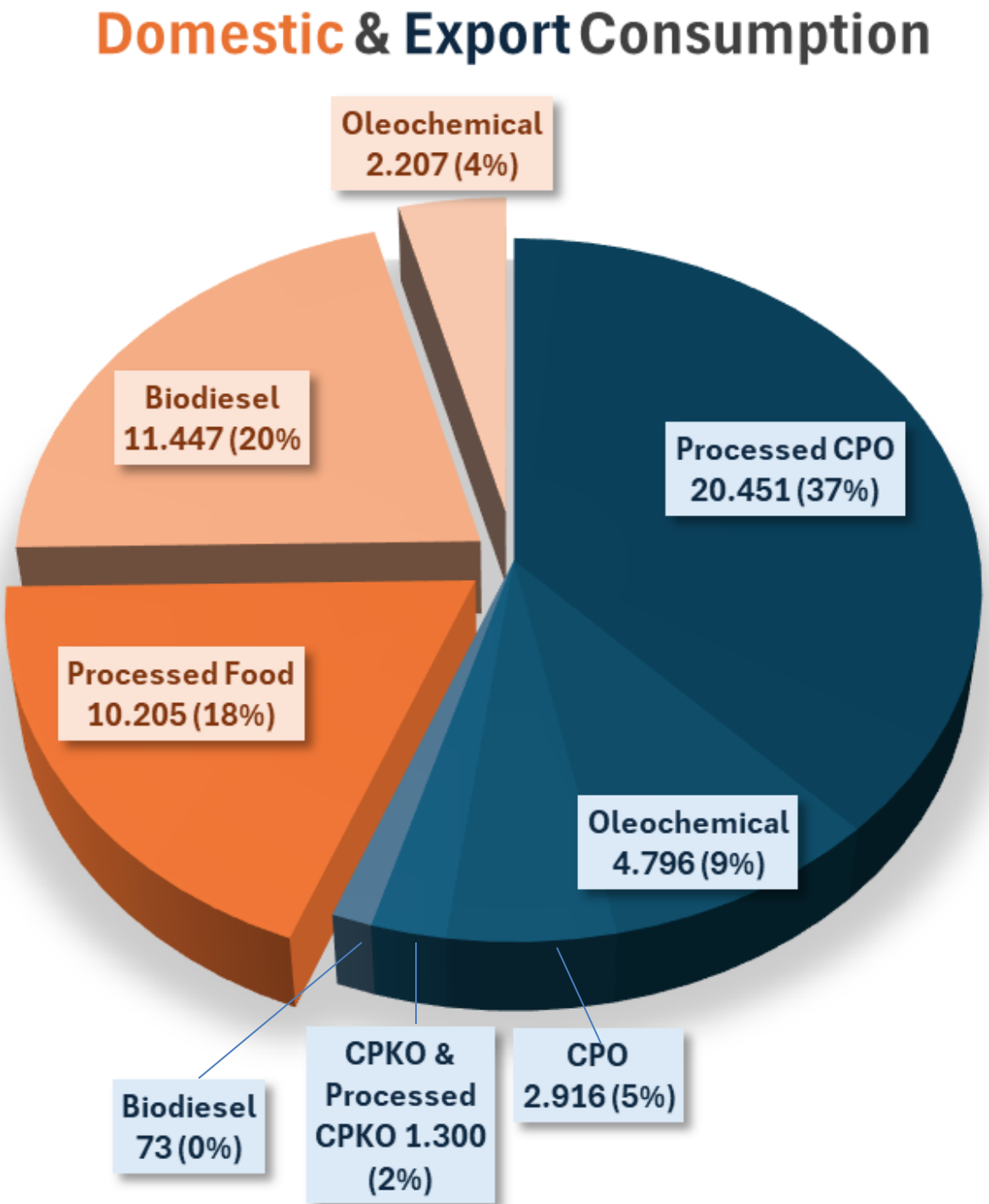
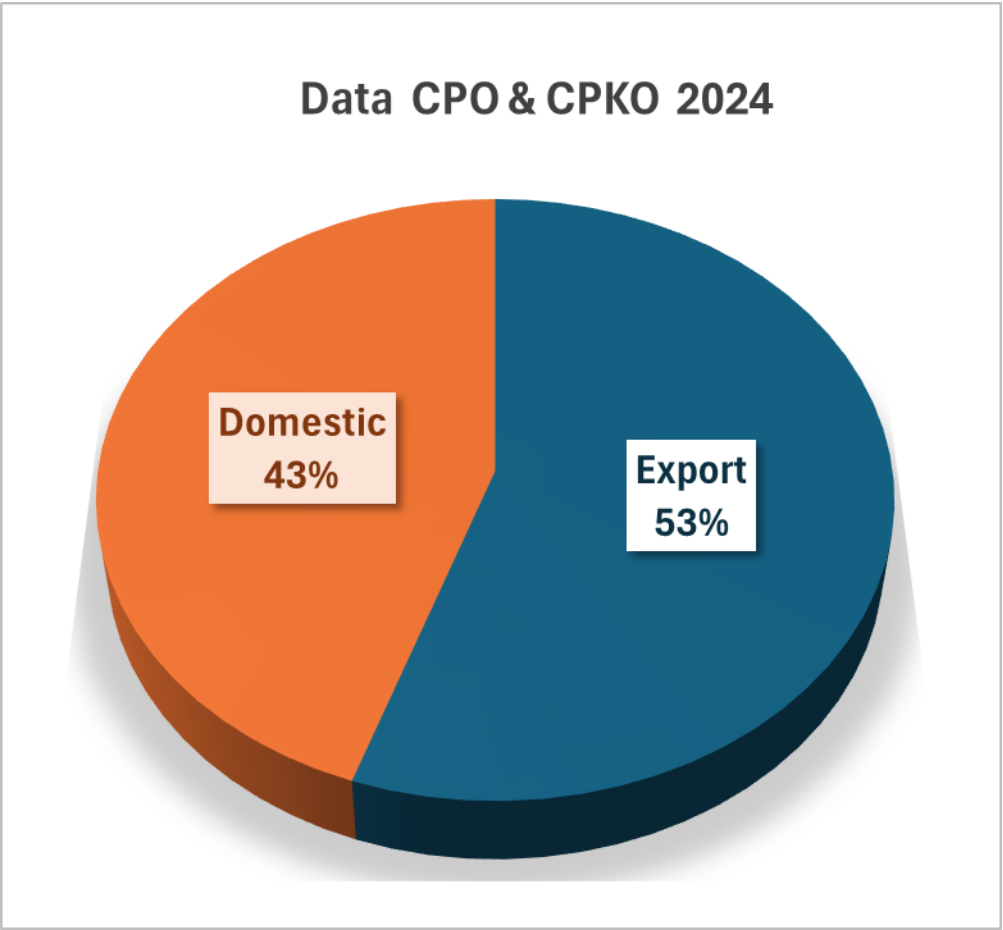


# 2024 Palm Oil Production & Distribution Map

	(in 1000 Ton)		(in1000 Ton)	%
Production CPO & CPKO 2024	52.762	Total Domestic Consumption	23.859	43%
Stock 2023	3.146	Total Export	29.535	53%
<b>Total Production + Stock</b>	<b>55.908</b>			



Food vs Energy?



Source, APROBI, GAPKI, GIMNI, APOLIN 2024

# Considering to Environment



Indonesia has implemented the moratorium on deforestation for any use since 12 (2011) years ago, and moratorium for new Palm plantation since 2018.

Also, it has been formed Peat & Mangrove Restoration Board in 2016

Palm Oil Sustainability Standard RSPO (Roundtable on Sustainable Palm Oil) standard. 51% from Indonesia Plantation, 2,1 million Ha Certified

ISCC (International Sustainability & Carbon Certification), lot of Indonesian Companies certified.

ISPO (Indonesia Sustainable Palm Oil) standard. More than 800 Indonesia plantations, 3.65 million Ha already certified ~22 Million Ton CPO. Soon we have the ISPO Down Stream (ISPO Bioenergy)

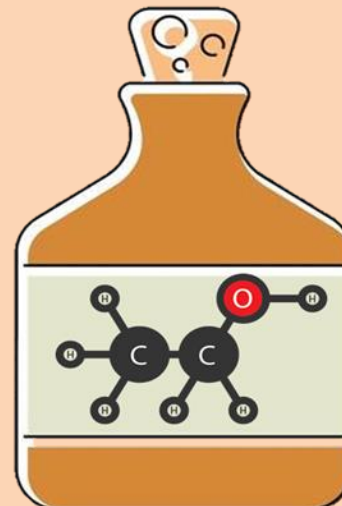
Continue to develop the Biofuel environment friendly processing technology



# Bioenergy in Indonesia



**Biodiesel**  
**B-40**



**Bioetanol E5**  
**Pertamax Green95**



**Bioavtur**  
**J2,4** in commercial  
flights



**HVO**  
**Diesel Biohidrokarbon**  
*Road test* **B40D10**, export

# Challenges & Trade Barriers



Feed stock (CPO)



**Quality.** Producers are required to maintain or even improve the quality of their biodiesel, especially with the plan to increase the biodiesel blend



**Handling and storage.** Learning from past experiences, producers are continuously striving to improve the quality of biodiesel handling and storage. Cooperation with all parties is necessary.



**Logistics and Infrastructure Readiness**, both at the point of delivery and supply point



**Price.** Striving to narrow the price difference between Diesel and Biodiesel.



**B50 Testing.** Producers continue to support Performance ce and Road Testing efforts for Biodiesel.



**Facing trade barriers** such as EU CVD Biodiesel Subsidy, EU RED2 & Delegation Regulation, as well as EU Deforestation Free Product.



# Success Factors Biodiesel In Indonesia

## Government

- Initiator of Program
- Monitoring and Evaluation
- Continuous Improvement and Support
- Coordinating with all stakeholders

## Industries

- Producers
- Blenders
- End Users Industries (Automotives, Heavy Machineries, etc.)
- All contributing to support implementation of Bio mandate, ensuring supply of biodiesel



## Research Institute

- LEMIGAS, BRIN, Balitbang ESDM, BSN, ITB and other Institutions, being the leading expert in biodiesel technology
- Ensuring adequate and thorough tests are being done before implementation of program.
- Continuous research of biodiesel development

## BPDP, Fund Management Agency

- Food Security, Downstream, and Biodiesel Supply
- Smallholders Farm Replanting Program
- Facilities, Infrastructures, and Farmers Empowerment
- R&D, and Human Resources Development
- Promotion and Advocacy

# Conclutions



Biofuels industry in Indonesia continues to strive to overcome technical challenges in applying sustainable principles towards the goal of achieving net-zero emissions, as well as addressing barriers in international trade.



Collaboration with all stakeholders, both domestically and internationally, is crucial and one of our main efforts



Last but not least, the main priority is to ensure the well-being of upstream farmers contributing to the production of biofuel feedstock.







# THANK YOU!



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