

International Webinar **on Palm Oil-based Biofuels Policy** **and Socio-Environmental Impacts** **in Asia**

September 13, 2021,

16:00 - 18:15 KST

* **Welcome**

You are cordially invited to the International Webinar on Palm Oil-based Biofuels Policy and Socio-Environmental Impacts in Asia, scheduled for September 13, 2021, 16:00 - 18:15 KST.

In this Webinar, civil society representatives from South Korea, Indonesia, Japan and the European Union will share their insights into the state of palm oil-based biofuels sourcing, production and consumption policy. Speakers will further the discussion on biofuels in the following three sub-themes: 1) biofuels supply chain impacts and investment risks in Asia, 2) recent policy trend and suggestion and 3) lessons from local and advocacy experiences.

Home to the world's largest palm oil industries, Asia suffers some of the most devastating impact of unsustainable biofuels. Such challenges require immediate policy changes to safeguard our climate, environment and society while Asian countries promote renewable energy in their jurisdictions. Through this Webinar, we aim to exchange knowledge and experience, as well as coordinate efforts to address adverse impacts of current biofuels policy.

We encourage those who are interested and/or working in energy, sustainability, human rights, conservation and environmental justice to join this Webinar. This virtual event would also be an informative opportunity for investment and public fund analysts.

This Webinar is co-organized by three South Korean non-profit organizations, Solutions for Our Climate (SFOC), Korea Federation for Environmental Movement (KFEM) and Advocates for Public Interest Law (APIL).

Outline

* **Date and Time:**

Monday, September 13, 2021,
16:00 – 18:15 KST

* **Venue**

Online (Zoom)

* **Language**

English
(with simultaneous interpretation
in Korean and Japanese)

* **Organizers**

Solutions for Our Climate (SFOC),
Korea Federation for Environmental Movement
(KFEM)

Advocates for Public Interest Law (APIL)

Agenda

16:00–16:10 Welcoming and Introduction

Soojin Kim, Solutions for Our Climate (SFOC)

16:10–17:40 Presentations

1) Overview of S. Korea's biofuels policy and key findings of "No Good Oil to Burn: State of Biofuels Policy in S. Korea"

Shin Young Chung, Advocates for Public Interest Law (APIL)

2) Legal and policy trends of palm oil-based biofuels in the EU

Laura Buffet, Energy Director, Transport & Environment (T&E)

3) Japanese biofuels policy trend and supply chain risks

Sayoko Inuma, Global Environmental Forum (GEF)

4) Understanding Indonesia's domestic biofuel production, consumption, and trade policy

Ricky Amukti, Engagement Manager, Traction Energy Asia (TEA)

5) Biofuel supply chain risks in Indonesia-sharing local community perspectives

Dimas N. Hartono, Director, WALHI Central Kalimantan

Q&A and Discussion

17:40–18:10

Moderator: Hye Lyn Kim, International Solidarity Coordinator,

Korea Federation for Environmental Movements (KFEM)

18:10–18:15 Concluding Remarks

Welcoming and Introduction



Soojin Kim

Solutions for Our Climate (SFOC)
soojin.kim@forourclimate.org

Soojin Kim is a Senior Researcher at SFOC. She is a climate change professional with expertise in forestry, agriculture, and natural resources management sector, as well as energy and carbon markets. Soojin brings more than 10 years of relevant experience from her previous work at LG Electronics, United Nations Food and Agriculture Organizations (FAO), Environmental Defense Fund (EDF), and Asian Forest Cooperation Organization. She holds bachelor's degree in Forestry and Anthropology from Seoul National University (SNU) and master's degree in Environmental Management from Yale University.

Presentation I

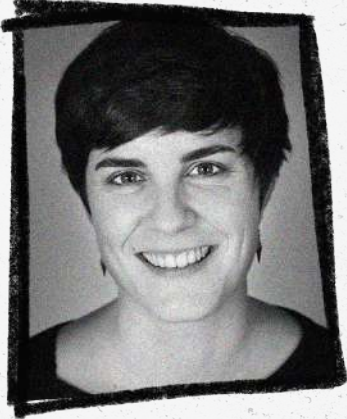


Shin Young Chung

Advocates for Public Interest Law (APIL)
sychung@apil.or.kr

Shin Young Chung has been a full-time attorney at Advocates for Public Interest Law (APIL) since 2012. At APIL, she has supported victims of human trafficking and human rights violations by Korean companies. She has also actively engaged in research and advocacy through domestic and international human rights mechanisms. She received her law degree (J.D. equivalent) from Handong International Law School in Korea.

Presentation II



Laura Buffet

Energy Director, Transport & Environment (T&E)
laura@transportenvironment.org

Laura joined T&E in April 2013 after two years working as a parliamentary assistant in the European Parliament. Laura directs the energy campaigns of T&E and focuses on making European fuels policy more sustainable, moving away from oil towards better advanced alternatives, especially renewable electricity, and phasing out the support to land-based biofuels. She has worked extensively on campaigns around the Renewable Energy Directive and the Fuel Quality Directive, as well as the EU delegated act that labelled palm oil diesel unsustainable.

During her time in the parliament, Laura worked on different files being discussed by the environment committee, with a focus on biodiversity issues, and followed closely the work of the petitions committee. From the east of France, she studied public administration at the Institute of Political Studies in Strasbourg, followed by environmental law at the University of Strasbourg. She speaks English and German as well as her native French.

Presentation III



Sayoko Inuma

Global Environmental Forum (GEF)
iinuma@gef.or.jp

Sayoko has an agricultural master's in forest sciences and worked as an environmental consultant, engaging in environmental assessment (vegetation). She spent six years based in Chiang Mai, Thailand, working on development issues caused by Japanese ODA, and resource management projects for small-scale fishermen in the Mekong region. Since 2008, Sayoko has been involved in the responsible procurement of Japanese wood and palm oil at the Global Environmental Forum. She has been advocating for the enactment of laws against illegal logging, and sustainable guideline on biomass power generation. She lives with her husband, teenage daughter and a dog. She likes to spend time walking with her dog.

Presentation IV



Ricky Amukti

Engagement Manager, Traction Energy Asia (TEA)
ricky.amukti@tractionenergy.asia

Ricky Amukti, graduated from the Faculty of Law, Brawijaya University, has an avid interest in public policy. He compiled a research journal on the Online Petition Law Arrangement as a Form of Community Participation in Public Policy Making in Indonesia. Ricky is also one of the founders of AJARIKITA, an education NGO focusing on the welfare of honorary teachers.

Presentation V



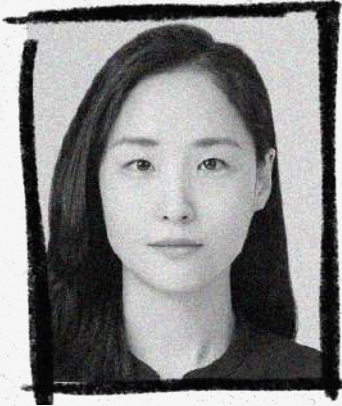
Dimas N. Hartono

Director, WALHI Central Kalimantan
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Dimas N. Hartono is the executive director of WALHI Central Kalimantan for the 2017-2021 period. Prior to becoming Director of WALHI Central Kalimantan, Dimas was active in several NGOs, namely Pokker SHK, Betang Borneo Foundation, and AURIGA Nusantara. Dimas is also a member of the Participatory Mapping Network (JKPP).

While working at the NGO, Dimas was involved in several advocacy related to the recognition of indigenous peoples' territories and carried out participatory mapping in strengthening community rights to forests, assisting community criminalization cases related to land conflicts between oil palm plantation companies and communities, conducting campaigns related to the destruction of Central Kalimantan's forests and involved in the preparation of local regulations, especially related to the resolution of land conflicts.

Q&A and Discussion



Moderator: Hye Lyn Kim

**International Solidarity Coordinator,
Korea Federation for Environmental Movements
(KFEM)
naserian@kfem.or.kr**

Hye Lyn Kim is an international solidarity activist working for Friends of the Earth Korea/Korea Federation for Environmental Movements since 2015. She has been conducting policy campaigns against the government, companies, and market stakeholders to deal with environmental destruction and human rights violations by Korean companies overseas. She has also been highlighting the accountability of transnational corporations for environmental crimes as a steering group member of the Economic Justice Program, Friend of the Earth Asia Pacific. She majored in international politics and is currently studying for a master's degree in urban environmental policy.

Presentation I

Overview of S. Korea's biofuels policy and key findings of “No Good Oil to Burn: State of Biofuels Policy in S. Korea”

Shin Young Chung

Advocates for Public Interest Law (APIL)



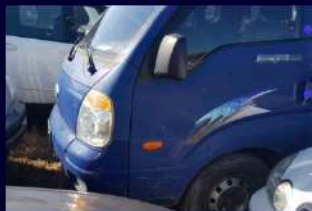
International Webinar on Palm Oil-based Biofuels Policy and Socio-Environmental Impacts in Asia

No Good Oil to Burn: Biofuel Policy in South Korea

SHIN YOUNG CHUNG (ADVOCATES FOR PUBLIC INTEREST LAW)

Biofuel in Korea

BIODIESEL

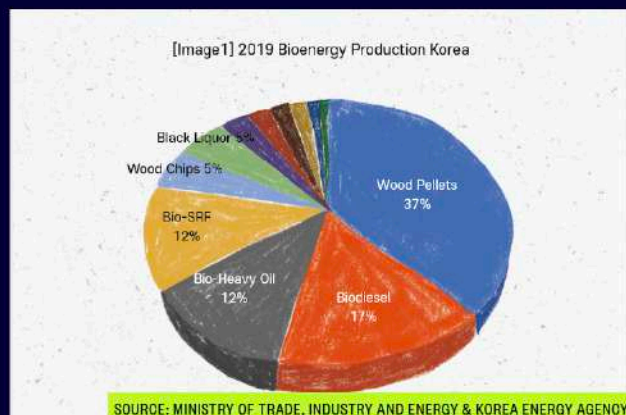


Mainly used for transportation fuel
Main feedstocks: palm oil/ palm oil by-products, waste cooking oil (WCO)

BIO-HEAVY OIL



Mainly used for power generation fuel
Main feedstocks: palm oil by-products, pitch left over from the biodiesel production process



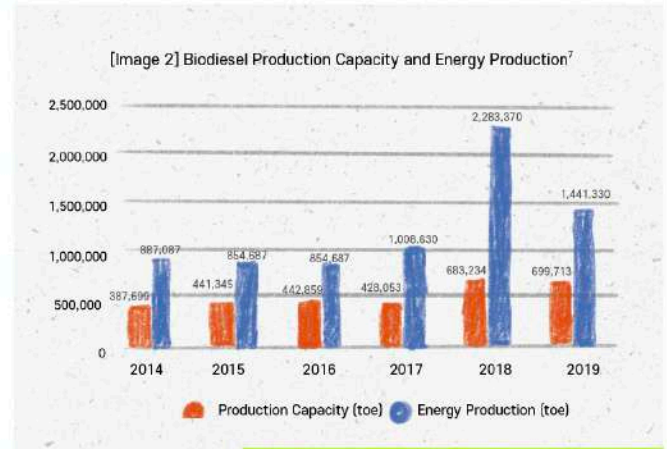
INCREASED USE OF BIOFUEL

- Bioenergy accounted for 27% of Korea's total domestic renewable energy production.
- Palm oil-based biofuels accounted for about 29% of total bioenergy production.

Increased use of biodiesel

Mandatory blending of biodiesel upon transportation fuel providers

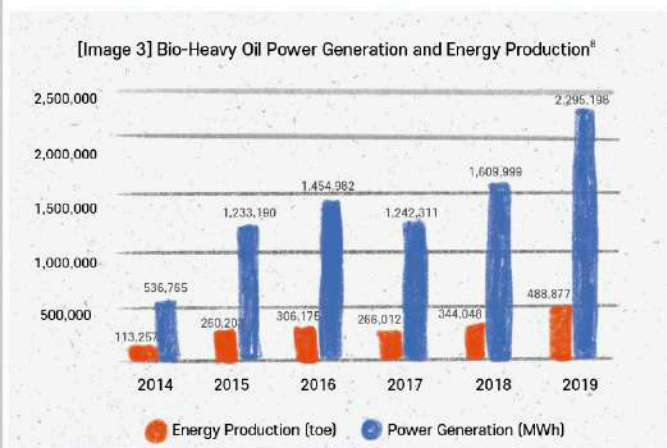
- Sharp increase since the adoption of renewable fuel standards (RFS) system (2015)
 - The mandatory blending ratio of biodiesel in automotive diesel: 2.5% (2017) -> 3.0% (2020) -> 3.5% (2021)
 - Mixing ratio will be increased 0.5% every year until reaching 5% by 2030 <Enforcement Decree of the New/ Renewable Energy Act>
- Produced in Korea by importing feedstocks
- Export increasing to EU and US: 236.7 million USD, 86% increase compared to the previous year (2020).



SOURCE: KNOWLEDGE PORTAL NEW/RENEWABLE ENERGY KOREA

Increased use of bio-heavy oil

Renewable energy production obligations upon energy producers



SOURCE: KNOWLEDGE PORTAL NEW/RENEWABLE ENERGY KOREA

- Sharp increase since bio-heavy oil to fulfill renewable energy production obligations
- Utilities can burn bio-heavy oil, alongside other fuels, in existing oil-fired power units, instead of investing in new solar or wind generation
- Tradable Renewable Energy Certificates (REC) issued for using the bio-heavy oil since September 2019 (1.0)

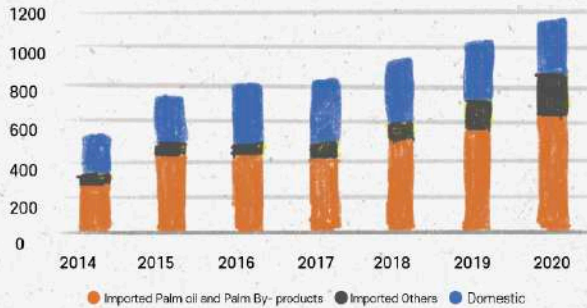
Increased import of palm oil/ palm oil by-products

Decreased role of domestic WCO

[Table 7] Biofuel Feedstocks Current Status of Supply and Demand

		(Unit : 1,000 ton)						
Total		2014	2015	2016	2017	2018	2019	2020
Imported	Imported Palm oil and Palm By-products	317.7	463.2	477.3	493.7	614.3	755	879.8
	Imported Others	43.3	52.3	66.1	105.4	98.2	186.1	235.8
Domestic		251.2	277.23	319.3	338	328.3	308.8	290.9

[Figure 4] Biofuel Feedstocks Current Status of Supply and Demand



SOURCE: THE KOREA BIOENERGY ASSOCIATION

- The most used feedstocks for biofuel production are palm oil and palm oil by-products; palm oil, palm oil by-products, and Refined Bleached Deodorized Palm Oil (RBDPO) imported to produce biofuel more than doubled
- The proportion of palm oil and palm oil by-products as a percentage of total biofuel feedstocks increased from 48.2% to 55%
- The proportion of WCO in biodiesel is gradually decreasing; imported WCO (mainly from China) increased significantly as the available WCO in Korea reached to the max value.

Problems of the increased use of biofuel

Increased risk of supply chain of palm oil

- No system to monitor the supply chain of biofuel producers, it is difficult to ensure the absence of the risk in the supply chains highly dependent on the imported palm oil and palm oil by-products.
- Korean producers/importers of palm oil failed to mitigate the the risk in the supply chain without the adoption of the voluntary commitments.
- The government has provided USD 62,881 in loans to Korean companies operating oil palm plantations in Indonesia to support the development of the feedstocks of the bioenergy.

[Table 13] NDPE Adoption by Company and Future Plans (As of 2021.04)

Company		Plan to NDPE Policy	Note
LG International	Palm Oil Producer and Importer	Yes	LG International responded that the company is currently unable to adopt an NDPE, as it is in the early stage of acquiring Roundtable on Sustainable Palm Oil (RSPO) certification. ⁹⁴ After acquiring RSPO certification, they tentatively plan to adopt an NDPE policy. It is expected after 2023.
Samsung C&T	Palm Oil Producer and Importer	Yes	Adopted NDPE in 2019. First in Korea. ¹⁶
Daesang Corporation	Palm Oil Producer and Importer	No	No response.
JC Chemical	Palm Oil Producer and Importer	No	No response.
Aekyung Petrochemical	Palm Oil Importer	Yes	The company replied that they would increase the proportion of transactions with suppliers who have adopted NDPE policies as soon as possible, and play a positive role concerning NDPE policies as a palm oil purchasing company.
GS Global	Palm Oil Importer	Yes	Replied that they are looking for ways to deal with companies adopting NDPE policies when new contracts are signed and are planning their review of NDPE policy adoption.
Dansuk Industrial	Palm Oil Importer	No	No response.
Hahn & Co. (SK Eco Prime)	Palm Oil Importer	No	No response.

SOURCE: SURVEY BY KOREA FEDERATION FOR ENVIRONMENT MOVEMENT

Next Steps

Urge the Korean government:

to establish eligibility standards that take into account environmental and social impacts; esp. the use of agrofuels should be restricted and phased out

to adopt the supply chain due diligence act

Urge the companies:

to establish and implement environmental and social policies that apply to the entire supply chain

Problems of the increased use of biofuel

Hindering the supply of other renewables

- Jeju island case - the island is heavily dependent on the fossil power generation and the fossil fuels have been replaced to bio-heavy oil instead of developing renewable energy.
- Wind generation was curtailed due to the excessive power generation using bio-heavy oil.



Presentation II

Legal and policy trends of palm oil-based biofuels and strategies to manage supply chain risks in the EU

Laura Buffet,
Energy Director,
Transport & Environment (T&E)



Palm oil based biofuels in the EU

Laura Buffet, Energy Director

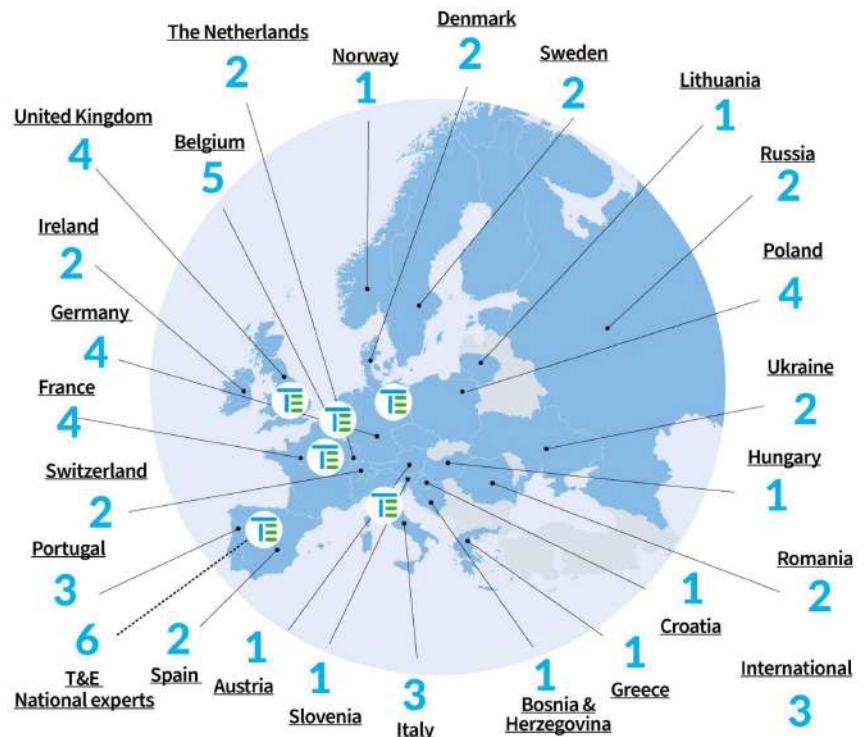


T&E:

26 Countries

63 Members

6 National experts



Our focus



Investment



Regulation

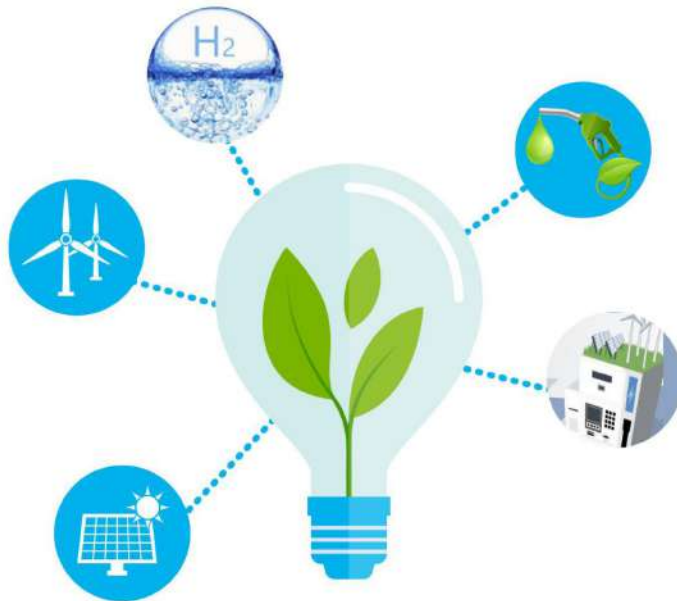


Pricing



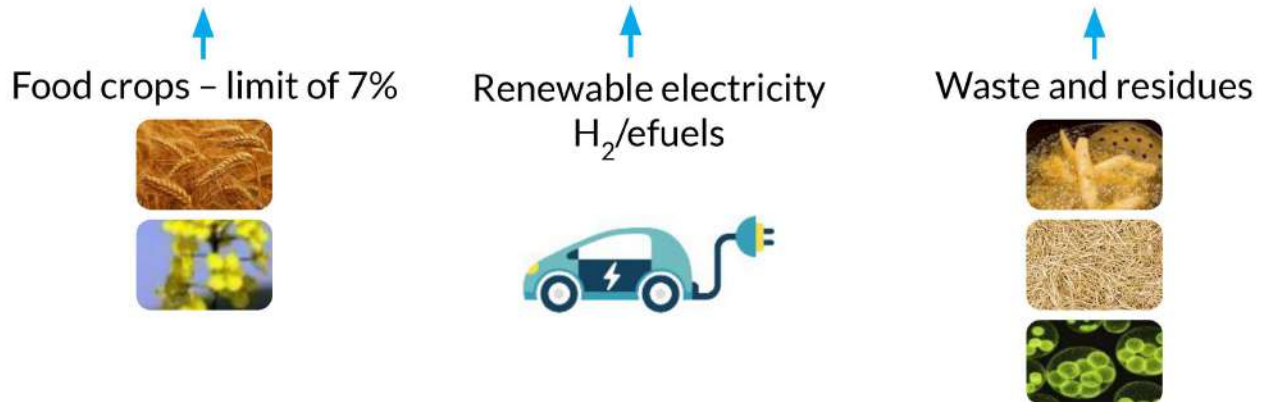
Corporate change

WHICH ALTERNATIVES?



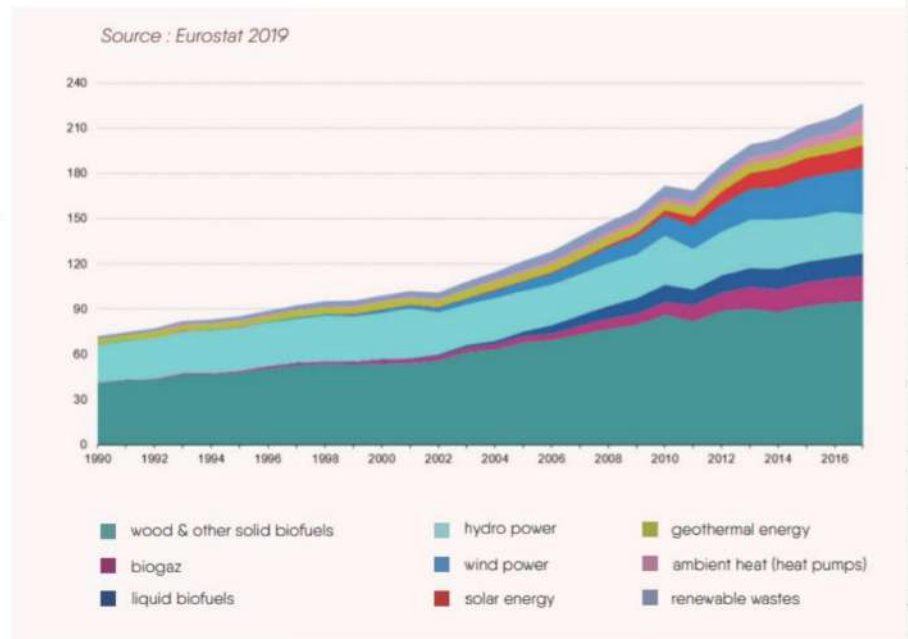
Fuels policies to 2020

Renewable Energy Directive - 20% overall renewables 10% renewables in transport

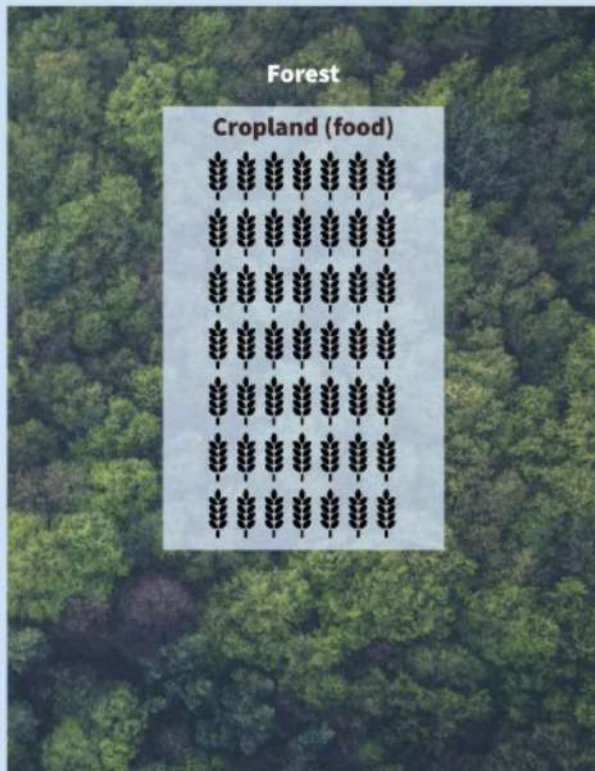


EU bioenergy - State of play

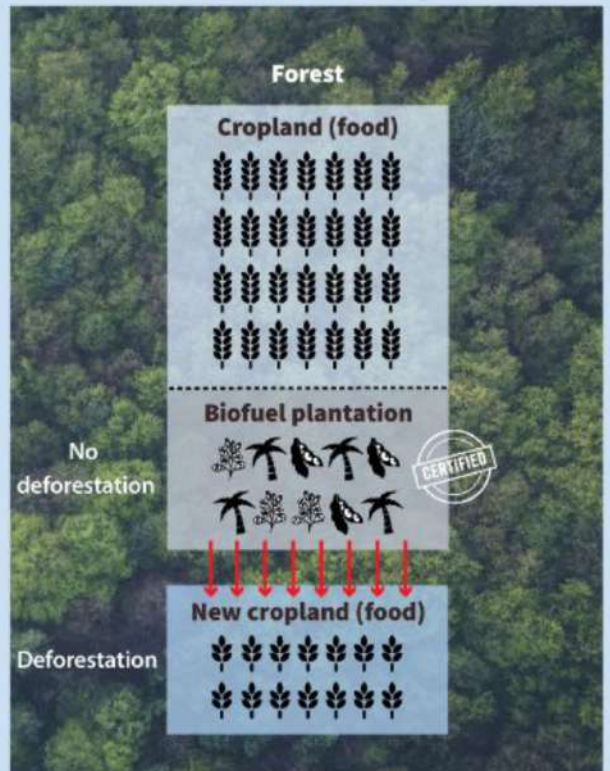
- Bioenergy makes around 60% of total renewable energy in Europe.
- Between 2000 and 2013, the use of bioenergy increased by 87 %.
- The share of renewable energy in transport reaches now around 9%, with around 5% crop biofuels.



Without biofuels

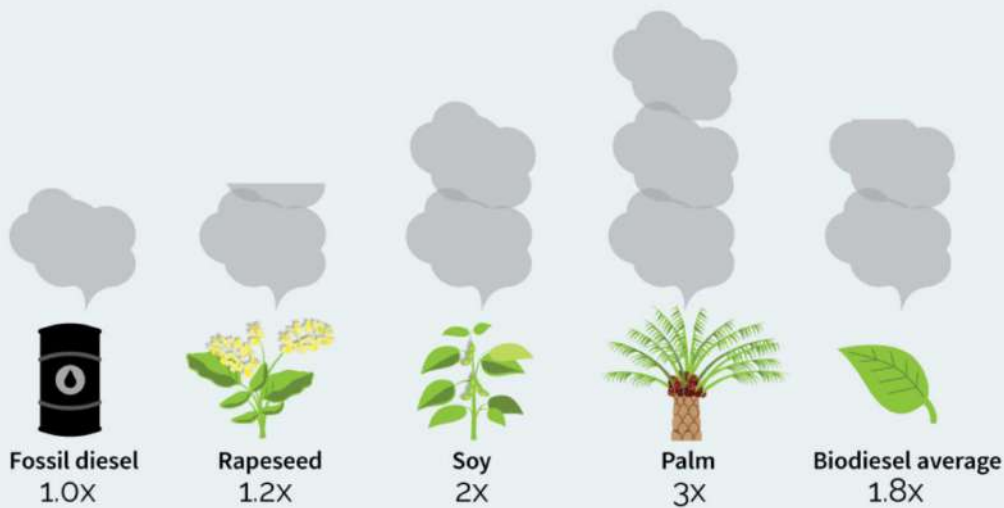


With biofuels

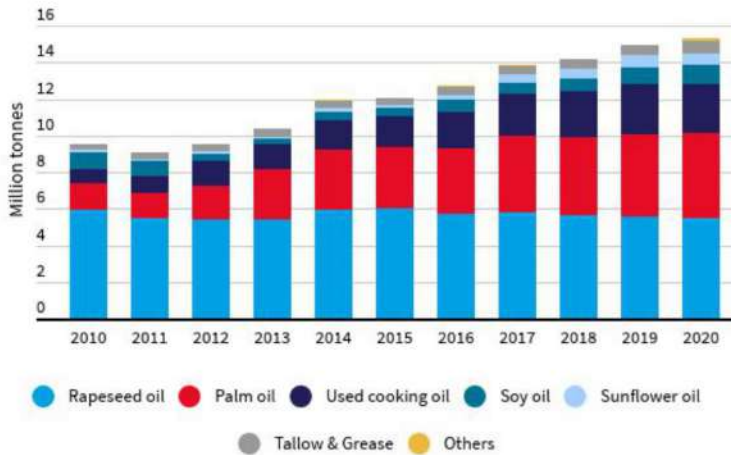


Biodiesel: cure worse than the disease

Fossil diesel emissions vs first-generation biodiesels



Feedstocks in biodiesel production in Europe in 2020



Data represents EU-27

Source: OILWORLD, 2021

- No real transparency on biofuels use. T&E first to release data about vegetable oil in biofuels in 2016.
- The share of palm oil imports used for biodiesel production reached an all-time high in 2020, with 58%.
- EU drivers usually do not know they could be driving on palm oil.
- Latest report [here](#).

EU action 'high ILUC risk' biofuels

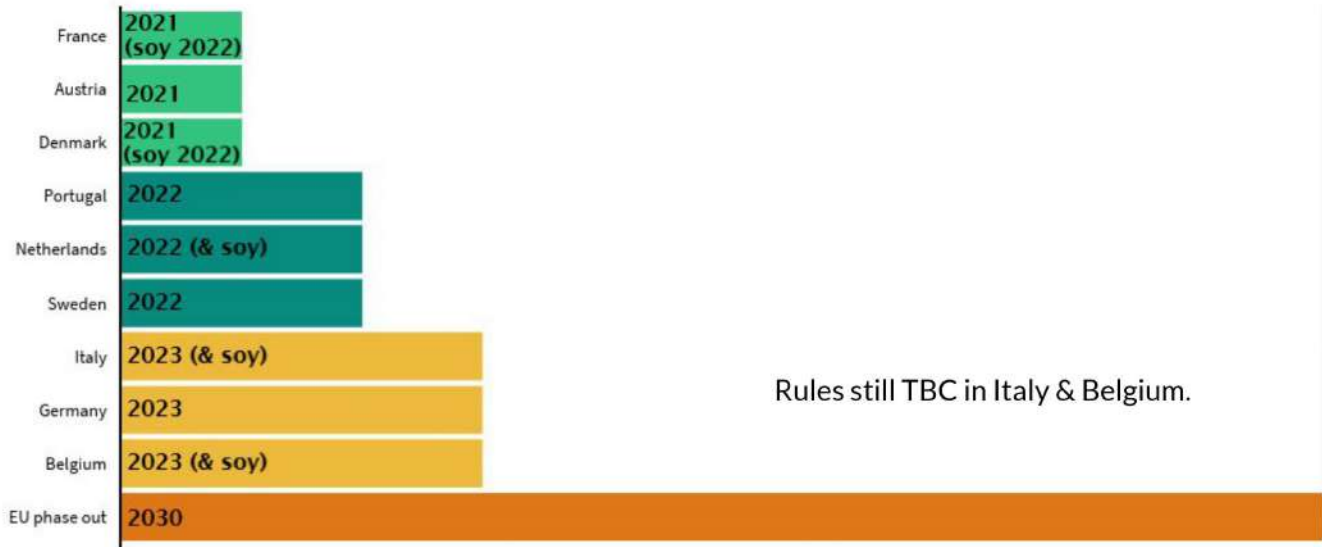
Renewable Energy Directive (2018)

- 'High ILUC risk' biofuels will be phased out progressively of EU targets by 2030 - **not a ban**.
- Definition: 'significant expansion (...) into land with high carbon stock'
- A delegated regulation specifies which biofuels fall in that category.
- EU countries can adopt more ambitious measures.

Delegated regulation on 'high ILUC risk' biofuels and dedicated report (2019)

- 'Significant expansion' - 10% or more of the expansion happened on high-carbon stock.
- Report associates 45% of palm oil expansion on high carbon stocks.
- Only 8% associated with soy.
- Exceptions to the phase-out.

Plans for palm and soy phase-outs in Europe

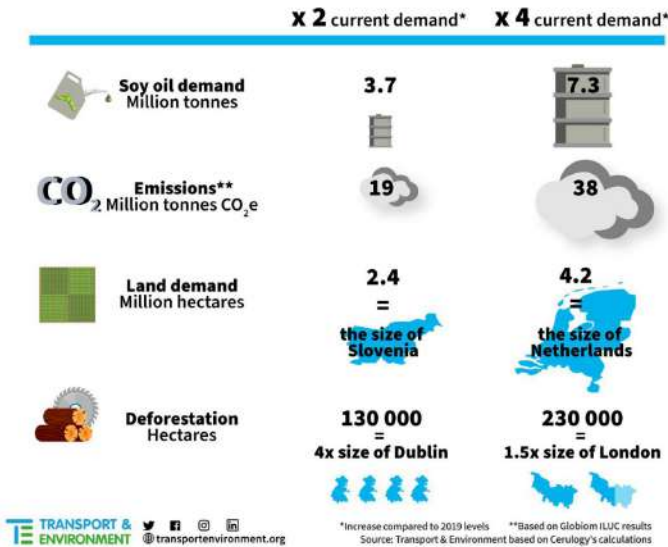


WTO cases

- [One case initiated by Indonesia](#) against the EU in December 2019:
 - WTO panel established in July 2020 and composed on November 2020
 - Final report not expected before 2nd quarter of 2022.
- [One case initiated by Malaysia](#) in January 2021, against the EU, France and Lithuania:
 - Panel is composed
- Several third parties, including the Republic of Korea.

T&E commissioned & published a legal analysis on WTO compliance, available [here](#).

Growing EU demand for soy diesel will increase emissions and drive greater deforestation by 2030



Is soy the new palm oil?

- New review of data suggests soy should be labelled as 'high risk' as well - latest data suggests that soy expansion may be reaching up to about 10.5% - [study by Ceruly](#).
- Without action, soy biodiesel demand in EU could quadruple, leading to increased GHG emissions and land demand.
- The EU should also phase-out soy based biofuels, just like palm based biofuels.

New EU climate package

- May 2021 - Agreement on an objective of a climate-neutral EU by 2050, and a collective, net greenhouse gas emissions reduction target of at least 55% by 2030 compared to 1990.
- July 2021 - The Commission proposed a new package of measures to make the EU's climate, energy, land use, transport and taxation policies 'fit for 55'. More info [here](#).
- The package includes a review of the Renewable Energy Directive, including rules on biofuels. It also proposes new laws for increasing alternative fuels in aviation and shipping.
- Discussions and negotiations in the coming year and more.





T&E recommendations

- Palm and soy based biofuels should be phased out immediately, not in 2030.
- All crop biofuels should be phased out by 2030.
- Aviation & shipping should not become new drivers of crop biofuels.
- Stronger support is needed for cleaner alternatives like renewable electricity and renewable hydrogen/efuels in aviation and shipping.



Contact :
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Presentation III

Japanese biofuels policy trend and supply chain risks

Sayoko Inuma,
Global Environmental Forum (GEF)



Japanese biofuels policy trend and supply chain risks

©Rainforest Action Network

Global Environmental Forum/Sayoko Iinuma
iinuma@gef.or.jp

PLANTATION WATCH



A coalition of NGOs working to improve and solve environmental and social problems brought about by plantations.

プランテーションのもたらす環境・社会問題の改善・解決に取り組む団体のネットワーク

The aim is to solve problems through the supply chain by asking companies for responsible procurement.

企業に責任ある調達を求め、サプライチェーンを通じた問題解決を目指す

Today's content

今日の内容

1. Efforts for Responsible Procurement of Palm Oil in Japan
日本でのパーム油の責任ある調達を求める取組み
2. FIT biomass power generation and palm oil
FITバイオマス発電とパーム油
3. FIT Palm Oil Power Generation Sustainability Standards
- Results and Challenges
FITパーム油発電の持続可能性基準-成果と課題

3

Efforts for Responsible Procurement of Palm Oil in Japan パーム油の責任ある調達に向けた取組み

Environmental problems of palm oil パーム油の環境問題

- Deforestation and Forest fires 森林減少・森林火災
= Massive greenhouse gas emissions 膨大な温室効果ガス排出
- habitat loss for wildlife 野生生物の生息地減少
= Effects on biodiversity hotspots 生物多様性への影響

Social problems of palm oil パーム油の社会問題

- Subverting the lives and cultures of local residents through large-scale development 大規模開発で地域住民の生活・文化を破壊
- Land conflicts 土地紛争
- Lead to corruption and fraud 汚職や不正の温床
- Human Rights issues of Plantation Workers (slave labor, child labor,) 人権問題

How to Solve the Environmental and Social Problems of Palm Oil ?

Efforts for Responsible Procurement of Palm Oil in Japan

- Palm oil consumption in Japan (2020)

: 834,000 tons (palm oil + palm kernel oil)

日本のパーム油消費量: 83.4万トン(パーム油+核油)

- What is Responsible Palm Oil Procurement:

Procurement of RSPO certified oil is insufficient.

Adoption and implementation of NDPE(No Deforestation, No Peat, No Exploitation) Policy are requested.

責任あるパーム油調達とは? : RSPO認証油の調達では不十分。

NDPE Policyの採用と実施が求められる。

- Plantation Watch activities:

Questionnaires, dialogue, ranking of companies' efforts, engagement from institutional investors, etc.

アンケート調査、ダイアログ、企業の取組みランキング、機関投資家からのエンゲージメントなど

5

FIT biomass power generation and palm oil

FIT Overview

- Feed-in Tariff Scheme for Renewable Energy (FIT)
- A system in which renewable energy power is supported by levies paid by users (from 2012)
- To be purchased by utilities at fixed prices above the market
- User's share = 10,476 yen/year/household (2021)
- Purchase period: 20 years
- Objectives: Reducing environmental impact, promoting industry, and revitalizing local communities

FITの概要

- 再生可能エネルギー固定価格買取制度 (FIT)
- 再生エ発電を**利用者が払う賦課金**で支える制度 (2012年～)
- 市場より高い固定価格で電力会社が発電事業者から買い取る
- 利用者負担=10,476円/年・世帯 (2021年)
- 買取期間: 20年間
- 目的: **環境負荷の低減と産業振興、地域活性化**
- 経産省FIT調達価格算定委員会、持続可能性ワーキンググループで議論

Rapid increase in certified biomass power generation (palm oil, PKS)

Rapid increase in certified biomass and METI's response

バイオマス認定量の急増と経産省の対応

•FIT Business Planning Guidelines (Biomass) 2017～

The fuel of FIT certified palm oil power plant is only IP and SG (non-certified oil cannot be mixed) of RSPO certification. Applicable to already certified power plants.

•The purchase price of palm oil power generation was changed from 24 yen to bid. No new palm oil power plants have been certified since 2018.

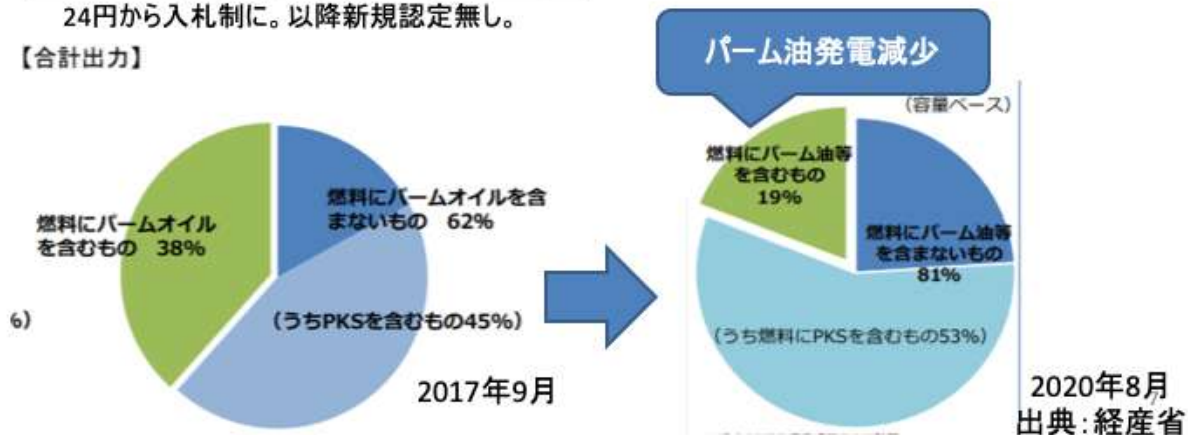
•事業計画策定ガイドライン(バイオマス)2017年～

FIT認定パーム油発電所の燃料はRSPO認証のIP,SG(非認証油の混入不可)のみ。既存の発電所にも適用。

•FITバイオマス発電の調達価格は入札に2018年～

24円から入札制に。以降新規認定無し。

【合計出力】



Current status of palm oil power plants

パーム油発電所の現状



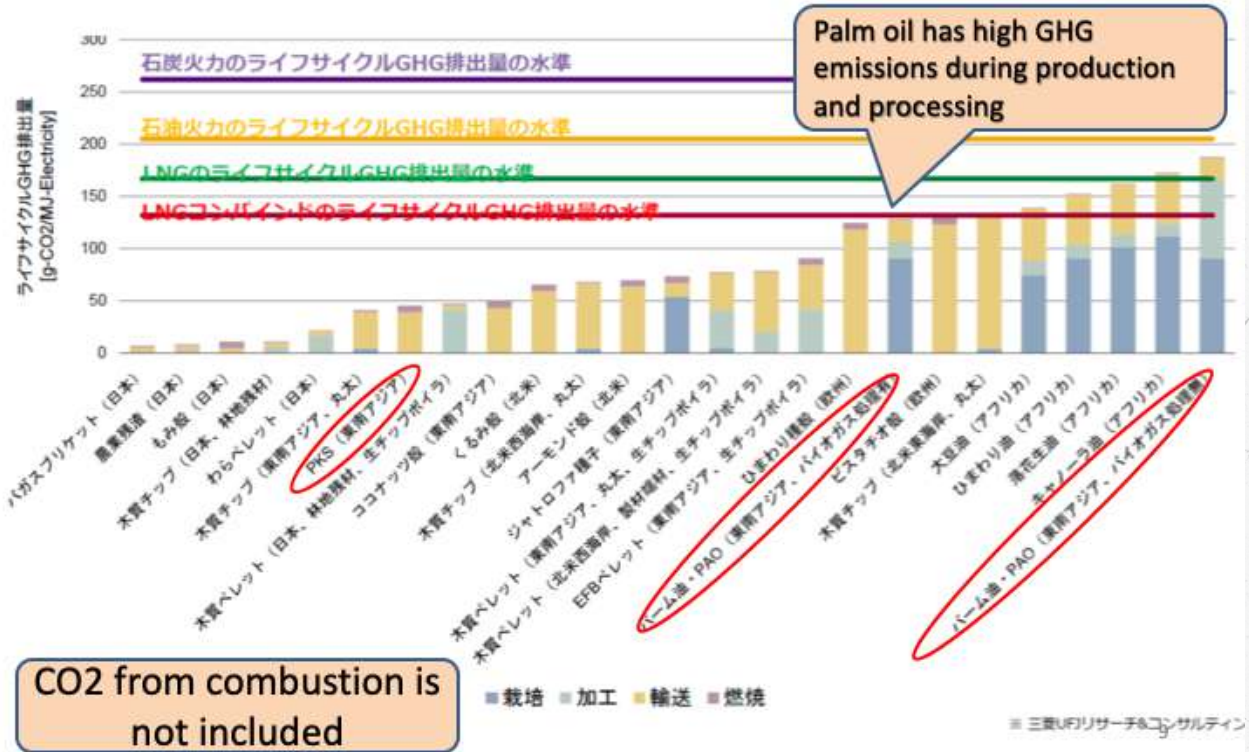
- In 2017, three palm oil power plants were in operation.
- 1 of them closed in 2020 due to pollution problems,
- 2 are currently out of business due to high prices of palm oil.
- HIS, which started operations in 2020, has also stopped operations.
- In 2019, investment in the construction plan in Kyoto was withdrawn due to a residents' movement.

2017年に稼働していたパーム油発電所は3社。うち1社は公害問題で廃業(2020年)、2社はコロナの影響等で燃料調達ができず現在停止中。

- 2020年に新規稼働したHIS社も直後より停止中。
- 2019年に発覚した京都府の建設計画は住民運動により投資撤退。

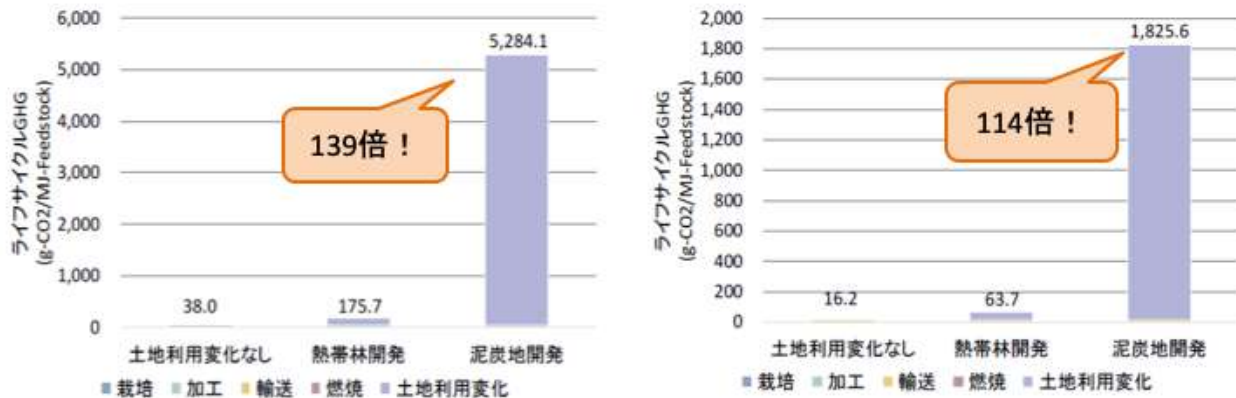
LCA-GHG calculations for biomass fuels

Source: METI FIT Biomass Sustainability WG 2019



GHG emissions from peatland development are 139 times greater!

図表 99 土地利用変化が生じた場合のライフサイクル GHG 排出量の比較
(左：パーム油、右：PKS、調達国：マレーシア、バイオガス処理有)



(出所) 複数文献に基づき三菱UFJリサーチ&コンサルティング作成

Palm Oil

PKS

Renewable energy with massive GHG emissions?

Palm oil = Carbon neutral
Environmentally friendly?

パーム油 =カーボンニュートラル
「環境にやさしい」?

Palm oil production produces more greenhouse gases than coal (with conversion of land use)

Palm oil emissions: 3.9 ~ 30 tons

> More than 2.4 tons of coal

(Results of Commissioned Investigation by RSPO)

パーム油生産に伴う温室効果ガス排出量は石炭以上(土地利用転換を伴う)
パーム油の排出量:3.9~30トン
>石炭の2.4トンを上回る
(RSPOによる委託調査結果)



神栖パワープラントHPより

11

Achievements and Challenges of FIT Sustainability Standards FITの持続可能性基準の成果と課題

FIT Business Plan Guidelines (revised annually since 2017)

As a method for confirming the sustainability of palm oil power plant fuel, IP (identity preserved) and SG (segregation) for RSPO certification were required = Non-certified oil cannot be mixed

- Since certified oil (IP, SG) is expensive, it becomes a hurdle of fuel utilization.
- However, there is no GHG emission standard for RSPO certification. Is it appropriate to certify the sustainability of renewable energy?

Biomass Sustainability WG (since 2019)

2019: Country certifications MSPO (Malaysia) and ISPO (Indonesia) rated not as comparable as RSPO.

Third party certification required for PKS (not exist)

2020: Revaluation of MSPO, ISPO.

2021: MSPO re-evaluation (under revision)

事業計画策定ガイドライン(2017年~毎年改定)

パーム油発電所の燃料の持続可能性確認方法として、RSPO認証のIP,SGを求めた=非認証油の混入不可

- 認証油(IP,SG)は高価で、燃料利用のハードルになる。
- しかしRSPO認証にはGHG排出基準が無い。再エネの持続可能性の認証として、適切か？

バイオマス持続可能性WG(2019年~)

2019年: 国別認証MSPO(マレーシア)、ISPO(インドネシア)はRSPOと同等ではないと評価。

PKSにも第三者認証を求めた(存在せず)

2020年: MSPO,ISPOの再評価を実施。

2021年: MSPOの再評価を実施(基準改訂中)

12

Certification and Sustainability of Palm Oil Power Generation

I. FIT制度下における持続可能性評価基準

項目		主な評価基準
環境	温室効果ガス (GHG) 等の排出・汚染削減	⇒ GHG等の排出や汚染の削減の計画を策定し、その量を最小限度に留めるよう実行。 ※ GHG等の排出削減については、検討を継続。
	土地利用変化への配慮	⇒ 現地国の原生林・泥炭地の乱開発防止等の確保
	生物多様性の保全	⇒ 保護価値の高い生息地の維持・増加の確保
労働社会	社会への影響 労働の評価	⇒ 農園の土地に関する適切な権原や労働環境等の確保
ガバナンス	法令の遵守	⇒ 国内外の法令遵守
	情報の公開	⇒ 透明性の確保の観点から、発電事業者等による情報公開
	認証の更新・取消し	⇒ 適切な運用担保の観点から、第三者認証運営機関による認証の取消・更新規定の整備
サプライチェーン上の分別管理の担保		
認証における第三者性の担保		

II. 確認手段 2020年8月資源工本庁

確認の対象	主産物	⇒ 農園から発電所までのサプライチェーン (SC)
	副産物	⇒ 燃料としての発生地点から発電所までのSC
確認の主体	海外	⇒ 第三者認証で確認
	国内	⇒ 引き続き農林水産省が確認
確認の時期	⇒ 新規認定・変更認定時に確認 ⇒ 第三者認証更新時に継続的確認	

※ 「食料競合の防止」については、第三者認証では明示的な基準がないことから、**国全体としてのマクロ的確認**や、燃料価格に直近の動向を反映できる方策を要検討。

※ 評価基準を満たす個別認証は別紙参照。

※ 一定条件の下で、次の猶予期限を設ける。

➡ 主産物 = 2021年3月末・副産物 = 2022年3月末

◆ 持続可能性の考え方

・世界的に求められる持続可能性の項目及び水準は、日々進歩を続けており、**社会情勢の変化に応じて、見直しを検討。**

Evaluating the content of certification for the first time as a gov.

政府として初めて認証の内容評価を行ったことは評価

METI's Response to the Challenges of FIT Palm Oil Power

Issue1: Large amount of LCA-GHG emissions

- ・・・ "Biomass is carbon neutral," but it is proposed to account for the decline in carbon stocks only when forests are converted to agricultural land.
- ・・・ Exclusion from FIT due to high GHG emissions has not been considered.

Issue 2: Major agricultural products and edible products are not subject to FIT (2021 Guidelines)

- ・・・ Palm oil is "Main product, edible" but it is FIT certified.

Issue 3: Ensuring Sustainability (Environment and Society) through Certification

- ・・・ Considering MSPO in addition to RSPO
- ・・・ MSPO is mandatory. Is all Malaysian palm oil subject to FIT?

FITパーム油発電の課題に対する経産省の対応

課題1: LCA-GHG排出量が多い ・・・「バイオマスはカーボンニュートラル」だが森林が農地転換された場合のみ、炭素ストックの減少を計上することが提案されている。

・・・GHGが多いためにFIT対象外とすることは、検討されていない。

課題2: 農産主産物、可食はFIT対象外とする(2021年ガイドライン) ・・・パーム油は「主産物、可食」だが既定なのでFIT対象のまま

課題3: 認証による持続可能性(環境・社会)の確保 ・・・RSPOに加えMSPOを認めるか検討中

・・・MSPOは取得が義務。マレーシア産パーム油は全てFIT対象?

Palm oil does not meet FIT objectives

FIT objectives

- 1) Increase the energy self-sufficiency ratio → dependence on imports
- 2) Energy with low environmental impact (GHG emission reduction)
→ Palm oil emits a lot of GHG!
- 3) Environment-related industries and job creation (regional development)
→ less effective due to import dependence

70% of the cost of biomass power generation is fuel cost, and self-reliance after the FIT purchase period is impossible → it does not lead to the development of renewable energy.

FITの目的

- 1) エネルギー自給率を上げる → **輸入依存** 2) 環境負荷の少ないエネルギー (GHG排出抑制)
→ パーム油は**GHG排出大!** 3) 環境関連産業や雇用創出 (地域振興) → **輸入依存で効果薄**
バイオマス発電は**コストの7割が燃料費**、FIT買取期間終了後の自立は不可能 → 再エネ育成にならない。

Palm oil power generation is not sustainable and does not address climate change. Should be excluded from FIT!

持続可能ではなく気候変動対策にもならない
パーム油発電は、FIT対象外に!

Presentation IV

Understanding Indonesia's domestic biofuel production, consumption, and trade policy

Ricky Amukti,
Engagement Manager,
Traction Energy Asia (TEA)



SFOC International Webinar on Biofuels Policy, Risks, and Impact in Asia

Indonesia's domestic biofuel production, consumption, and trade policy



27 million ha concession area
8 million ha plantation outside concession
11 million ha plantation in concession

Existing palm oil plantations still contain around **3.3 million hectares of intact forest** and **2 million hectares of peatland**.

SOURCE:

Kawasan Hutan, Tutupan Lahan, Pemanfaatan Dan Rencana Kehutanan, Jejak Terbakar, Deforestasi, Fungsi Ekosistem Gambut, PIPPIB, PIAPS, ADI Food Estate (Geoportal KLHK Diakses 2019); Minerba Migas (DEN Diakses 2019); Izin Sawit (Berbagai Sumber); Batas Administrasi (RBI 2019); Wilayah Adat (BRWA 2018); APT (Madani 2021); Tutupan Sawit (GFW, Descals et. al)

Palm Oil Mill Hinterland



The Study Area (purple), calculated by including all land within a 25 km radius of a palm oil mill (blue), totals 37 million hectares.

6 million ha concession area

5 million ha plantation outside concession

8 million ha plantation in concession

Existing palm oil plantations and concession in study area still contain around 1 million hectares of intact forest and 2.9 million hectares of peatland.

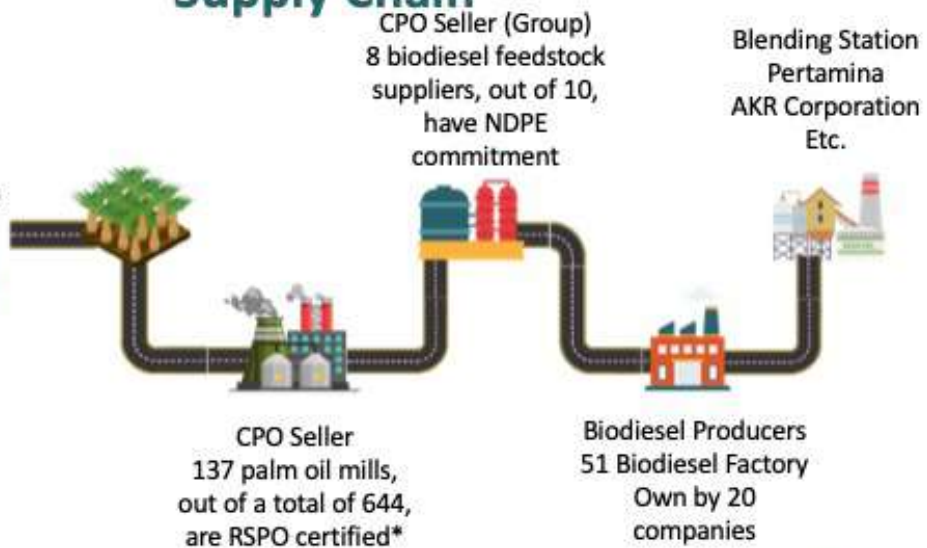
Row Labels	Sum of suppliers
Aceh	8
Bangka Belitung	5
Bengkulu	5
Central Kalimantan	143
Central Sulawesi	7
East Kalimantan	116
Jambi	26
Lampung	7
North Kalimantan	16
North Sulawesi	1
North Sumatra	69
Papua	1
Riau	106
South Kalimantan	40
South Sumatra	24
Southeast Sulawesi	2
Unknown	1
West Kalimantan	45
West Papua	2
West Sulawesi	10
West Sumatra	10
Grand Total	644

Source :

Kawasan Hutan, Tubuan Lahan, Pemanfaatan Dan Rencana Kehutanan, Jejak Terbakar, Deforestasi, Fungsi Ekosistem Gambut, PIPPIB, PIAPS, AOI Food Estate (Geoportal KLHK Dikases 2019); Minerba Migas (DEN Diakses 2019); Izin Sawit (Berbagai Sumber); Batas Administrasi (RBI 2019); Wilayah Adat (BRWA 2018), APT (Madani 2021), Tutupan Sawit (GFW, Descals et al.)

Palm-based Biodiesel Supply Chain

13 million ha
Existing palm oil
plantations and
concession still contain
around
1 million hectares of
intact forest and 2.9
million hectares of
peatland



*Only 39 palm oil mills verified (by documents) as biodiesel feedstock suppliers and 29 are not RSPO certified

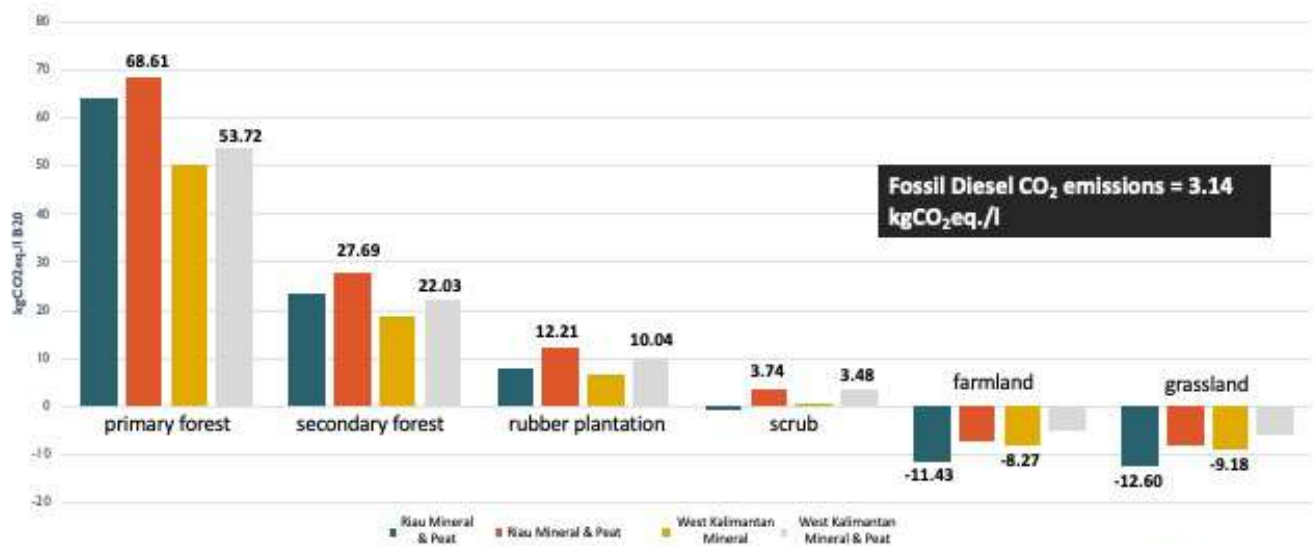
CPO balance

Biodiesel Blending Mix	Year	Supply Deficit Start Year	Cumulative Supply Deficit – to 2025 (Tons of CPO)	Replanting Area Needed to Avoid LUC (Ha)
B20	2016	No deficit	N/A	0
B30	2020	2023	34,914,453	3,879,384
B30D10	2021, B30 2020	2022	71,946,545	7,994,061
B30D20	2021, B30 2020	2023	92,988,380	10,332,042
B30D20 & A20	2021, B30 2020	2021	122,689,037	13,632,115

For B20 there is no CPO deficit until 2025
 B50 would result in a deficit in the year the policy is implemented
 D = Green diesel (bio-hydrocarbon)
 A20 is aviation fuel blended with 20% CPO



CPO Biodiesel Life-Cycle Analysis including CO₂ Emissions from Land-Use Change - based on B20 blend (20% CPO)



Independent Palm Oil Smallholders are Key for a Sustainable Biodiesel Supply Chain



Indonesia Consumption of Palm Cooking Oil and Generation of Used Cooking Oil (UCO)

Palm Cooking Oil Consumption (2019)



13.1 million metric tons p.a.
or **16.2 million kiloliters (kL)**

Biodiesel feedstock potential p.a.*
3.5 - 5.6 million kL

*) Conversion of 1 Liter of UCO = 0.75 Liter of Biodiesel
And the shrinkage of cooking oil to UCO 29%-46%

Impact of Using UCO

Avoided crude palm oil (CPO) production p.a.
3.85 - 6.16 million kL

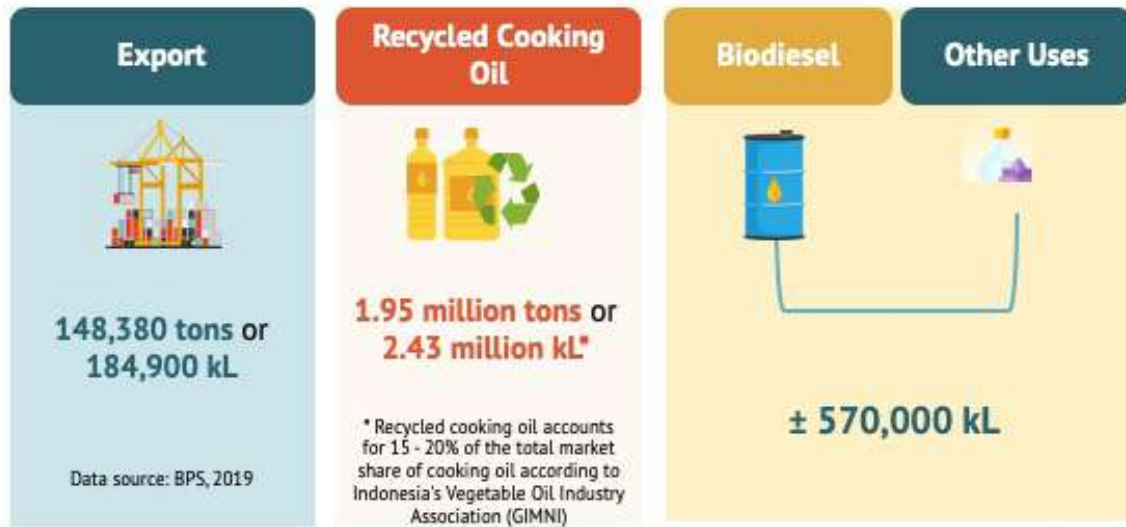
Avoided land conversion p.a.
939,000 - 1,480,000 hectares

Potential contribution to biodiesel supply
38% - 60.9%



Used Cooking Oil Utilization in Indonesia

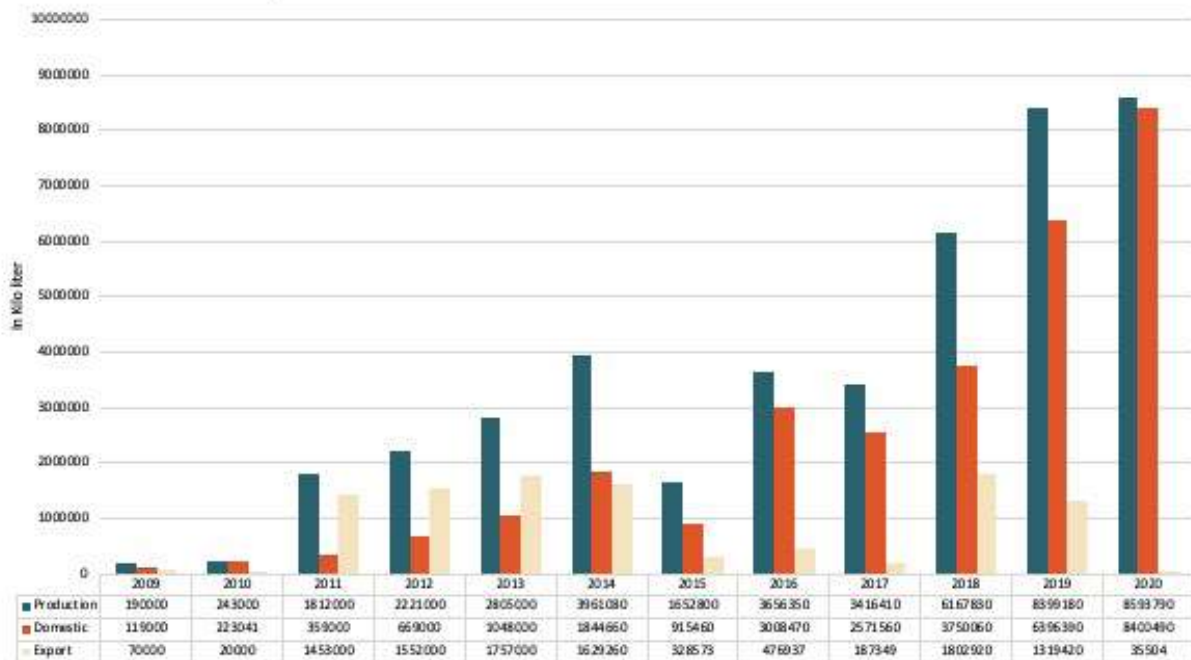
Of the approximately **3 million kL** of used cooking oil collected, less than **570,000 kL** is used for biodiesel feedstock, some of which is exported. The majority is recycled for reuse as cooking oil.



Data processed by TNP2K, Traction Energy Asia

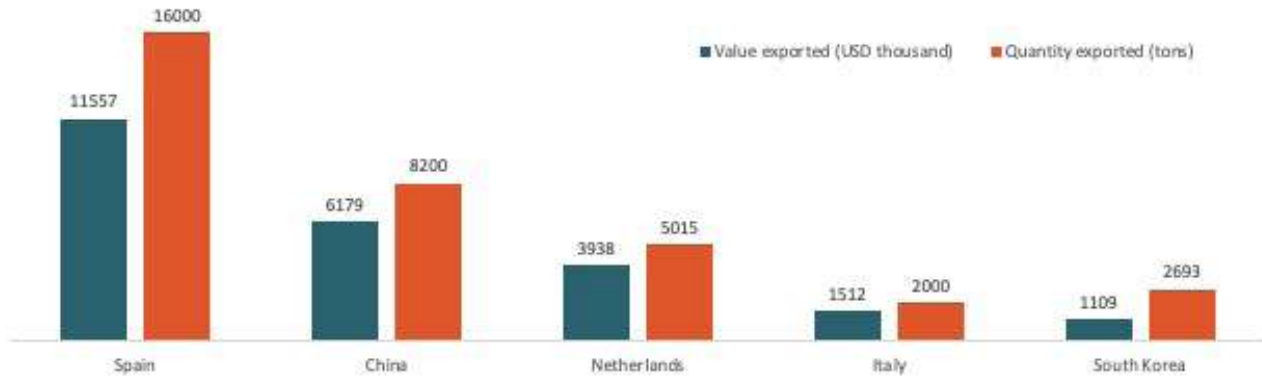


Production and Domestic Consumption vs Export of Indonesia Palm-based Biodiesel



Export markets for Indonesian Palm Biodiesel 2020

Biodiesel and mixtures thereof; not containing or containing less than 70% by weight of petroleum oils or oils obtained from bituminous minerals



Indonesia Bioenergy Sustainability Indicators (IBSI)*

Environmental	Social	Economic
<ul style="list-style-type: none"> Life-cycle greenhouse gas (GHG) emissions Waste management and clean production (soil, air and water quality & efficiency) 	<ul style="list-style-type: none"> Impact of change in income Jobs in the bioenergy sector Bioenergy used to expand access modern energy service 	<ul style="list-style-type: none"> Productivity Net energy balance Gross value added Energy diversity Infrastructure and logistics for distribution of bioenergy

* Based on Global Bioenergy Partnership (GBEP) but 'watered down' and still to be agreed following 5 years of debate.



Key Points

- Traceability and transparency of palm biodiesel feedstock in Indonesia is very undeveloped. There is currently NO verifiably sustainable supply of the biodiesel feedstock made from crude palm oil. Indonesia's domestic standard (ISPO) doesn't include biodiesel. Sustainability indicators are still being discussed and agreed for the Indonesian Sustainable Bioenergy Indicators (ISBI). This process has so far taken 5 years, from the start of Indonesia's biodiesel program (2016).
- While Indonesia's biodiesel program currently prioritizes domestic consumption, there are indications from Indonesia's government and some state-owned enterprises that there are plans to increase exports of biodiesel using used cooking oil (UCO) feedstock.
- Indonesia could start producing verifiably sustainable feedstock for biodiesel now if:
 - it was sourced from small independent farmers (more traceable, more transparent),
 - waste materials, such as UCO, which Indonesia generates in abundance, were used. Indonesian regulations (under the authority of the Ministry of Energy and Mineral Resources [ESDM]) do not currently permit the use of waste materials to produce transportation fuel.



Palm oil-based Biodiesel from Indonesia: Recommendations for Investors to Mitigate Deforestation Risks

As no palm oil feedstock for biodiesel produced in Indonesia can currently be verified to be 'deforestation-free', and the risks of further deforestation will increase with each increase in the biodiesel blend, we recommend the following approach:

- ✓ Emphasising the importance of sustainable sourcing to your portfolio, ask the seller directly if they know the origin of the CPO feedstock (supplier and location) and how they can prove that it was produced without causing deforestation.
- ✓ Ask the supplier what sustainability standard and/or indicators Indonesia uses to monitor the sustainability of biodiesel feedstocks.
- ✓ Inquire about the availability of biodiesel produced using alternative, deforestation-free feedstocks e.g. Using Waste Cooking Oil (2nd generation biodiesel), and feedstock from fresh palm fruit bunches sourced from independent smallholders (more transparent, traceable supply).



Terima Kasih

If you have questions, please contact Ricky Amukti,
Engagement Manager, Traction Energy Asia

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Presentation V

Biofuel supply chain risks in Indonesia— sharing local community perspectives

Dimas N. Hartono,

Director, WALHI Central Kalimantan



*“Biofuels supply chain risks in Indonesia —
sharing local community perspectives”*

Dimas N. Hartono
Direktur Eksekutif WALHI Kalimantan Tengah
2021



Major issues related to oil palm plantations

- Upstream
- Governance
- Downstream



Upstream Level

Land Tenure, Fires, Conflict



Land Tenure

No.	Jenis izin	Penguasaan Ruang (Ha2)
1	Sektor Kehutanan	
	IUPHHK-HT	10,899,140
	IUPHHK-HA	19,476,140
	IUPHHK-RE	623,075
	IUP-Jasa Lingkungan	48,080
	IUPHHBK	301,227
	IPPKH	428,321.37
	IUPK Sylvopastura	616
		31,776,599
2	Perkebunan Kelapa Sawit (HGU)	
	Perkebunan Swasta	10,700,000
	Perkebunan BUMN	493,000
		11,193,000
3	Pertambangan	
	IUP	28,541,745.92
	Kontrak Karya	2,210,698
	PKP2B	1,956,194
		32,708,638
4	Pertambangan Migas	
		83,500,000
TOTAL		159,178,237

11,193,000 oil palm plantations, this is the official government figure, we are still processing data and we have found the fact that nearly 20 million ha of oil palm, most of the violations are plantations that do not have HGU permits (land use permits / land permits for plantations)

WALHI notes that 61.46% of the land is controlled by corporations in the plantation, forestry, mining and oil and gas sectors. This very high inequality is confirmed by the 2013 Central Statistics Agency (BPS) land tenure ratio data which reached 0.68.31. This means that 1% of Indonesia's population controls 68% of land.



Perbandingan Hasil Identifikasi Luasan Perkebunan Kelapa Sawit Indonesia oleh Beberapa K/L dan Mitra Pembangunan



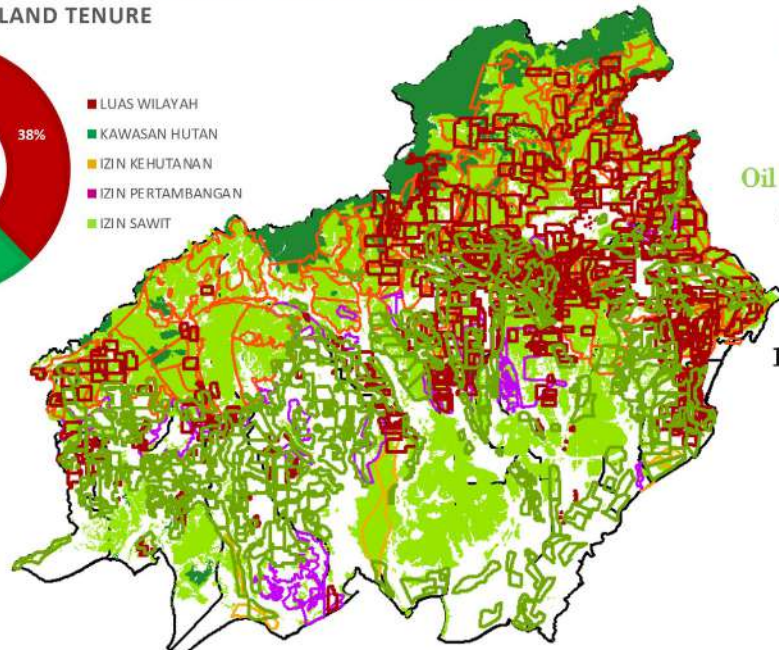
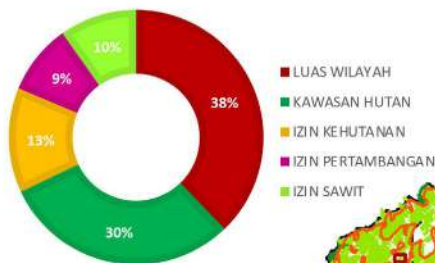
Agar dapat menjadi acuan yang akurat bagi pengambilan keputusan atau perumusan kebijakan terkait di sektor perkebunan Kelapa Sawit. **Dibutuhkan rekonsiliasi lintas sektoral terhadap data luasan perkebunan kelapa sawit Indonesia.** Rekonsiliasi tersebut akan dipimpin oleh Kedeputan III Kemenko Perekonomian

differences in plantation data between ministries in Indonesia (official data of each ministry)

Area of Central Kalimantan 15.3 million hectares

PRIMARY AND SECONDARY FOREST : 7.882.197 Ha

PERCENTAGE OF LAND TENURE

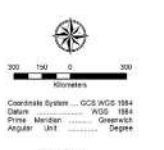
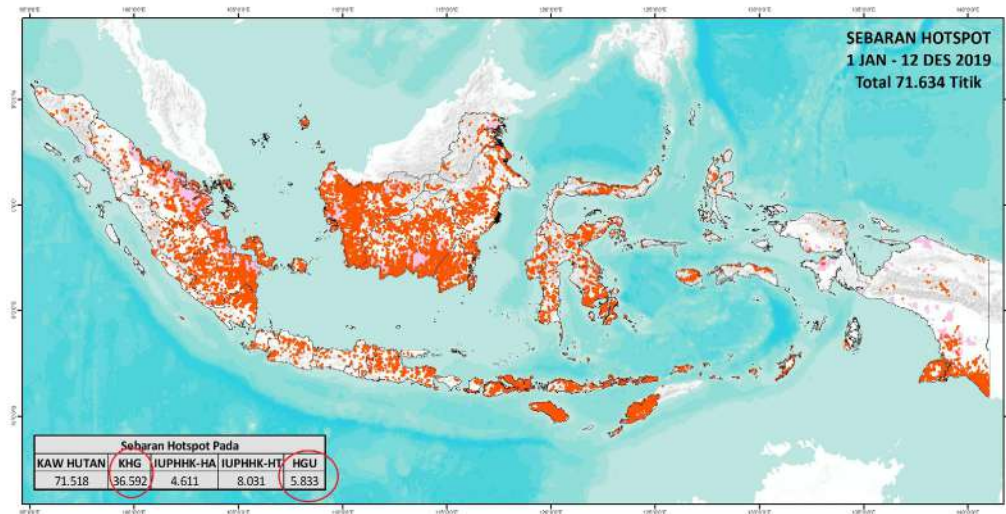


FORESTRY INDUSTRY
5.405.399 Ha

Oil Palm Plantation
3.986.834 Ha

Mining area
1.883.029,11 Ha

fires

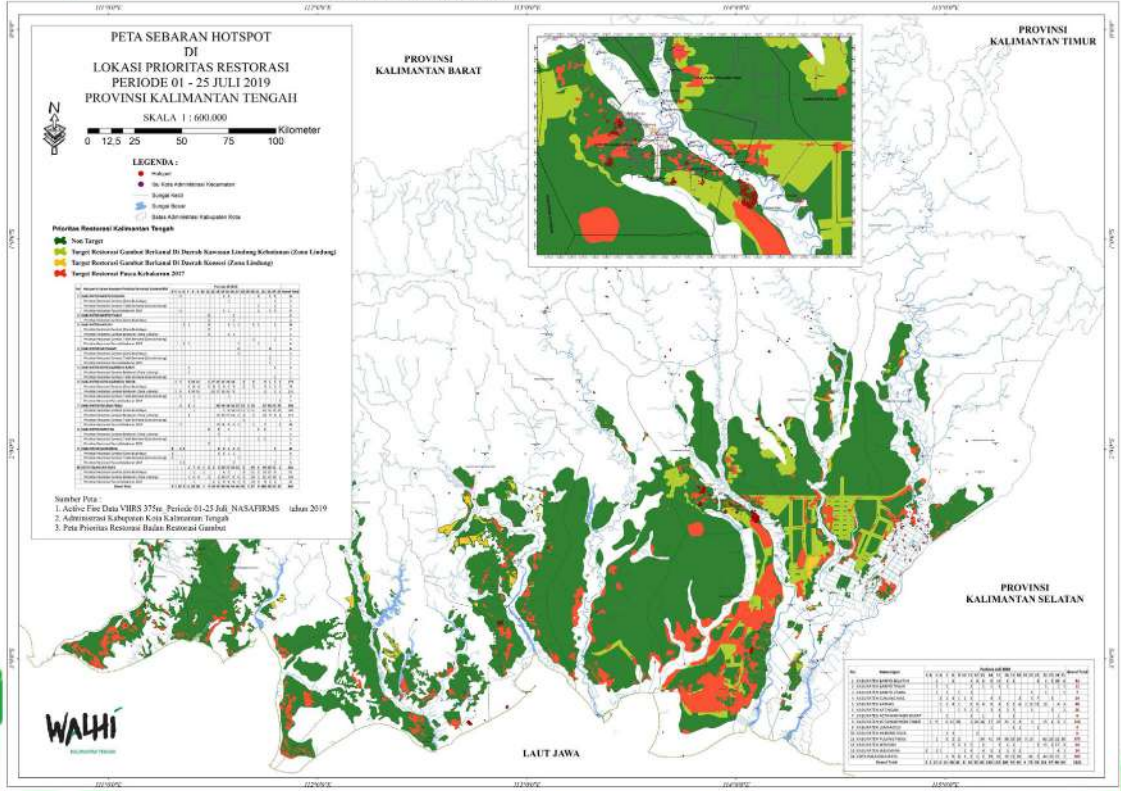


No	Provinsi	Jumlah	No	Provinsi	Jumlah	No	Provinsi	Jumlah
1	Aceh	65	13	Kalimantan Selatan	2925	25	Papua Barat	47
2	Bali	50	14	Kalimantan Tengah	17543	26	Riau	4474
3	Banten	84	15	Kalimantan Timur	3028	27	Sulawesi Barat	196
4	Bengkulu	84	16	Kalimantan Utara	535	28	Sulawesi Selatan	1223
5	Diyogyakarta	4	17	Kep. Bangka Belitung	642	29	Sulawesi Tengah	889
6	Dki Jakarta	7	18	Kep. Riau	458	30	Sulawesi Tenggara	1059
7	Gorontalo	279	19	Lampung	1557	31	Sulawesi Utara	604
8	Jambi	6874	20	Maluku	840	32	Sumatera Barat	160
9	Jawa Barat	315	21	Maluku Utara	267	33	Sumatera Selatan	8582
10	Jawa Tengah	209	22	Nusa Tenggara Barat	2210	34	Sumatera Utara	121
11	Jawa Timur	1354	23	Nusa Tenggara Timur	2985			
12	Kalimantan Barat	9741	24	Papua	2216			

SUMBER DATA :
 Mode Terra/Aqua Cont -- 80 - 100%
 Pola Provinsi Badan Informasi Geospasial
 http://geportal.mintel.go.id/kimgk/walhi/walhi

PENGOLAH DATA :
WALHI
 Wahana Lingkungan Hidup Indonesia

July 2019 There are 1,221 Hotspots In Central Kalimantan



WALHI

Wahana Lingkungan Hidup Indonesia
Indonesia Forum for Environment



www.walhikalteng.or.id

#kaltengtolakdeforestasi

www.walhi.or.id



WALHI

Wahana Lingkungan Hidup Indonesia
Indonesia Forum for Environment



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www.walhi.or.id

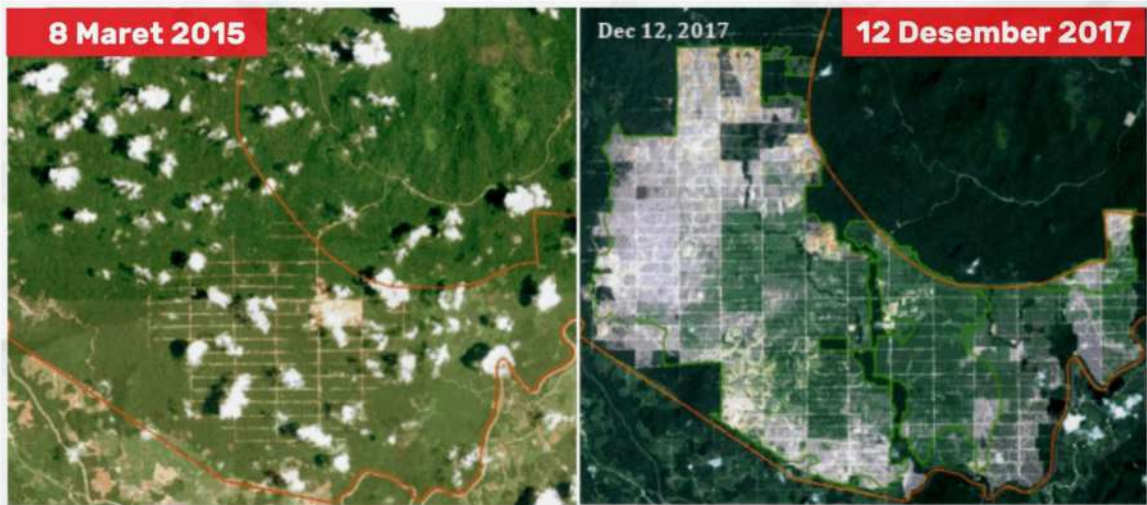
Conflict

- Plantation conflicts in the last 5 years always rank higher, until the end of 2019 there were 87 plantation conflicts. even in March 2020 (in pandemic status), 2 farmers in Lahat, South Sumatra, were killed by plantation security



Walhi Central Kalimantan recorded that there were 345 land conflicts between communities and companies with an area of around 151,524 hectares





The 2 pictures above are pictures of rainforest destruction on the lands of the Kinipan indigenous people, on August 26, 2020, the leaders of indigenous peoples were arrested by the police without using the correct procedure, in the last month 6 people were arrested for defending their forest area

www.walhikalteng.org

#kaltengtolakdeforestasi

www.walhi.or.id

Governance

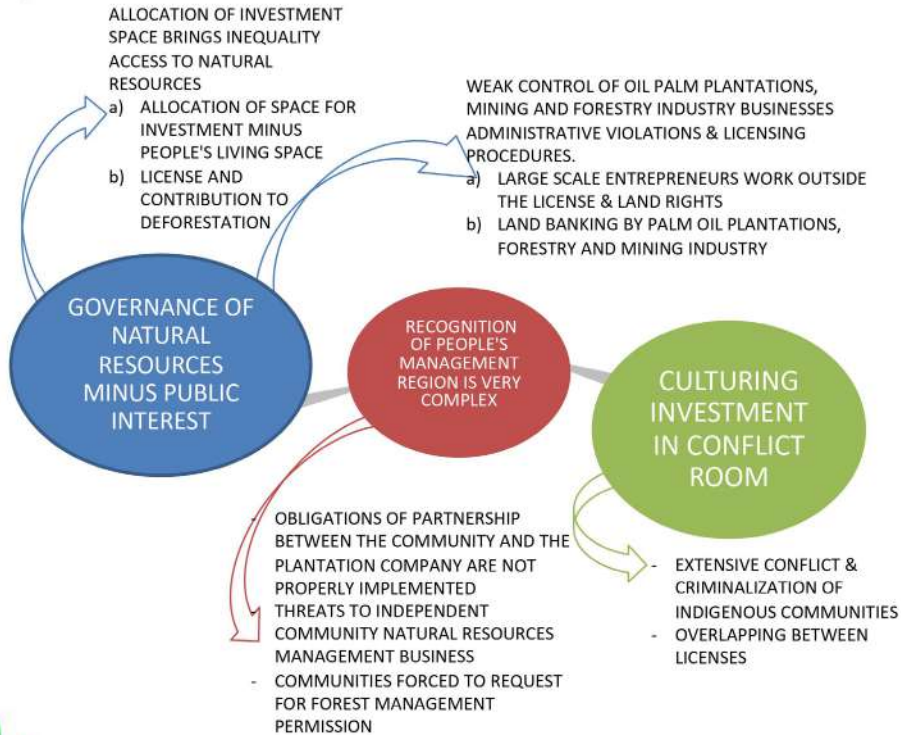
- transparency, law enforcement, “false solutions



- The Republic of Indonesia Audit Agency (BPK) in February 2019 issued a permit, certification and management audit report on oil palm plantations.

BAB III HASIL PEMERIKSAAN	17
1. Kebun Kelapa Sawit Seluas 2.749.453 Ha Berada dalam Kawasan Hutan secara Tidak Sah	17
2. Pemegang Izin Pelepasan Kawasan Hutan yang Telah Memenuhi <i>High Conservation Value Forest</i> (HCVF) dan Kewajiban Membangun Kebun 20% Masyarakat Tidak Diketahui	23
3. <i>Potential loss</i> dari Rendahnya Produktivitas Hasil Kebun Kelapa Sawit Senilai Rp493.861.357.323.029,00/Tahun	28
4. Sebanyak 2.115 atau 83,66% Perusahaan Perkebunan Kelapa Sawit yang Terdaftar pada Direktorat Jenderal Perkebunan Belum Bersertifikasi ISPO dan Belum Dikenakan Sanksi Sesuai Ketentuan	30
5. Akumulasi Dana Peremajaan dan Dana Pra Peremajaan Sawit Rakyat Belum Dikelola Secara Optimal	35

- Oil palm plantations covering an area of 2,749,453 hectares are located in forest areas illegally.
- The obligation to build community Plantations for 20% of the concession area is unknown.
- 83.66% (2.115 companies) of the oil palm plantation companies are not ISPO certified, and have not been sanctioned.



Downstream

- Problems in managing subsidy funds and export levies for biofuels”



Penggunaan dana perkebunan kelapa sawit habis untuk program subsidi biofuel

- 89% dari Rp 1,79 triliun dana yang dialokasikan sepanjang tahun 2015 digunakan untuk subsidi biofuel
- Tahun 2016, total subsidi biofuel meningkat menjadi Rp 10,6 triliun
- Akibatnya penggunaan dana untuk program inti tidak terpenuhi seperti *re-planting*

- Mandatori Biofuel & Riset
- Re-planting
- Perencanaan & Pengelolaan
- Pengembangan SDM
- Promosi Perkebunan
- Dukungan Surveyor
- Beban Operasional



Komposisi Alokasi Penggunaan Dana Perkebunan Kelapa Sawit, Tahun 2015

Daftar Perusahaan Penerima Dana Perkebunan Kelapa Sawit untuk Program Subsidi Biofuel, Agustus 2015-April 2016

NAMA PERUSAHAAN	VOLUME (L)	DANA	
		Rp	Persentase
Wilmar Bioenergi Indonesia	256,148,728	779,606,236,354	23.92
Wilmar Nabati Indonesia	330,139,061	1,023,620,388,544	31.40
Musim Mas	201,105,072	534,570,146,109	16.40
Eterindo Wahanatama	13,345,150	30,952,580,855	0.95
Anugerahinti Gemanusa	14,651,000	38,036,372,544	1.17
Darmex Biofuels	138,609,831	330,661,948,299	10.14
Pelita Agung Agrindustri	68,168,350	193,469,104,879	5.93
Primanusa Palma Energi	12,415,415	37,402,503,113	1.15
Ciliandra Perkasa	42,282,021	133,272,813,634	4.09
Cemerlang Energi Perkasa	45,592,354	134,977,962,185	4.14
Energi Baharu Lestari	8,455,200	23,329,908,879	0.72
TOTAL	1,130,912,182	3,259,899,965,395	100.00

Sumber: Diolah dari Laporan BLU BDPKKS, 2016

Sumber: BDPKKS, 2015

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funding problems in the biofuel program

- Regulation of the Minister of Finance Number 57 / PMK.05 / 2020 concerning Tariff for Public Service Bodies of the Oil Palm Plantation Fund Management Agency/ Tarif Layanan Badan Layanan Umum Badan Pengelola Dana Perkebunan Kelapa Sawit. (BPDPKS).
- the regulatory mandate should the funds be for smallholders
- BPDPKS in 2015 stated that the largest use of funds was still allocated for biodiesel, which reached 89 percent. Meanwhile, for oil palm rejuvenation, human resource development and management planning, each is only one percent.

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- Five large-scale oil palm corporations received subsidies from the Palm Oil Plantation Fund Management Agency (BPDPKS) totaling IDR 7.5 trillion during January-September 2017. [Wilmar Group, Darmex Agro Group, Musim Mas, First Resources, and Louis Dreyfus Company (LDC)]
- The Corruption Eradication Commission (KPK) in 2016 found that excessive use of funds for biodiesel companies could lead to imbalances in the development of oil palm plantations. The value of subsidies for other palm oil companies is Darmex Agro Group (IDR 915 billion) with a deposit of IDR 27.58 billion; Musim Mas (IDR. 1.54 trillion) with a deposit of IDR. 1.11 trillion; First Resources (IDR 479 billion) with a deposit of IDR 86.95 billion; and LDC (IDR. 410 billion) at IDR. 100.30 billion.

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