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Tyson, A orcid.org/0000-0002-4458-6870 and Meganingtyas, E (2022) The Status of Palm Oil under the European Union's Renewable Energy Directive: Sustainability or Protectionism? Bulletin of Indonesian Economic Studies, 58 (1). pp. 31-54. ISSN 0007-4918

https://doi.org/10.1080/00074918.2020.1862411

The Status of Palm Oil under the European Union's Renewable Energy Directive: Sustainability or Protectionism?

Abstract

According to the recast Renewable Energy Directive (RED II) in 2018, the European Union will phase out feedstock biofuels that involve high indirect land-use change (ILUC) by 2030, which only applies to crude palm oil. Indonesia, the world's leading producer of crude palm oil, contests this regulation, claiming that the classification of high and low-risk ILUC is discriminatory and inherently protectionist. This study examines the critical ambiguities of protectionism and sustainability, using a legal framework to empirically ascertain the nature of the Renewable Energy Directive and Indonesia's institutional response. Southeast Asian palm oil and European vegetable oils (rapeseed, sunflower) are found to be 'like products' in conjunction with World Trade Organization criteria that emphasise product-related process and production methods. While qualifying as environmental exceptions, the extraterritoriality of the RED II that aims to reduce emissions is contentious, as is the unilateral nature of ILUC risk measurements.

Keywords: palm oil; Indonesia; European Union; Renewable Energy Directive; protectionism

INTRODUCTION

Palm oil is the world's most consumed vegetable oil, with upwards of 75 million metric tonnes traded worldwide based on the latest report by the United States Department of Agriculture (Statista 2019). Palm oil is obtained by extracting the fruits of the Elaeis guineensis. The two main derivatives are crude palm oil (CPO) which comes from the mesocarp, and palm kernel oil (PKO) from inside the kernel. Palm oil has been dubbed a 'multipurpose plant' (Rival and Levang 2014) and a 'flex crop' (Hunsberger and Alonso-Fradejas 2016) because it is used in a wide range of products including processed food, cooking oil, cosmetics, soap, and biofuel. This versatile crop is cheap and efficient, for instance one hectare of well-managed plantation estate land can produce up to 10 times more oil than other oilseed alternatives (Mba, Dumont, and Ngadi 2015).

Indonesia and Malaysia produce some 85% of global CPO, with Indonesia the largest global producer since 2006 (Varkkey, Tyson and Choiruzzad 2019). Palm oil is Indonesia's largest export commodity for non-oil and gas sectors after coal; the total export value in 2017 was $23 billion (Reily 2018). The figures are disputed, but some claim the sector employs 17.5 million people and has lifted 10 million out of poverty (CPOPC 2018; Satrianegara and Pablo 2019). More than 70% of production is exported. The European Union (EU) is the second-largest importer of palm oil after India. Indonesia's volume of exports to Europe in 2017 was 1.34 million tonnes of palm oil, equivalent to nearly one billion dollars in revenue (BPS 2017). Palm oil exported to the EU is utilised for biodiesel, electricity and heating, as well as food, animal feed and industrial uses; nearly half of all exports are used for biofuels (Transport and Environment 2016). The European market is not the largest but is still crucial because Indonesia has experienced a trade surplus in the last five years (Satrianegara and Pablo 2019). Perhaps more importantly, the Chairman of the Indonesian Palm Oil Association (Gabungan Pengusaha Kelapa Sawit Indonesia, GAPKI) states

that the EU acts as a 'reference market', making influential decisions that other buyers are likely follow (Lingga 2019).

CPO production is highly profitable, but Indonesia's rapid expansion is accompanied by adverse environmental effects. The total area for palm oil concessions has tripled to 12.3 million hectares in less than two decades (Ministry of Agriculture 2017). In the race to boost production, plantation estates and small-scale farmers are introducing sustainability measures such as supply chain traceability, but crop expansion and production are still drivers of land clearing and peatland drainage linked to forest fires and emissions. Indonesia was declared the fourth biggest greenhouse gas emitter in 2013 after China, the United States and India due in part to the high rate of deforestation and land-use change (Harris et al. 2015). In April 2017 the European Parliament passed a resolution which called for the Commission to phase out vegetable oils, including palm oil, by 2020. Indonesia's intense lobbying pushed back the deadline to 2030. Tensions resurfaced in 2018 when the EU amended the Renewable Energy Directive (RED II) and applied new sustainability criteria that placed palm oil in an unfavourable position.

Both the Indonesian and Malaysian governments argue that this regulation is discriminatory. Malaysian Prime Minister Mahathir Mohamad referred to RED as 'a form of modern colonialism' (Chow 2019), and the former Malaysian Minister of Plantation Industries and Commodities, Mah Siew Keong, called it 'crop apartheid' (Spross 2018). Indonesia is overproducing CPO because of an export slowdown and trade tensions with the EU (Negara and Ramayandi 2020). In response to the EU's latest policy, both Indonesia and Malaysia have threatened to pursue litigation. Indonesia filed a complaint with the WTO and requested a consultation with the EU in December 2019. In February 2020 the Malaysian government dropped its plan to sue, using other means to influence EU to reconsider the status of palm oil in their 2021 review (New Straits Times 2020). The

Indonesian position is that the EU is discriminating by classifying CPO as high-risk indirect land-use change (ILUC) while rapeseed and sunflower oil produced in Europe are deemed low risk (BPDPKS 2019). In response, the EU maintains that the renewable energy directive aims to fight climate change and reduce carbon emissions in line with the 2015 Paris Agreement in 2015. There is no concrete evidence that European agribusinesses are lobbying against CPO.

This study examines the critical ambiguities of protectionism and sustainability, using a legal framework to empirically ascertain the nature of the Renewable Energy Directive and Indonesia's institutional response. The legal side of RED II and the Delegated Regulations will be examined, focusing on ILUC as a new sustainability criterion for biofuels and what this entails for palm oil, while juxtaposing RED II with WTO Article I, III, XX and the Agreement on Technical Barriers to Trade. Both sides of the argument are considered: the Indonesian government's representation of the EU's Renewable Energy Directive as protectionist and discriminatory, and the European narratives of sustainability. By highlighting potential issues with ILUC risk measures, this study explains why the environmentally motivated RED II can be perceived as protectionist and why developing countries tend to oppose trade related environmental measures. Evidence suggests that bilateral and multilateral agreements are more effective approaches than unilaterally imposed market mechanisms.

The article is structured as follows. Section one provides a theoretical overview and gives context to the debate by examining how EU directives and regulations played a key role in the growth of biofuels. Section two is concerned with the regulation of biodiesel and the use of indirect land-use change (ILUC) as the sustainability standard for crop-based biofuels. This section asks whether the EU's high-risk classification for palm oil is a protectionist measure, and examines the possibility of palm oil being certified low-risk by utilizing abandoned and degraded lands for

cultivation, as well as improving smallholder practices. The third section examines RED and WTO rules. The legal side of RED II is analysed, focusing on three aspects to judge whether discrimination occurs. First, whether palm oil, rapeseed and sunflower oils are like products based on four criteria under case law. Second, whether the EU's Renewable Energy Directive qualifies for 'environmental exception' which allows for the violation of Articles I and III (equal treatment). Third, whether ILUC meets international standards in tandem with the 1995 WTO Agreement on Technical Barrier to Trade. The article concludes that Indonesia's representation of RED as protectionist is pragmatic but misleading. Indonesia's actions are economically motivated because the ILUC standard puts the palm oil industry at a disadvantage. The crop is delegitimized as it is no longer eligible to be counted towards the EU's renewable energy targets and financial subsidies for biofuels, while European biodiesel, rapeseed and sunflower oils will continue to be used after 2030.

DEBATING PROTECTIONISM

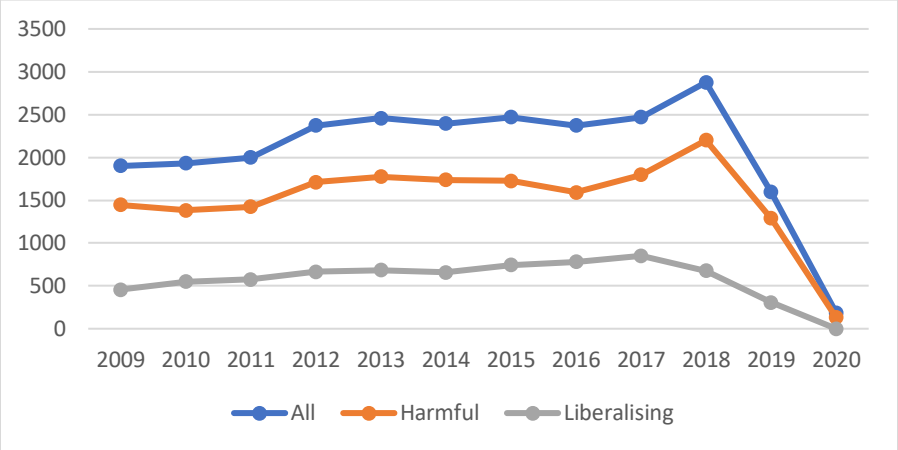
Protectionism is defined as 'all forms of protection intended to improve the position of a domestic relative to foreign producer' (Coughlin, Chrystal and Wood 2004, 306). There were always concerns that negotiated reductions in tariffs due to the General Agreement on Tariffs and Trade (GATT) may lead to a rise in non-tariff barriers (Wilson 1969). Protectionism persisted despite the inclusion of agreements to reduce discrimination through non-tariff measures in the Uruguay Round of trade negotiations, specifically technical barriers to trade and sanitary and phytosanitary measures (Page 1987; Aisbett and Pearson 2012). New protectionism is a conceptual development of neo-mercantilism characterised by policies which 'were often designed to appear less than protectionist' against the backdrop of a more multilateral approach to the economy in the aftermath

of World War II (Balaam and Veseth 2005, 33). Non-tariff measures refer to 'policy measures, other than customs tariffs, that can potentially have an economic effect on international trade in goods, changing quantities traded, or prices or both' (UNCTAD 2009, xvi), whereas non-tariff barriers have 'specific discriminatory and protectionist intent' (UNESCAP 2019, 8).

The first wave of new protectionism literature focused on policies directed at the newly industrializing countries and imposed through barriers such as quotas, voluntary export restraints, and a host of governmental impediments to competitive trading practices (Curzon 1981; Kahler 1985; Vousden 1990). In the current global economy, more non-tariff barriers are implemented than tariff changes and the number has multiplied by more than six times from 2009 to 2016 (Yalcon, Felbermayr and Kinzius 2019). High-income countries appear to use non-tariff barriers more frequently than low or middle-income countries. Data from the Global Trade Alert shows that between 2009 and 2017 the US implemented the most protectionist policies, while India and Russia are ranked second and third respectively (Yalcon, Felbermayr and Kinzius 2019). Larger European economies like Germany, the United Kingdom and France apply between 50 to 100 non-tariff barriers, which is only one-tenth of those applied by the USA.

As depicted in Figure 1, between 2009 and 2020 European countries have applied more harmful than liberalizing measures to Indonesia, and the sector most affected is basic organic chemicals, but there has been a decrease in harmful (distorting) trade policies since 2018 (GTA 2020).

Figure 1. Economic Interventions by EU–27 Members Affecting Indonesia



Source: data compiled by the authors from GTA (2020).

Unlike traditional policy instruments, core and quality non-tariff barriers are politically easier to implement and tend to be preferred by lobby groups aiming to protect domestic industry (Kono 2006). In addition, these measures may have greater legitimacy in the eyes of the average citizen and can be executed with discretion. Technical standards are more likely to be protectionism in disguise because it is difficult to identify them. Determining the type and number of tariffs depends on the notifications sent to the WTO in line with principles of transparency and the provisions of the 1995 Agreement on Technical Barriers to Trade. WTO notifications may be unreliable because countries tend not to report their technical protectionist measures. According to Wolfe (2013), this is mainly because of the self-incriminatory nature of the notification and the fact that complex and novel issues such as green subsidies cannot be easily explained in WTO terminology. Karttunen (2020) explains that technical non-tariff measures are *de facto* not protectionist unless ruled otherwise by the Dispute Settlement Body (DSB), but this an expensive and lengthy process which is a challenge for developing countries.

Green Protectionism

According to Erixon (2009, 2) green protectionism means 'adding non-environmental objectives that are discriminatory, or overly trade restrictive in intent and/or effect, to environmental policy'. Green protectionist trade measures under the guise of legitimate environmental policy can be blatant, murky or unintentional (Steenblik 2009). Protectionism is intentional when tariffs, subsidies, government procurement preferences, or trade remedies are utilized; murky when environmental policy is strategically used to support domestic industry; and unintentional when inadvertent trade barriers are created (Steenblik 2009, 250). Green protectionism is contentious because the policy measures 'are not direct violations of WTO obligations; they are abuses of legitimate discretion which are used to discriminate against foreign goods, companies, workers and investors' (Baldwin and Evenett 2009, 4). The non-tariff instruments frequently used are market access requirements such as technical regulations and information requirements (Lottici, Galperin and Hoppstock 2014). Analysing more than 5,000 products, Fontagné, von Kirchbach and Mimouni (2005) find that disguised green protectionism does occur, but less than half of developing country exports (in value terms) consist of products affected by environmental trade measures established by developed countries and markets.

Wisadha and Jaya (2015) argue that the EU's Renewable Energy Directive is a form of green protectionism, implemented because the EU's crop-based biofuels have been losing competition to palm oil. RED I potentially violates the GATT and the 1995 WTO Agreement on Technical Barrier to Trade principles of non-discrimination of 'like products' (Article I) and equal treatment between domestic and imported products (Article III). European production began to overtake imported vegetable oil in 2003 due to large subsidies, incentivising farmers to plant biofuel crops. In addition to Article I and III, the authors review 'major obstacles' (Article XX). To satisfy the

sustainability criteria for palm oil Indonesia faces the obstacle of high certification costs, especially for smallholders, and a challenging target of 35% greenhouse gas emissions savings.

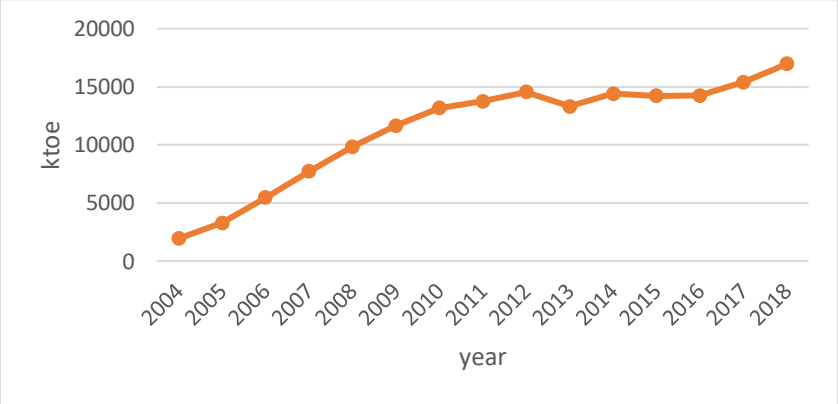
The implementation of RED I in 2009 caused a decline in palm oil exports to Europe, however this EU policy is less significant than factors such as production capacity and foreign exchange rates (Azizah 2015). Khairunisa and Novianti (2017) argue that RED, alongside the GDP and population of importing country, and CPO prices, directly affect the export value of palm oil. The trade-distorting effect of the EU's Renewable Energy Directive was only temporary; within months of the implementation of RED I the Indonesian government intervened, setting a benchmark price for palm oil exports (Nasution and Wulansari 2019). Establishing a sustainability standard can in fact increase trade. The EU's palm oil imports from Indonesia increased after the Indonesian Sustainable Palm Oil (ISPO) policy was established in 2011. The effect of the ISPO on trade is unclear however because most large palm oil corporations only accepted this policy in 2019. In addition, the ISPO regulations were criticized by European NGOs as weak in comparison with the Principles and Criteria of the international certifying group, the Roundtable on Sustainable Palm Oil. The impact of the EU's new directive (RED II) may be different because it introduces new sustainability criterion and the EU plans to gradually reduce palm oil consumption, phasing it out by 2030.

THE RENEWABLE ENERGY DIRECTIVE AND BIOFUELS

Biofuels are transportation fuels derived from biomass. The two most common types are ethanol from sugar cane, sugar beets and cereal crops, and diesel from palm oil, soy, sunflower, and rapeseed. Europe is currently the biggest producer of biodiesel while Brazil and the USA are the leading suppliers of bioethanol. Within the EU, sunflower oil mainly comes from Romania and

Bulgaria, while Germany and France produce rapeseed oil (USDA 2018). Although 38.9% of the EU's biodiesel is sourced from homegrown vegetable oils, sunflower oil only accounts for 1.5% (Transport and Environment 2017). Imported CPO makes up 33.2% of Europe's crop-based biofuel. Domestic biodiesel largely depends on rapeseed with Germany and France as the dominant producers, accounting for 40% of total domestic production in 2016 (EBB 2016). Figure 2 shows that Europe's consumption of biofuels has been on an upward trajectory despite a slight decline from 2013 to 2016.

Figure 2. European Union Biofuel Consumption Trends, 2004 to 2018 (in kilo tonnes)



Source: data compiled by the authors from EurObserv'ER (2019).

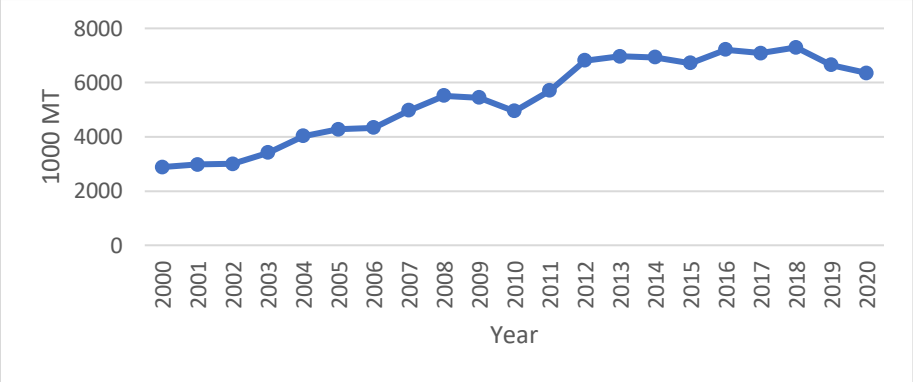
The demand for biofuels in Europe is largely policy driven. Through the Transport Biofuels Directive, the EU has encouraged the transition to biofuels since 2003 with the aim to replace 5.75% of automotive fuels by 2010 (European Parliament 2003). Europe's transport system at the time was facing supply insecurity due to high dependency on crude oil when prices were unstable. Biofuels became an attractive alternative because they can be grown domestically, reducing the reliance on imports. In addition, biofuels appear to reduce greenhouse gas emissions because they

are considered carbon neutral, although in some cases they can be far more carbon positive than fossil fuels (Johnson 2009). According to reports, halfway through the implementation of the biofuel initiative, the interim 2% market share target was not met. The market share of biofuels was only 1% and only Germany and Sweden were able to achieve it, with 3.8% and 2.2% respectively (European Commission 2006). Since the provisional goal was indicative, it lacked the enforcement mechanism needed for states to meet their targets. Hence, the RED I in 2009 had a mandatory element, which is unusual for this type of legislation.

The Renewable Energy Directive was established as part of the EU's climate and energy package with three main objectives: a 20% improvement in energy efficiency, a 20% increase in renewable energy, and a 20% reduction in greenhouse gas emissions from 1990 levels. This policy package contains binding legislation to ensure that the EU meets these targets. EU members are supposed to adopt the regulation to their capacity, there are mandatory elements of renewable energy consumption in RED I, particularly 10% from transportation and rail. The EU's transport sector at the time needed to be regulated to contribute to pollution reduction as it was predicted that Europe faced a 30% increase in greenhouse gas emissions between 1990 and 2008 in the transport sector (EEA 2010). Alongside RED I is the Fuel Quality Directive which requires a 6% reduction of greenhouse gas emissions intensity compared to 2010 levels. The plan was to meet this target by transitioning from fossil fuels to biofuels. Mandatory targets on renewable energy in the transport sector made Europe a significant producer and consumer of biofuels. The effect of RED I was global as around 10 million tonnes of biofuels were required to meet European demand. In 2007, it was estimated that imports would serve 20% of the biofuel production and about half could come from first-generation feedstock such as CPO (Edwards et al. 2008). This earmarked Europe as a large market for biodiesel and 'fuelled a frenzy of investment and expansion in the

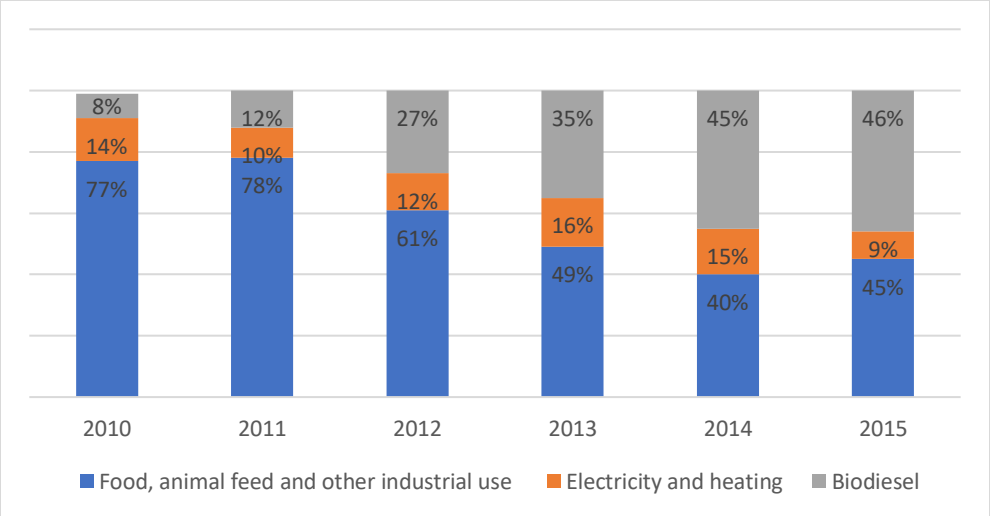
palm oil sector across Southeast Asia' (Pye 2010, 853). As indicated in Figure 3, EU palm oil imports grew by 15% in 2011 and 19% in 2012.

Figure 3. European Union Palm Oil Imports, 2000 to 2020 (in 1000 metric tonnes)



Source: data compiled by the authors from Index Mundi (2020)

Figure 4. European Union Palm Oil Imports by End-Use, 2010 to 2015



Source: Copenhagen Economics (2018)

As indicated in Figure 4, since the Renewable Energy Directive (RED I) in 2009, palm oil use in biodiesel has grown steadily while its use for food decreased. The percentage of end-use for biofuels first surpassed food in 2015 although by only a small margin. In 2018, however, imported CPO for biodiesel was at an all-time high with 53%. This is followed by 12% for heating and electricity, and only the remaining third was used for food, animal feed and other industrial uses (Transport and Environment 2019a).

Regulating Biodiesel: RED and ILUC

Biofuels were initially considered a sound option in the transition away from fossil fuels, but the reality is more complex. According to Hanaki and Portugal-Pereira (2018, 53), while fossil fuels emit more greenhouse gas emissions in the tank-to-wheel stage than the wheel-to-tank stage, crop-based biofuels are the opposite. The biofuel production process involves raw material acquisition, processing, storage, and distribution. Biofuel production requires land expansion and conversion that diminishes CO_2 absorption and storage. Cultivating palm oil on peatlands is contentious as it releases the vast carbon stock accumulated within its soil, at least twice as much as forested areas (UN Environment 2019). There are indirect emissions from biofuels, and using fertilizers releases nitrous oxide, a greenhouse gas, though the amount varies depending on soil characteristics and weather conditions (Melillo et al. 2009). Shipping adds 7% to 38% to the total carbon footprint for biofuels transported over 10,000 km (Royal Academy of Engineering 2017).

To mitigate negative effects, RED I includes two new sustainability criteria for biofuels in Articles 17 to 19: greenhouse gas emissions savings and land-use change. According to Article 17(2), biofuels should deliver a minimum of 35% greenhouse gas savings in comparison to fossil

fuels (increasing to 50% in 2017 and 60% in 2018). In addition, Article 17(3,4,5) holds that crop-based biofuels and bioliquids should not be planted in high biodiversity zones such as primary forests, protected areas and grasslands, and areas with high carbon stocks, including wetlands and continuous forests. Direct land-use change is defined as 'a new agricultural use, and feedstock produced on that land is used for bioenergy' while indirect land-use change (ILUC), the focus on RED II, occurs when 'the system has to adjust to accommodate increased feedstock demand for bioenergy' that also drives up emissions (El Takriti, Malins and Searle 2016, 2). With the RED II in 2018 the EU officially includes ILUC measures in their biodiesel consumption. Since 2010 the EU has been aware that ILUC associated with biofuels expansion can increase greenhouse gas emissions (European Commission 2010) but delayed action until 2018 because of uncertainties and limitations with the quantification of indirect emissions. In 2015 the ILUC measure was preliminarily adopted as part of a general 7% cap on the consumption of all food-based biofuels by 2020 (European Parliament 2015).

Articles 25 to 29 of RED II cover renewable energy in the transport and rail sector. Article 26 lists specific rules for biofuels, bioliquids and biomass fuels produced from food and feed crops. Article 29 concerns sustainability and greenhouse gas emissions saving criteria for biofuels, bioliquids and biomass fuels. In addition, the Commission Delegated Regulation supplementing EU Directive 2018/2001 concerns high risk ILUC from feedstock requiring significant expansion into land with high carbon stock. The European Commission (2019b) states that ILUC occurs when 'pasture or agricultural land previously destined for food and feed markets is diverted to the production of fuels from biomass'. The establishment of plantations for energy crops might involve converting lands previously allocated for food and feed production. Consequentially, planting in areas with high carbon stock like forests, peatlands and wetlands might be required to

meet the demand for food. This releases more CO_2 which possibly negates the greenhouse gas emission savings from biofuels.

According to Article 26(2) subparagraph 1 of RED II, high-risk ILUC occurs when there is a 'significant expansion of their feedstock production area into land with high carbon stock is observed' (European Parliament 2018). Consumption of high-risk commodities will gradually be reduced to zero between 31 December 2023 and 31 December 2030. Low-risk commodities will not be phased out and consumption will continue at 2020 levels. Nevertheless, the share of biofuels and bioliquids, as well as of biomass fuels consumed in transport, is maintained at a maximum of 7% of final energy consumption in the road and rail transport sectors in EU member states.

The method of measuring ILUC for high-risk biodiesel is found in RED II Article 3. The risk is high when (a) the average annual expansion of the global production area of the feedstock since 2008 is higher than 1% and affects more than 100,000 hectares, and (b) the share of such expansion into land with high carbon stock is higher than 10% in accordance with the following formula:

$$X_{hcs} = \frac{X_f + 2.6\, x_p}{PF}$$

X_{hcs}	=	Share of expansion into land with high carbon stock.
X_f	=	Share of expansion into land referred to in Article 29(4b, 4c) of Directive (EU) 2018/2001.
X_p	=	Share of expansion into land referred to in Article 29(4a) of Directive (EU) 2018/2001.
PF	=	Productivity factor (maize 1.7, palm oil 2.5, sugar beet 3.2, sugar cane 2.2, other crops 1).

The High-Risk Low-Risk Debate

The inclusion of ILUC in EU sustainability criteria for high-risk crop-based biofuels caused alarm in Indonesia, the biggest global exporter of palm oil. Neither RED II nor the Delegated Resolution

which follows it explicitly state that CPO will be phased out, however in a subsequent report by the Commission in 2019 it is stated that palm oil is the sole feedstock where the 'expansion of production into land with high carbon stock is so pronounced that the resulting GHG emissions from land use change eliminate all GHG emission savings of fuels produced from this feedstock in comparison to the use of fossil fuels' (European Commission 2019a, 19). In a press release five days after the Delegated Act was published the Indonesian government claimed that the classification of palm oil as high-risk ILUC is 'not to promote sustainability in the vegetable oil sector,' but rather serves to protect the EU`s home-grown vegetable oils (BPDPKS 2019). In this statement Indonesia accuses the EU of green protectionism through the application of ILUC. This claim hinges on the fact that under RED II CPO can no longer compete with other feedstock biofuels in the EU market. Indonesia's objection is that rapeseed and sunflower oil, which are major commodities in Europe, are classified as low-risk and will be subject to the consumption ceiling but will not be phased out.

EU member states are not banned from importing CPO (at least not until 2030), but because palm oil is classified as high-risk it will not count towards the EU's 32% renewable energy target and the 14% goal in transport, and will not be eligible for the EU's financial incentive as per Article 29(1) of RED II. CPO producers stand to lose market price support and tax exemptions for biofuels and R&D grants (Charles et al. 2013). It is important to acknowledge that non-EU farmers have so far benefitted most from the subsidy. In the 2010-2011 period, although the European biofuel market was valued between 13 and 16 billion euros, less than half went to domestic producers (Charles et al. 2013). The EU purchased between 3.5 and 4.5 billion euros worth of crop feedstock for biodiesel, and between 2.5 and 3.5 billion euros for ethanol from domestic farmers. Up to 4 billion euros worth of biodiesel such as palm oil, soybean oils and oilseeds, and half a billion worth

of ethanol, were imported. In 2017, the EU spent 4.4 billion euros on palm oil imports. Biodiesel imports from the three biggest CPO producers, Indonesia, Malaysia and Thailand, totalled 2 billion euros (Copenhagen Economics 2018). The evidence suggests that the intention of RED II is not to shield the EU's domestic biofuels from foreign competition, although rapeseed and sunflower oils being classified as low risk gives the distinct impression of protectionism.

The EU's environmental motive is bolstered by the search for long-term alternative energy crops that can produce more fuel per unit of land used and require less chemical and energy input for production and harvesting. RED II does this by encouraging the switch to second generation biofuels. The consumption should be at least 0.2 % in 2022, at least 1% in 2025, and at least 3.5% in 2030 as stated in Article 25(1) subparagraph 4. According to the International Renewable Energy Agency (IRENA 2019), advanced biofuels are made of lignocellulosic feedstock such as corn stover, straw, wood waste, rapidly growing grasses and short rotation trees, municipal waste, and waste oils, fats or algae, all of which have few non-energy uses, and can be grown on less productive and degraded lands or in seawater (algae), thus having smaller impacts on land use. Second-generation biofuels are more sustainable than conventional biofuels, yet one unanswered question is why soybean is not categorised as high-risk (Searle and Giuntoli 2018; Strapasson et al. 2019; Transport and Environment 2019b). As indicated in Table 1, the estimated share of expansion on lands with high carbon stock for soybean can reach up to 55%, which is close to the percentage for palm oil.

Table 1. Summary of estimates of the share of expansion of major crops on high carbon stock land

	Satellite imagery / remote testing	Data inference
Maize	3%	10-59%
Oil palm	40-53%	64%
Rapeseed	-	5-8%
Soybeans	9-39%	4-55%
Sugarcane	0.6%	87%
Sunflower	-	19%

Source: data compiled by the authors from Searle and Giuntoli (2018).

The Prospect of Becoming Low-Risk

Although palm oil has been classified as high-risk, a strong counterargument to protectionism is the fact that the EU does not ban CPO entirely. In the European Commission's (2019a) report on the status of worldwide production trends for relevant food and feed crops, some CPO production can be considered low ILUC risk. To obtain low-risk ILUC certification biofuels must fulfil additionality criteria (as per Articles 4 and 5 of the Delegated Resolution) which are defined as measures that engender sustainability while being financially attractive. According to Article 5, biofuels can obtain low-risk certification if the crops are cultivated on previously abandoned land and severely degraded lands, or if they are produced by smallholders. Nevertheless, the outlook for Indonesian producers to meet these standards is bleak.

Cultivation on degraded lands can reduce deforestation but there is no consensus as to what constitutes degraded land, creating uncertainties as to which lands can be cultivated (Obidzinski et al. 2012). Planting on perennial grasslands in Indonesia (avoiding deforestation) can yield an estimated 28 million tonnes of palm oil (Garrity et al. 1997). Mulyani, Kartawisastra and Hidayat

(2009) estimate that there are 5.5 million hectares of grasslands suitable for planting, but this calculation includes natural shrublands with high carbon stock. The drawback is that Imperata grass emits biochemical compounds that are toxic to crops and can quickly overgrow crops (Hairiah, van Noordwijk and Purnomosidhi 2000). Clearing invasive grasslands is labour intensive and costly, with delayed returns on investment. On a more promising note, Caroko et al. (2011) estimate that there are 300,000 hectares of abandoned land in Indonesia, and that 1 million tonnes of palm oil can be produced on these suitable low carbon stock lands.

The focus on improving and certifying smallholder production is welcome but Indonesian smallholders are a diverse group, difficult to locate and regulate. Some smallholder cooperatives have contracts that tie them to companies, making their production difficult to separate from large plantations. Although there is no precise definition of smallholders, in practice they can be identified by land size and family labour (Cramb and Sujang 2016). Both the EU and the Indonesian government focus on land size. RED Article 2(9) states that smallholders should possess farms measuring less than 2 hectares, while Indonesia's benchmark is more than 10 times this size. Indonesia's 2013 Guideline for Plantation Licensing requires smallholders that cultivate less than 25 hectares to apply for a Plantation Registration Certificate (Surat Tanda Daftar Usaha Perkebunan Untuk Budidaya, STD-B), while any area larger than 25 hectares requires a Plantation Business License (Izin Usaha Perkebunan, IUP-B). Smallholdings are exempted from complicated procedures and strict requirements such as environmental impact assessments (Paoli et al. 2013).

The EU recognize that smallholders often lack knowledge and resources, while 'evidently facing barriers that hinder the implementation of productivity-increasing measures' (European Commission 2019b, 19). Many of Indonesia's independent small-scale farmers are inefficient because they lack high-quality production inputs and engage in poor agricultural practices (Euler

et al. 2016). Smallholders are often blamed for land clearing and forest fires (Miettenin, Shi and Liew 2016), although research by Jelsma et. al (2017) in Riau province and Schoneveld et al. (2019) in West and Central Kalimantan finds that only the more affluent and entrepreneurial smallholders, with larger holdings, venture into vulnerable peat forests. Independent smallholders in Indonesia often produce lower palm oil yields than plasma farmers or members of cooperatives with contracts to supply fresh fruit bunches to plantations (Apresian et al. 2020). Although the EU's Delegated Regulation allows smallholders to be part of a cooperative, it prohibits control by a third party. This is incongruent with Indonesia's plasma model whereby the smallholder palm oil farmers are assisted, often by a company (Jelsma et al. 2017). This is the main way smallholders obtain production input, technical assistance, finance, access to mill processing, and market access. Newer plasma schemes are often under 'one roof management' where companies fully manage smallholder plantations, and many smallholders are part of, or have some association with, partnership schemes (Zen et al. 2015, 50).

To sum up, Indonesia represents the EU's Renewable Energy Directive as protectionism because palm oil is classified as high-risk which means that it does not count towards the renewable energy target and is ineligible of tax exemption. The likelihood to be reclassified as low risk is small due to the conceptual gap in the definition of lands allowed to be planted and smallholder cooperative models that are still reliant on outside parties (evident in plasma schemes).

THE EU'S RENEWABLE ENERGY DIRECTIVE AND WTO RULES

Indonesia started the litigation process against the EU at the WTO in December 2019. Comparing the EU's Renewable Energy Directive with GATT Articles can help determine whether the EU discriminates against palm oil. This section finds that RED biofuels sustainability criteria raise

several issues of incongruence with WTO rules. There are two resolved trade disputes related to RED: the EU Biodiesel Argentina case (DS473) and EU Biodiesel Indonesia case (DS480). Both complainants won these anti-dumping tariff cases against the EU. So far, cases that hold RED to be a technical barrier to trade have only reached the consultation stage. These are Case DS459 brought by Argentina and Case DS593 by Indonesia. Argentina and Indonesia refer to possible violations of *inter alia* Articles I and III of the GATT and the 1995 WTO Agreement on Technical Barrier to Trade. In this section, Article I (Most Favoured Nation), Article III (National Treatment) and XX (General Exceptions) of the GATT and the Agreement on Technical Barrier to Trade will be examined.

The Principle of Likeness

The legal basis for non-discrimination in Articles I and III is that 'like products' among different trading partners, and between domestic and foreign products, should receive the same treatment. Indonesia has requested a consultation with the EU regarding palm oil-based biofuel. Article I(1) sets the technical parameters for a likeness test to offset any advantage, favour, privilege, or immunity granted to any product (WTO 1986). Article III(4) requires that imported products be accorded treatment no less favourable than that accorded to like products of national origin (WTO 1986). Indonesia contends that CPO and the EU's homegrown rapeseed and sunflower oils should be treated as 'like' products, and that palm oil is receiving unfair treatment as the EU favours domestic crop-based biofuels. The problem is the lack of an agreed upon definition of 'likeness'. The WTO suggests that likeness should be approached on a case by case basis, which means that 'individual applications of the concept, even under the same provision, will differ for reasons that cannot be explained' (Hudec 2000, 1).

The ambiguity of likeness persists despite there being four legal guidelines that have consistently been used in cases to determine likeness (GATT 1970).

1. The properties, nature and quality of the products; that is, the extent to which they have similar physical characteristics.
2. The end-use of the products; that is, the extent to which they are substitutes in their function.
3. The tariff classification of the products; that is, whether they are treated as similar for customs purposes.
4. The tastes and habits of consumers; that is, the extent to which consumers use the products as substitutes, determined by the magnitude of their cross elasticity of demand.

The physical characteristics of biofuels produced in Europe and Southeast Asia are dissimilar because they derive from different raw materials that possess distinguishable properties, although Lendle and Schaus (2010) argue that this would be more significant if the goods were imported as food products. As home-grown and imported vegetable oils in this scenario are used specifically for biodiesel blend, the distinction is less conspicuous. The strongest argument perhaps is the second point about end-use, since the high/low risk criterion is only applicable to biofuels, bioliquids or biomass fuels from food or feedstock. An argument for protectionism can be made from the fact that palm, rapeseed and sunflower oils all fit into this category and are used as feedstock biofuels. For the third point about tariff classification, palm, rapeseed and sunflower oils are all classified in Chapter 15 of HS Code, Section III – Animals or Vegetable Fats and Oils and their cleavage products, which means that the same tariff classification should apply to them (WTO 2008). The EU can claim that consumers have become more aware of climate change and the need to reduce greenhouse gas emissions to demonstrate that its oil products are different from palm

oil. This might be compelling since it is found that 69% of Europeans were supportive of ending the use of palm oil in biofuel, and only 14% were against it (Transport and Environment 2018). This can establish 'unlikeness' between CPO and other vegetable oils, however Lydgate (2012) feels this is unlikely to be considered by the WTO for two reasons. Firstly, it might lead to arbitrary import barriers based on production methods, specifically high rates of greenhouse gas emissions. Secondly, consumers need access to all types of biofuel to be able to express a preference freely. This is especially important because a 2018 Ipsos survey found that 82% were not even aware that diesel fuel has added palm oil (Transport and Environment 2018). Palm, rapeseed and sunflower oils can be considered 'like products' which means that GATT Articles I and III are applicable, suggesting that CPO is being discriminated against by the EU to protect domestic feedstock fuels.

There are grounds to rule that palm, rapeseed and sunflower oils are 'like products' based on the four WTO criteria. There is however another threshold for 'likeness' to consider; the production and processing method. This is relevant to the EU-Indonesia palm oil dispute as RED II limits CPO exports because it is a high-risk ILUC commodity which means that the production process of palm oil involves expansion into areas with high carbon stock and high conservation value (biodiversity). Although the legitimacy of the production and processing method threshold is questioned by the WTO, analysts make a helpful distinction between product and non-product related methods based on the effect these methods have on the physical properties of goods (OECD 1997). According to Charnovitz (2002, 65), non-product related production and processing methods are 'designed to achieve a social purpose' which is emulated in the high/low risk distinction of RED. The main objective is to ensure greenhouse gas emission savings. The question is whether different production and processing methods render similar products 'unlike'. Douma (2010, 400) contends that sustainable and non-sustainable biofuels are not alike, but the problem

with the land-based criterion under RED is that it does not cover the final product. There is a tendency for the WTO to rule out cases where production and processing methods directly distinguish the goods, as such in the cases of US-Tuna Dolphin I and II. Hence, as Gallagher and Werksman (2002, 13) aptly conclude, if 'two products cannot be distinguished based on objective tests, such as their physical characteristics, measures that treat these products in a manner that undermines their competitive relationship are inherently discriminatory'.

Possibility for Environmental Exception

It is more appropriate to see production and processing methods in the environmental context since Article XX on General Exceptions provides 'limited and conditional exception from obligations under other provisions of the General Agreement' (WTO 1998, 2). The EU's 2018 Renewable Energy Directive (RED II) aims to increase the use of renewable energy to combat climate change vis-à-vis the 2015 Paris Agreement, creating a possibility for the EU to qualify for Article XX, thus circumventing obligations under Articles I and III. Environmental measures that appear to contravene GATT should meet at least one of the ten exceptions. RED II might be justified under paragraph (b) 'necessary to protect human, animal or plant life or health' or paragraph (g) 'relating to the conservation of exhaustible natural resources if such measures are made effective in conjunction with restrictions on domestic production or consumption' (WTO 1986). It is however a two-tier system that should also fulfil the criteria in Article XX that hold that measures are not applied in a manner constituting arbitrary or unjustifiable discrimination between countries (WTO 1986).

The WTO is likely to consider RED II to be consistent with Article XX(g). Based on the Appellate Body report on the 1998 US Shrimp Turtle Case (DS58), it was argued that the meaning

of natural resources is based on 'contemporary concerns of the community of nations about the protection and conservation of the environment' (Condon 2009, 912). The decision to cap and ultimately halt consumption of high-risk feedstock fuels is designed to protect lands with high carbon stock such as wetlands, forested areas and peatlands, both as part of direct and indirect land-use change. There is however an issue of extraterritoriality (Cooreman 2017). In the US Tuna I and II and US Shrimp cases, the aim was to safeguard dolphins and sea turtles from accidental killings during fishing. The WTO's acceptance of extraterritoriality based on environmental factors has changed over the years. In the Tuna I case, America's measure was ruled out because it had no jurisdiction to protect animals outside its territories. This changed just two years later when the Appellate Body stated that it does not prohibit measures 'with respect to things located, or actions occurring, outside the territorial jurisdiction of the party taking measure,' but Article XX(b, g) do not allow policies encroaching on other nations. The jurisdictional aspect is not addressed in the US Shrimp case and the Appellate Body chose to focus on the fact that sea turtles are migratory creatures. Both the Panel and the Appellate Body conceded that the United States should have pursued an international agreement regarding the protection of sea turtles to avoid arbitrary or unjustifiable discrimination.

Territorial boundaries are indeed difficult to apply in the case of RED II in the context of climate change. Although the principle of shared but differentiated responsibilities puts more burden on the developing states in 'mitigating the damage and revising the situation' (Mignolli 2018, 253), it needs to be balanced with sovereignty over natural resources.

Unilateral Standard

The Agreement on Technical Barriers to Trade permits members to establish mandatory technical regulations and voluntary standards (Condon 2009). Based on Article 2.8 requirements should be judged on the product's performance rather than design, meaning the production and processing methods of a product have the same standing as the product's physical properties. RED II can be classified as a technical barrier to trade because the consumption of a certain feedstock biofuel is dependent on the ability to meet the sustainability criteria – greenhouse gas emission savings and ILUC – which are production and processing methods that do not leave a trace on the final products (Dewi 2018). In Indonesia's 2019 request for a consultation against the EU many articles are cited but Article 2.4 stands out as it concerns ILUC. Technical regulations should be based on an international standard (Article 2.4) and accompanied by an explanation for the justification behind the technical regulation (Article 2.5). In a press release on 18 March 2019 the Indonesian government claims that the classification of CPO as high-risk is based on 'a unilateral and arbitrary scientifically flawed standard' (BPDPKS 2019). There are inconsistencies in EU policy on ILUC owing to definitional and measurement challenges (Di Lucia and Kronsell 2010; Erixon 2013).

The Indonesian government questions why the EU sets 2008 as the start of the timeframe to measure the rate of deforestation and expansion to high carbon stock lands, and seeks to highlight the progressive elements of the Indonesian Sustainable Palm Oil (ISPO) policy in the hope that the EU recognises these changes in its 2021 review of ILUC measurements. The ISPO is largely focused on formalizing and registering smallholders (Jelsma et al. 2017) which can increase visibility for smallholders for regulatory purposes (if successfully achieving compliance at a scale). One problem is that the ISPO has instituted strict requirements for smallholders which many find difficult (Jong 2018). According to Ministry of Agriculture Regulation No 11/2015, farmers must be in possession of registered seedlings, a plantation business license, a land ownership certificate,

and have proof of membership with a co-operative. These rules may improve the practices of some affluent smallholders but will certainly exclude many others.

Both the EU and Indonesia are concerned about sustainability; however, both have different perspectives and parameters for ensuring environmental standards are upheld. The Indonesian government under current President Joko Widodo has an economic growth, investment and employment agenda that compels the government to rise to the defence of a strategic national commodity and major export such as palm oil.

CONCLUSION

According to the 2018 Renewable Energy Directive (RED II) the European Union will phase out feedstock biofuels that involve high indirect land-use change (ILUC) by 2030. Based on EU rules this phasing out only applies to crude palm oil. Indonesia, the world's leading producer of crude palm oil, claims that the classification of high and low-risk ILUC is discriminatory and inherently protectionist. Given the ambiguity of concepts such as protectionism and sustainability, this study uses a legal framework to examine the principle of likeness, the possibility for environmental exception, and the imposition of unilateral standards. By WTO standards (Article I and III) palm, rapeseed and sunflower oils are 'like products' which means they should receive equal treatment. However, as RED has a wider environmental objective it might qualify for general exceptions under Article XX. High/low-risk distinctions and conservationist objectives (protecting high carbon stock and high conservation value lands) in the RED give rise to the uncertainties of extraterritoriality. Climate change and transboundary emissions are extra jurisdictional issues, but previous WTO cases point to the need for a direct linkage between natural resources and the country implementing the measure. This means that it will be difficult for the EU to demonstrate

that it is not being discriminatory. Then there is a lack of agreement on measuring ILUC, raising suspicions about the EU's modelling. As international standards are key in technical agreements involving the WTO, this leaves room for the EU's ILUC method to be perceived as unilateral.

Managing the risks of ILUC is one way the EU seeks to reduce greenhouse gas emissions. The EU's effort to reduce fossil fuel consumption gave rise to new market opportunities for biofuels and expanded production in Southeast Asia. Biofuel production has been driven in part by the EU's mandatory 10% renewable energy consumption target in transport. Indonesia saw this as an opportunity to increase production of palm oil which can be sourced as a biodiesel blend. The EU strives for environmental sustainability through emission reduction targets, cleaner production and sustainable sourcing (via certification schemes and other measures). As palm oil is the only feedstock biofuel that falls under the EU's high-risk category, Indonesia stands to lose its competitiveness in the EU, its second-biggest market, because palm oil can no longer be counted towards renewable energy targets and is ineligible for tax exemptions.

The EU will continue to consume palm oil if it is certified as low risk under the criteria that the lands used for production are already degraded and that smallholders are involved. Indonesia can improve the industry by planting crops on abandoned and degraded lands, but there are many complex factors and scales involved. Indonesian smallholders are not a homogenous agricultural group. They are difficult to map, and they operate under variable conditions, making any standards difficult to impose. Smallholder cooperatives are often managed by an outside party (a plantation company) to increase productivity, gain market access, and improve agricultural practices as they lack the capacity and capital to do so independently.

In December 2019 Indonesia initiated a WTO litigation process against the EU. Such cases take many years to resolve and at considerable expense. During this period economic and political

relations between the parties involved are affected. Barriers to trade that are perceived to be discriminative and protectionist are likely to be met with retaliation from the aggrieved party. There is also an unintended effect whereby exporters will seek out market alternatives with less stringent regulations that can hinder global environmental objectives.

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