Indonesian Sustainable Palm Oil (ISPO), A Way to Reach The European Union Renewable Energy Directive (EU RED) 2009 and Boosting Indonesian Palm Oil Market to European Union (EU) 2009-2014

Ariance Valentina Hia *President University*
Natasya Kusumawardani *President University*[1]

Abstrak

Energi terbarukan diharapkan dapat mendukung pembangunan berkelanjutan baik dari sisi lingkungan itu sendiri atau dari sisi ekonomi dan sosial. Biofuel sebagai produk dari minyak kelapa sawit adalah salah satu sumber energi terbarukan yang dapat menjawab permasalahan yang disebabkan oleh bahan bakar fosil seperti gas rumah kaca, keterbatasan energi yang tidak terbarukan, dan harga yang tidak stabil. Biofuels sangat ramah lingkungan dan ekonomis, serta dapat mengurangi efek rumah kaca, harganya terjangkau, dan merupakan energi terbarukan sehingga dapat menjadi berkelanjutan. Indonesia sebagai produsen minyak kelapa sawit terbesar telah menjadi eksportir minyak kelapa sawit ke luar negeri khususnya Uni Eropa (UE) yang merupakan importir minyak kelapa sawit dari Indonesia. UE memiliki perhatian yang sangat besar akan energi berkelanjutan seperti yang tertera dalam European Union Renewable Energy Directive (EU RED) 2009 mengenai sustainable palm oil. Sebagai respon, pemerintah Indonesia mengeluarkan peraturan yang dikenal dengan Indonesian Sustainable Palm Oil (ISPO). Pertanyaan yang muncul adalah: Bagaimana peraturan pemerintah dari Menteri Pertanian No. 19/PERMENTAN/OT.140/3/2011 mengenai ISPO dapat menyesuaikan kriteria sustainable biofuels seperti yang dicanangkan oleh EU-RED serta dapat melindungi ekspor minyak kelapa sawit Indonesia ke UE (2009-2014)? Penelitian ini menunjukkan bahwa prinsip dan kriteria yang terdapat dalam ISPO memenuhi kriteria sustainable biofuels sebagaimana yang terdapat dalam EU RED. Keduanya memiliki tujuan yang sama mengenai ktiteria sustainable palm oil. Terlebih lagi, ISPO memberikan efek yang baik terhadap permintaan ekpor minyak kelapa sawit Indonesia ke UE. Dengan demikian, ISPO memiliki potensi yang besar untuk dapat mencapai tujuan dari sustainable palm oil dan meningkatkan ekspor minyak kelapa sawit Indonesia ke Eropa di masa depan.

Kata kunci: *energi, biofuels, minyak kelapa sawit, ISPO, EU RED*

Abstract

Renewable energy is expected to support the sustainable development whether in terms of environment itself, or in economic and social. Biofuel as the product of palm oil is one of the renewable energy sources that can answer the problems that caused by fossils fuels such as greenhouse gases (GHG), limited availability, and the volatile price. Biofuels is environmentally and economically friendly that can help to reduce GHG, affordable, and renewable which then make it sustainable. Indonesia as the biggest producer of palm oil becomes the importer of biofuels for other countries especially European Union (EU) as one of biggest importer of palm oil from Indonesia. EU has big concern on sustainable energy which provides European Union Renewable Energy Directive (EU RED) 2009 for a sustainable palm oil. Indonesia gave response in creating government regulation of

[1] Ariance Valentina Hia completed her study in bachelor degree of International Relations from President University. Natasya Kusumawardani is a permanent lecturer of International Relations Study Program, President University. Corresponding authors: ariancevhia@gmail.com , natasya.kusumawardani@gmail.com

Indonesian Sustaianble Palm Oil (ISPO). Question raised: How did the Government Regulation from Minister of Agriculture No. 19/PERMENTAN/OT.140/3/2011 about ISPO adjusts the EU-RED biofuels sustainable criteria while protecting the Indonesian palm oil export activities to EU (2009-2014)? The result of this study is that the principles and criterion consist in the ISPO meet the criterion from biofuels sustainable regulated in EU RED. It has the same goals of sustainable criteria for palm oil. In addition, the ISPO gave great impact for the demand of EU for Indonesian palm oil. Thus, the ISPO has big potential to reach the goals of sustainable palm oil and protecting Palm oil market to Europe in the future.

Keyword: *energy, palm oil, biofuels, ISPO, EU RED.*

Background

The growing concern on climate change issue has affected many countries to use renewable energy sources. Compare to fossil fuels, energy from renewable sources are clean and give less negative impact to the environment such as less pollution for the environment and reduce greenhouse gas (GHG) emission which is the main cause of climate change issue.[2] Moreover renewable energy sources are easy to be produced and more sustainable, therefore it will never run out.[3] The use of energy from renewable sources is also satisfy the need of environmental protection which made it become more compatible with the goal of sustainable development which is pursued by many countries nowadays.[4]

The use of energy from renewable sources is becoming more popular. Biofuels from palm oil is one of the prove. Since most of energy is used for transportation, rather than using fossil fuels that contribute GHG, biofuels from palm oil becomes the choice. Biofuels is highly productiv compare to other oil sources, it also becomes alternative fuels that can help in reducing GHG emissions and it is considered as low cost oil.[5] Furthermore, palm oil itself

[2] Panwar, N.L, S.C Kaushik, and Surendra Kothari (2011) Renewable and Sustainable Energy Reviews. Elsevier. Retrieved from: http://www.beren.sakarya.edu.tr/sites/beren.sakarya.edu.tr/file/1380752545-07-RenewEn.pdf.pdf

[3] Burton, Chris. (n.d). Advantages and Disadvantages of Renewable Energy. Retrieved from: http://renewableenergysociety.org/resources/Publications/2012_September/Advantages%20and%20Disadvantages%20of%20Renewable%20Energy.pdf

[4] Twidell, John and Tony Weir. (2006). Renewable Energy Resources Second Edition. Taylor and Francis Group. Retrieved from: http://maxwell.sze.hu/~marcsa/MegujuloEnergiaforrasok/Books/renewable%20energy%20resources.pdf

[5] Lee, Henry, William C. Clark, and Charan Devereaux. (2008). Biofuels and Sustainable Development. Sutainablity Science Program, Harvard Kennedy School of Government. Retrieved from: http://www.environment.harvard.edu/docs/faculty_pubs/lee_biofuels.pdf

as organic source to produce biofuels can be used in different kind of products such cosmetics and foods that make it become most efficient oilseed crop.[6]

Indonesia is considered as the top global leader for palm oil plantation and production.[7] According to the data from Ministry of Agriculture of Indonesia, approximately seven million hecatares of land is being used for palm oil plantation. The production of palm oil until 2012 has reached 25 thousand metric tons palm oil and it may be double in production in 2020 following the target plan from the Goverment of Indonesia (GOI) to produce 40 metric tons annually.[8] Therefore, palm oil industry in Indonesia is recognized as important industry for Indonesia's economic development.[9] This fact proves that Indonesia is largest exporter of palm oil for other countries.

One of the largest country destination for Indonesian palm oil export is European Union (EU).[10] According to Eurostat 2010, palm oil commodity is the biggest export product from Indonesia to EU. In European countries, many product of foods, cosmetics, and others are consist of Indonesia's palm oil.[11] Palm oil is also one of the source to produce biofuels for renewable energy, it attracted EU who has great concern to achieve sustainable environment through shifting its transportation fuels to biofuels besides using it only as an ingredient for its dairy products (biscuit, chocolate, margarine, spreads, soap, detergents, etc).[12] This fact supports by the import activities of EU on Indonesian palm oil.

Climate change is an issue that need to be handled by all countries around the world. European Union (EU) is one of countries that give its responsibility to fight it to achieve sustainable future. The implementation of European Union Renewable Energy (EU RED) is one of efforts from EU to fight climate change. EU RED is consists of policies that promote

---

[6] Kurnia, Jundika C, Ssachin V. Jangam, and others. (2016). Biofuel Research Journall "Advances in biofuel production from oil palm and palm oil processing wastes: A Review". Retrieved from: http://www.biofueljournal.com/article_11937_b39e801349deb76be4a15f0a1fd93e3c.pdf

[7] Krystof Obidzinski. (2013). *Indonesia World Leader in Palm Oil Production*. Retrieved from http://blog.cifor.org/17798/fact-file-indonesia-world-leader-in-palm-oil-production#.VhHxEdKeDGc

[8] Paoli G.D., P. Gillespie, P.L. Wells, L. Hovani, A.E. Sileuw, N. Franklinand J. Schweithelm (2013) *Oil Palm in Indonesia: Governance, Decision Making and Implicationsfor Sustainable Development*. The Nature Conservancy, Jakarta, Indonesia

[9] *Palm Oil*. (n.d.). Retrieved from http://www.indonesia-investments.com/business/commodities/palm-oil/item166

[10] Trade in Goods. Retrieved from http://eeas.europa.eu/delegations/indonesia/eu_indonesia/trade_relation/trade_flows/index_en.htm

[11] Skoog, Olof. (2015). Facts about the EU and Palm Oil. Retrieved from http://www.thejakartapost.com/news/2015/01/05/facts-about-eu-and-palm-oil.html

[12] Gelder, Jan Willem van. (2004). Greasy Palms: European Buyers of Indonesian Palm Oil. Retrieved from https://www.foe.co.uk/sites/default/files/downloads/greasy_palms_buyers.pdf

renewable energy sources usage in EU.[13] The use of renewable energy for transportation is one of the most concerned issue regulated in EU RED, particularly the used of biofuels. EU RED regulated that the biofuels production and plantation must follow the sustainable criteria set within it.[14]

This regulation on biofuels definately affect the production of palm oil as one of biofuels sources. Since the palm oil exported in EU comes from Indonesia, the EU RED itself becomes a challenge for Indonesia to produce the sustainable palm oil.[15] Therefore, Indonesia issued Government Regulation from Minister of Agriculture No. 19/PERMENTAN/OT.140/3/2011 regulated about Indonesian Sustainable Palm Oil (ISPO). This regulation sets goals to achieve sustainable palm oil production and plantation in Indonesia.

This article will answer the question on whether the Indonesian Sustaianble Palm Oil (ISPO) as a part of the Government Regulation from Minister of Agriculture No. 19/PERMENTAN/OT.140/3/2011 have potentiality to adjust the sustainable biofuels criterions of European Union Renewable Energy Directive (EU RED) 2009 as well as protect the Indonesian market of Palm oil to EU. In order to reach the answer, this article will use qualitative research method to gather, investigate, observing, and evaluate the supported primary and secondary documents, letters, official statements and others.

The discussion within this article will only focus on the establishment of Government Regulation from Minister of Agriculture about ISPO as one of Indonesian policy to response the implementation of EU policy by increasing the competitiveness value of Indonesian palm oil through the establishment of sustainble palm oil which is produced and exported. The discussion will start from the first establishment of EU RED in 2009 until the target year of ISPO certification will be completed by palm oil industry in Indonesia in 2014.

This article will see the interconnectedness of both regulations, EU RED and ISPO through the concept of sustainable development. According to the World Commission on Environment and Development that known as Brundtland Report, sustainable development is the kind of economic development within society that may fulfill the needs of present

[13] Renewable Energy Directive. (n.d). Retrieved from: https://ec.europa.eu/energy/en/topics/renewable-energy/renewable-energy-directive
[14] Official Journal of European Union Renewable Energy Directive L140
[15] *Pakar Uni Eropa: Minyak Sawit Baik Untuk Kesehatan*. (2014). Retrieved from: http://embassyofindonesia.eu/content/20140626-pakar-uni-eropa-minyak-sawit-baik-untuk-kesehatan-juni-2014

generations without giving bad influence to the needs of future generations.[16] Sustainable development requires the achievement of economic sustainability, social sustainability and of course environmental sustainability.[17]

The issue on palm oil and biofuls production between Indonesia and European Union (EU) is centered in the goal towards sustainable development. EU who set the EU RED were implementing its way to achieve a sustanaible environment through sustainable products used in that area. Indonesia through its Indonesia Sustainable Palm Oil (ISPO) is way from Indonesia in contributing to the sustainable development.[18] This concept will help to explain how the policies regulated within it is in line with the principle of sustainable development which then help to give picture on how ISPO from Indonesia may adjust EU RED from European Union.

1. The Biofuels Sustainable Criteria of European Union Renewable Energy Directive 2009

The issue of climate change that affect the future of sustainable environment has gained attention from European Union (EU) to offer efforts to fight it. Targets and goals are set within regulation to support the sustainable development for each sectors. The establishment and implementation of European Union Renewable Energy Directive (EU RED) 2009 is one of EU's efforts to achieve the sustainable goals.

This part of article will elaborate more about the establishment of European Union Renewable Energy Directive (EU RED) 2009/28/EC which considered as the variable that affects Indonesia to response later. Furthermore, in this chapter, the article will begin to focus explaining and elaborating the biofuels sustainable criteria offered by EU RED 2009/28/EC. The biofuels sustainable criteria is the reference for the whole chapter's discussion with the establishment of Indonesian Sustainable Palm Oil (ISPO).

---

[16] World Commision on Environment and Development (WCED). 1987. *Our Common Future: The Brundtland report*. Oxford: Oxfor University Press. Retrieved from: https://www.iisd.org/pdf/balatonreport.pdf

[17] Emas, Rachel. (2015). *The Concept of Sustainable Development: Definition and Defining Principles*. Florida International University. Retrieved from: https://sustainabledevelopment.un.org/content/documents/5839GSDR%202015_SD_concept_definiton_rev. pdf

[18] Ministry of Agriculture of Indonesia. 28 May 2013. *Pelaksanaan Pengembangan Perkebunan Kelapa Sawit Berkelanjutan Indonesia (ISPO).* Retrieved from: http://ditjenbun.pertanian.go.id/perlindungan/berita-326-pelaksanaan-pengembangan-perkebunan-kelapa-sawit-berkelanjutan-indonesia-ispo.html

European Union Renewable Energy Directive (EU RED) 2009/28/EC were actually the renewal directive of Directive 2001/77/EC about the renewable electricity and Directive 2003/30/EC about promotion on the use of renewable fuels for transportation.[19] The EU RED 2009/28/EC itself covers the regulation from both previous directives. This directive has objective to promote the use of energy either for transportation, electicity, etc that must come from renewable sources. The use of energy in EU must not contribute to create greenhouse gas (GHG) emissions and prevent further environmental damage.[20] The sustainable regulation of EU RED 2009/28/EC was even more detailed and structured for EU member countries.

In line with the concept of sustainable development, it requires the implementation of sustainable environment for the present time without forgetting the future of environment and must be supported by the sustainable economy and society which is EU RED 2009/28/EC. EU RED 2009/28/EC requires EU member countries to put their concern about all aspects of the energy usage process which must be environmental friendly. To realise the goal of sustainable development, the EU RED 2009/28/EC implements regulations which are divided into 29 articles.

Article 1 – 3 deliver the purpose of the directive, national and mandatory target of energy usage by the European Union (EU) member countries that must be achieved in 2020. Article 4 – 5 describe about the first step to do by creating National Renewable Energy Action Plan (NREAPs) by each member countries and the calculation of the energy share. Article 6 up to Article 27 consist of all mechanisms that can be applied in order to gain the national taret including mechanism of Statiscal Transfer, Joint Projects, Administrative Procedures, Regulations and Codes, Information and Training, Guarantees of Origin, Operatin of the Grids, Transparency Platform and Reports. It also included the criteria for sustainable biofuels and greenhouse gas emission (GHG) calculation which are explained in Article 17 until Article 19.

This Renewable Energy Directive is known as mandatory directive in which each member countries must sets its target and progress to achieve the national target on the use of renewable energy.

---

[19] Official Journal of the European Union L 140 5.6.2009

[20] Commission Communication. 2006. *An EU Strategy for Biofuels*. Retrieved from http://pure.au.dk/portal-asb-student/files/13797/Thesis_DGSzabo.pdf

1.1. The Criteria of Sustainable Biofuels

In the Article 17 of European Union Renewable Energy Directive (EU RED) 2009, the criteria for sustainable biofuels are explained into two kinds of criterions. These criterions include the regulation on the greenhouse gas (GHG) emission savings and the requirements of land-use for sustainable biofuels production.

Compare to fossil fuel, biofuels are environmental friendly and produce fewer greenhouse gas emission for transportation sector. However, the production process of biofuels might not be free of emissions.[21] Therefore the Article 17-19 of EU RED 2009 also give attention on the production of biofuels. Article 17.1 delivers three requirements for a sustainable biofuel which includes the compliance of national target, obligation as renewable energy and the eligibility on financial support for consuming the biofuels.[22]

Then, in the Article 17 on the second point, greenhouse gas emission savings from biofuels and bioliquids usage are regulated in detail. It stated that biofuels that sustainable must have at least 50% savings by 2017. After that, by 2018, the greenhouse gas emission saving by biofuels and bioliquids consumption shall be increasing least 60%. Therefore, the calculation of exact number of greenhouse gas emission saving is also the responsiblity of each member countries.The related regulation is stated on Annex V of Article 19.1 under EU RED 2009.

According to the Article, greenhouse gas emission savings from biofuels and bioliquids simply can be calculated through the method of total emissions from fossil fuel comparator minus total emissions from biofuel and bioliquids which then divided the total emissions from fossil fuel of comparator. Fossil fuel of comparator comes from petrol and diesel that consumed in EU.[23]

The second criteria of the sustainable biofuels production and consumption is about the land-use requirement for the biofuels production. The criterion is explained in Article 17 (3)-(5) of the EU RED 2009/28/EC. The increasing number of biofuels production indirectly influence the number of land-use change. European Union (EU) wished to limit the land-use change possibility which may give bad impact to the

---

[21] Szabo, Daniel Gergely. (2010). *Compatibility of the EU Biofuel Sustainability Criteria with WTO Law (Analysis of the Renewable Energy Directive and the EU Biofuel Sustainability Criteria from a WTO Law Perspective)*. Retrieved from: http://pure.au.dk/portal-asb-student/files/13797/Thesis_DGSzabo.pdf

[22] Official Journal of the European Union L140 5.6.2009 Article 17

[23] Skinner, Ian and Bettina Kretschmer. (2010). The Interactions between European Policy Drivers for Increasing the Use of Biofuels in Transport. Retrieved from: http://www.biomassfutures.eu/public_docs/final_deliverables/WP8/D8.4%20RED_and_FQD.pdf

environmental ecosystem.[24] Therefore, EU RED 2009 regulated standard for the use of land for biofuels production to follow the sustainable principle, fulfill the present needs without distracting the future needs, because the environmental damage may affect sustainability.

Stated in the Article 17 point (3), the first category of land that must not be used to produce raw material for biofuels and bioliquids is the land with rich biodiversity. This land includes primary forest or wooded land as the place for native species, land that acknowledged by law for the nature protection purpose, and highly biodiverse grassland which is in the absence of human intervention, rich of natural species, and not degraded.

The second category of land-use for biofuels production is stated in Article 17 point (4). The biofuels production must not come from raw materials of high carbon stock land which includes wetlands, continuously forested areas, and land spanning that is more than one hectares with trees higher than five metres unless there is evidence that before and after use of this land follow the greenhouse gas emission saving instruction from Annex V part C of EU RED 2009.

The third category of land-use for sustainable biofuels production is that the raw materials must not come from peatland unless the use of land for biofuels productions does not cause drainage of undrained soil. These all criterion is applicable for both domestic and imported biofuels.[25]

2. Indonesian Sustainable Palm Oil (ISPO) Regulation, A Response to the EU Market Demand on Sustainable Development

There are some reasons for Indonesia to produce and import sustainable palm oil. Government of Indonesia (GOI) has awereness towards the climate change issue and sustainable development. Sustainable palm oil which in line with environmental protection will help to support fighting this issue by contributing in reducing greenhouse gas (GHG)

[24] Szabo, Daniel Gergely. (2010). *Compatibility of the EU Biofuel Sustainability Criteria with WTO Law (Analysis of the Renewable Energy Directive and the EU Biofuel Sustainability Criteria from a WTO Law Perspective)*.p.13

[25] Afionis, S., and L. C. Stringer. (2012). *The European Union leadership in Biofuels regulation: Europe as a Normative Power*.

emisison and other environmental issues.[26] Sustainable palm oil will also help Indonesian palm oil and biofuels product become more competitive since sustainability is requirement for most countries recently.[27] European Union (EU) also required sustainable energy product usage in their region by implementing European Union Renewable Energy 2009/28/EC. Indonesia gives its attention on this requirement from European market by producing sustainable palm oil product. The establishment of Indonesian Sustainable Palm Oil (ISPO) regulation is the Indonesia's effort towards this awereness.

Indonesian Sustainable Palm Oil (ISPO) is the regulation from Ministry of Agriculture of Indonesia No.19/PERMENTAN/OT.140/3/2011. This regulation is about policy and guideline to produce sustanaible palm oil for all palm oil companies in Indonesia. This regulation will be Indonesia's effort to meet the requirement from palm oil market. Stated by Director of Directorate General of International Trade Cooperation Ministry of Trade of Indonesia that ISPO has purpose also to meet requirement from European Union market on palm oil that offered by EU RED 2009/28/EC.[28] This is also supported by the statement from Deputy Director of Minister of Agriculture, 5 June 2013 on European Roundtable Sustainable Palm Oil that ISPO regulation guides Indonesia's palm oil product to meet demand from European Union market on sustainable biofuels.

The establishment of ISPO in 2011 required some preparations as its first step. Those preparations included: trial on field for 15-20 companies that assisted by ISPO authors team, public consultation to gain suggestions on February 2011, discussion among palm oil businessman and officials held on February 2011, Team Plenary meeting to discuss the previous preparations and announcement on the establisgment of ISPO at the end of March 2011 followed by the implementation of national target for ISPO certificate implementation. ISPO certificate is the written evidence for companies which already complete overall ISPO regulations.

Indonesian Sustainable Palm Oil (ISPO) is mandatory regulation for all Indonesian palm oil companies and plantations. As it was stated by Rismansyah Danasaputra from Ministry of Agriculture, stakeholders need to follow the ISPO certification for doing business

[26]Official Website of Indonesian Sustainable Palm Oil. (2011). Retrieved from: http://www.ispo-org.or.id/index.php?option=com_content&view=article&id=51&Itemid=209&lang=ina

[27] Alamprabu, Djayawarman. (2013). *Pelaksanaan Pengembangan Perkebunan Kelapa Sawit Berkelanjutan Indonesia (ISPO)*. Kementerian Pertanian. Retrieved from: http://ditjenbun.pertanian.go.id/perlindungan/berita-326-pelaksanaan-pengembangan-perkebunan-kelapa-sawit-berkelanjutan-indonesia-ispo.html

[28] Ministry of Trade. (2013). *Diplomasi Perdagangan Wamendag di London: Promosi Produk Sawit Indonesia Berkelanjutan*. [Press Release]. Retrieved from: http://www.kemendag.go.id/files/pdf/2014/06/06/diplomasi-perdagangan-wamendag-di-london-promosi-produk-sawit-indonesia-berkelanjutan-id0-1402071395.pdf

in Indonesia.[29] Therefore, there will be sanctions to those who do not follow the regulation from ISPO. According to the statement from Gamal Nasir, Director General for Plantation of Ministry of Agriculture, those who do not fulfill the ISPO regulation, the licence of those palm oil companies will be revoked.[30] The sanctions will follow the scale of violations towards the regulation.

Indonesian Sustainable Palm Oil (ISPO) regulated mechanism in order for companies to achieve certificate from ISPO. Those mechanism are: 1) Eligible Palm Oil plantation (Grade I, II, or III) must submit request ISPO certification to legal certification body. The grade is given by government assessment; 2) The independent cerification body (approved by ISPO commission) verify all documents; 3) Companies submit the compliance result to ISPO commission for acknowledgement in three months; 4) Within 7 days, ISPO check the completeness of the overall documents related to ISPO requirements. After all these steps, ISPO will verify and make decision within one month whether the companies have met the ISPO requirements and be acknowledged by ISPO certification.

In order to pursue the certification, some regulations are made under Indonesian Sustainable Palm Oil (ISPO) regulation. ISPO has 7 principles, 41 criterions, and 126 indicators to fulfill the sustainable palm oil regulations. The principles covers criterions and indicators which will be the point of assessment from the ISPO commission. First principle is licensing system and management of plantation that regulated about land legalization. It means palm oil plantation must have land certification that provide legal rights over the land.

Second principle is about the implementation of cultivation orientation of palm oil. This principle regulates the land and water conversion. The quality of water must not be contaminated by waste and it must support the preservation of water source. The land conversion through clearing must be without combustion, implement drainage, use crop system to prevent environmental damage. This principle also regulated about the cultivation on peatland must not cause any environmental damage by implementing water level must be between 50-60 cm to hamper emission from peatland plantation. This principle also regulated to use Methane Trapping to reduce greenhouse gas emissions.

Third principle is about the management and monitoring of the environment around the plantation area. The palm oil plantation must prevent and manage any burning for

[29] Sub Portal BUMN PT Perkebunan Nusantara V (Persero). (2012). *Semua Kebun Sawit Wajib ISPO*. Retrieved from: http://www.bumn.go.id/ptpn5/berita/5599/2014,.Semua.Kebun.Sawit.Wajib.ISPO

[30] Investor Daily. (2013). *Indonesian Government to Revoke Palm Oil Licenses withoit Sustainable Credentials*. Retrieved from: http://jakartaglobe.beritasatu.com/business/3872/ and http://www.amcham.or.id/newsrss/4057-government-to-revoke-palm-oil-licenses-without-sustainable-credentials

opening of plantation in order to preserve biodiversity surround the plantation according to this principle. Companies also need to identify and protect area with high conservation which has natural resources, historical and culture value. There must be a documentation on land use trajectory, inventory of the source of greenhouse gas emission, project on reducing greenhouse gas emission, socialization on the way to reduce emission (methane trapping, management on peatland, fertilization), utilization on palm oil waste and process of mitigation. These documentation will be the evidence that prove the companies' attention regarding the greenhouse gas emission saving.

Fourth principle regulates about how the companies are responsible of their workers, starting from worker safety performance, worker's welfare, legal age for worker, and building worker's association and cooperation. Fifth principles regulates about the responsibility on individual and community, their surrounding, society and culture. Sixth principle is the empowerment of the economy society's activity through the development of local business. Seventh principle talks about the commitment of the palm oil companies and plantations to improve the economy continuously which means there will always be a follow up to the area of plantation even after the palm oil production has been done. These principles is in line with sustainable development principle in which social and economic sustainability becomes a concern too. There must be continuous efforts to pursue sustainable development.

In 2012, ISPO experienced development through the partnership with United Nations Development Programme (UNDP) in the establishing Sustainable Palm Oil Initiative which responsible to support the implementation of ISPO regulation and for improving smallholders of palm oil, society's quality and the protection of environment. Sustainable Palm Oil Initiative provides discussion platform to strengthen palm oil actors partnership.[31]

In 2013, Indonesian Sustainable Palm Oil (ISPO) made improvement through partnership with Roundtable Sustainable Palm Oil (RSPO). RSPO is the palm oil sustainable standard that applicable internationally. Indonesia once was member of RSPO, however the membership of RSPO did not give advantage for the Indonesia palm oil plantation since RSPO was influenced more by the consumers rather than producers that RSPO put standard from business requirements.[32] This partnership with RSPO has purpose to unify the both

[31] *UNDP and Ministry of Agriculture Launch Indonesia Sustainable Palm Oil (SPO) Initiative*. Retrieved from: http://www.ispo-org.or.id/index.php?option=com_content&view=article&id=93&Itemid=271&lang=en

[32] Harsono, Dina, M. Achmad Chozin, and Anas M. Fauzi. (2012). *Analysis on Indonesian Sustainable Palm Oil (ISPO): A Qualitative Assessment on the Success Factors for ISPO*. Jurnal Manajemen & Agribisnis, Vol. 9 No. Edisi Khusus Juni 2012.

standards and removes barrier from the differences created by these two standards.[33] This partnership has benefit for ISPO to be recognized and acknowledged by palm oil market internationally.

The year of 2014 must be the target of ISPO regulation to be applied by Indonesia's palm oil plantations and companies. However, published by Jakarta Post, there are many plantations and companies of palm oil have not been assessed by ISPO certification since smallholders of Indonesian palm oil plantations have no land-use certification and other challenges to fulfill ISPO regulations.[34]

3. The Harmonization of Indonesian Sustainable Palm Oil Regulation with Biofuels Sustainable Criteria of European Union Renewable Energy Directive 2009

As the respond from Indonesia towards European Union Renewable Energy (EU RED) 2009, Indonesian Sustainable Palm Oil (ISPO) regulation set standard for Indonesia palm oil plantations and companies that in line with the requirement from EU RED 2009/28/EC. The target towards sustainable environment that support sustainable development became basic similarity of both regulation's objective on sustainable palm oil and biofuels. The harmonization of ISPO with EU RED 2009 can be analyzed through principles, criterion, and indicators regulated under ISPO may meet the EU RED standard. This harmonization will help to show how ISPO may adjust EU RED standard for sustainable biofuels. As stated in previous chapter, European Union Renewable Energy Directive (EU RED) 2009 highlighted two biofuels sustainable criteria which are about greenhouse gas emission savings and land-use requirement for biofuels plantation and production.

Regulation about greenhouse gas emission savings is stated on Article 17.2 of EU Red 2009/28/EC. In line with this regulation, ISPO sets principles, criterion, and indicators related to the greenhouse gas emission management. Second principles on first criteria, ISPO regulated that palm oil plantation must prevent burning and combustion that may contribute in greenhouse gas emission. In this principle also, plantation on peatland was regulated which must set water level between 50-60 cm to prevent greenhouse gas emission from peatland. Next, in the Second principle on fourth criterion, palm oil companies must has report about

[33] News Release ISPO and RSPO Enter Into Strategic Cooperation. (2013). Retrieved from: http://www.ispo-org.or.id/index.php?option=com_content&view=article&id=56:rspo-and-ispo-conduct-a-joint-study&catid=14&Itemid=211&lang=ina

[34] Salim, Tama. (2014). *Palm Oil Certification Gets International Support*. Retrieved from: http://www.thejakartapost.com/news/2014/10/04/palm-oil-certification-gets-int-l-support.html

the measurement of greenhouse gas emission per six months. In the way to measure, the method will follow measurement from Annex V of EU RED 2009.[35]

Other regulation under ISPO about greenhouse gas emission is also about the utilization of Methane Trapping and socialization on reducing greenhouse gas emission. Therefore, ISPO provides management on greenhouse gas emission although there is no exact number for national target savings, however these management effort will help to support to reduce greenhouse gas emission that is causing climate change and global warming.

The second biofuels sustainable criteria of EU RED 2009/28/EC is about land requirements. First land-standard is that raw material for biofuels must not come from land with high biodiversity (Article 17.3.(a)-(c)) which includes primary forest, protected land, and highly biodiveristy grassland unless there will be evidence that the production will not cause continuously environmental damage and change the entire ecosystem of the land. Related to this article, some principles and criterion that are relevance from ISPO are found. First, third principle of ISPO regulated about biodiveristy surround the palm oil plantation are. Companies need to identify flora and fauna arround the plantation are, do socialization about protection on the biodiveristy and contributing to the conservation of the biodiveristy. Secons, in the third principle of fifth criterion, Indonesia palm oil plantation is prohibited in the protected area with natural, historical, and cultural resources. Companies also need permission from Ministry of Forestry regarding the use of forest and conversed land for palm oil plantation.

Article 17.4 of EU RED 2009/28/EC regulates about biofuels, it must not come from raw material of land with high carbon stock included wetland (land covered by water permanently) and continuously forested land unless there is further responsibility following Annex V of the EU RED 28/EC/EC. The regulation of ISPO that in line with this article is same with the previous one which regulated about water management for land, permission for using forested land and greenhouse gas emission management since land with high carbon stocks contributing greenhouse gas emission.

Then, Article 17.5 gives land criteria about the prohibition of biofuels production from peatland area unless there is evidence that cultivation and harvesting of the plantation does not cause damage for the undrained soil. Related to this article, ISPO set regulation on

[35] Workshop Perhitungan Emisi Gas Rumah Kaca. Retrieved from: Retrieved from: http://www.ispo-org.or.id/index.php?option=com_content&view=article&id=97:workshop-grk&catid=13&Itemid=213&lang=ina

palm oil plantation on peatland that companies must examine the characteristi of the peatland in order to prevent environmental damage. Moreover, the cultivation on peatland area must have depth less than 3m, using plant that cover the crops, with water level 50-60 cm which scientifically this way will hamper emission from peatland plantation.

As stated previously, one of objective of ISPO regulation be established is also to increase competitiveness of Indonesia palm oil product through sustainable development standard that achieved by the Indonesian companies. This sustainable quality will also help Indonesia's palm oil product that imported to other countries might fulfill the market demand including European Union. Indirectly, ISPO may protect palm oil product in the market with many requirements and challenges. Some evidence is shown bellow.

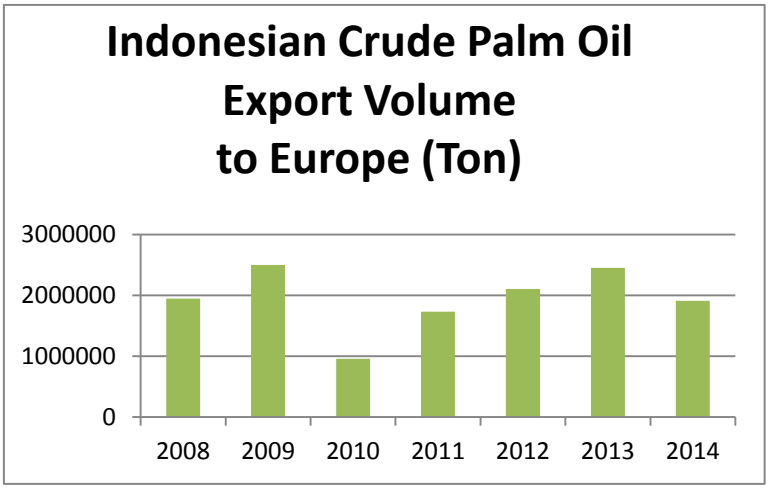

Figure 4.1 Indonesian Crude Palm Oil Export Volume to Europe
(Source: Badan Pusat Statistik Indonesia

The figure shows the export volume of palm oil from 2008-2014. It is known that European Union Renewable Energy Directive was implemented from 2009. The figure shows the decreasing of export volume by Europe which might be affected by growing concern on sustainable biofuels production and plantation since this directive is mandatory and has enforcement towards national target of each European member countries.

After that, start from 2011, Indonesia was starting to implement effort to establish sustainable palm oil product through the establishment of Indonesian Sustainable Palm Oil (ISPO) regulation in March 2011. The figure shows the increasing of export volume of crude palm oil start from 2011 until 2013. The export volume of Crude Palm Oil to Europe in 2011

was 1.730.705, 2012 was about 2.104.366, and in 2013, the export volume was about 2.455.270.[36]

However, in 2014, the volume started to decrease again. As stated previously, progress of ISPO in 2014 was not good since there are some plantation and companies still could not fulfill the certification from ISPO regulation which means that there were still unsustainable palm oil production in 2014, meanwhile, it must be the year where national target for all companies have applied ISPO. This can be recognized as strong reason for the decreasing number.

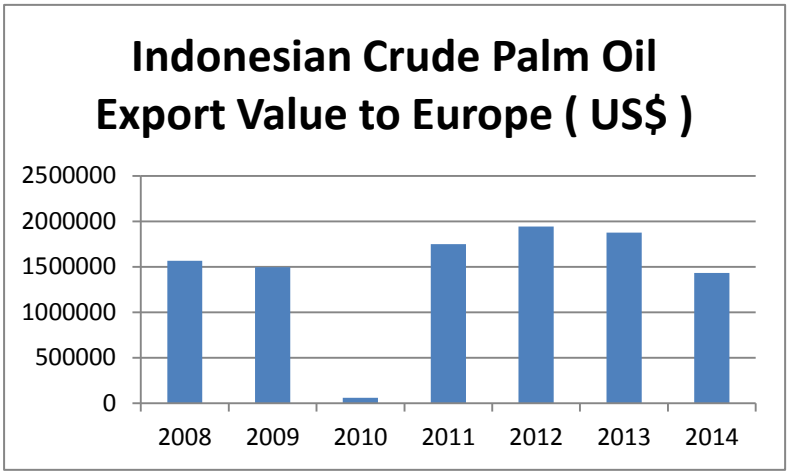

Figure 4.2 Indonesian Crude Palm Oil Export Value to Europe
(Source: Badan Pusat Statistik)

This figure also shows the same fact but this is from the export value perspective. Indonesian palm oil value exported to European experienced great declining from the year 2009-2010. In 2009, the value of crude palm oil export was about $1.494.227 which then greatly declined to $573.686 in 2010. Another fact about how ISPO may protect palm oil export to European Union can be analyzed through the specific main target countries in EU for Indonesian palm oil export which are Netherlands and Germany.[37]

---

[36] Hia, Ariance Valentina. (2016). *The Responses of The Indonesian Government Through Indonesian Sustainable Palm Oil Regulation on the European Union Biofuels Sustainable Criteria (2009-2014)*. President University, p: 81.

[37] *Ekspor Minyak Kelapa Sawit menurut Negara Tujuan Utama*, 2008-2014. Retrieved from: http://www.bps.go.id/index.php/linkTabelStatis/1026

Indonesian Crude Palm Oil Export by Country of Main Destination in Europe (in Ton)

Table 4.1 (Source: Badan Pusat Statistik)

	2009	2010	2011	2012	2013	2014
Netherlands	1.364,3	1197	873	1358,3	1361,4	1218,9
Germany	461,5	379	263	219,5	283,1	186,5

Indonesian Crude Palm Oil Export by Country of Main Destination in Europe (in US$)

	2009	2010	2011	2012	2013	2014
Netherlands	811,9	1005	870,9	1249,8	1031	908,5
Germany	267,5	280	270	197,8	216,8	141,9

Table 4.2 (Source: Badan Pusat Statistik)

Both figure shows Indonesian palm export volume and value to Netherlands and Germany as main target market. As ISPO was started to be applied in 2011, the export volume and value was increasing step by step in Netherlands. In Germany, the volume and value might not be seen increased significantly, but they were surely going up in year 2013. It shows ISPO indirectly give impact to the market demand. This fact was supported by export in 2014 that experienced declining which it could be caused by uncomplete implementation of ISPO by some companies and plantation that decrease interest from importer.

Conclusion

Indonesian Sustainable Palm Oil (ISPO) regulated principles, criterion, and indicators that must be followed and completed by Indonesian palm oil companies and plantation in order to be able to adjust biofuels sustainable criteria of European Union Renewable Energy Directive (EU RED) 2009. Those principles, criterion, and indicators did not literally set the same regulation as stated in EU RED, but ISPO set regulation that may fulfill the need of producers without putting aside requirement from European market. Therefore, the regulation of ISPO was more about management of the palm oil plantation such management of greenhouse gas emission, use of water, use of land, with clear alternative ways to follow and meet the requirement from EU RED 2009/28/EC as regulation from European market.

These principles, criterion, and indicators are mandatory for all palm oil companies and plantation which promise sustainable future for Indonesian palm oil. It affect the attractiveness from European Union market to import palm oil from Indonesia. It is proved that ISPO support to protect Indonesian palm oil product exported to European market since ISPO provides evidence that Indonesian palm oil product including biofuels is renewable sources that not causing damage for environment and the plantation contributes in preserving environment.

Since the establishment of ISPO, Indonesian palm oil exports to EU has been increasing significantly, which marked the potential of the ISPO itself. The good continuity and consistency of ISPO can make Indonesia succeed in achieving the sustainable palm oil criterions from EU RED and maintaining Indonesian palm oil market in Europe. The pebble that stroked this achievement is the failure to achieve ISPO target by 2014. However, if Indonesia manage to fix this problem, ISPO will be Indonesia's great stepping stone to reach the sustainable palm oil and big market in EU.

References

Afionis, S., and L. C. Stringer. (2012). *The European Union leadership in Biofuels regulation: Europe as a Normative Power*.

Alamprabu, Djayawarman. (2013). *Pelaksanaan Pengembangan Perkebunan Kelapa Sawit Berkelanjutan Indonesia (ISPO)*. Kementerian Pertanian. Retrieved from: http://ditjenbun.pertanian.go.id/perlindungan/berita-326-pelaksanaan-pengembangan-perkebunan-kelapa-sawit-berkelanjutan-indonesia-ispo.html

Burton, Chris. (n.d). *Advantages and Disadvantages of Renewable Energy*. Retrieved from: http://renewableenergysociety.org/resources/Publications/2012_September/Advantages%20and%20Disadvantages%20of%20Renewable%20Energy.pdf

Commission Communication. 2006. *An EU Strategy for Biofuels*. Retrieved from http://pure.au.dk/portal-asb-student/files/13797/Thesis_DGSzabo.pdf

Ekspor Minyak Kelapa Sawit menurut Negara Tujuan Utama, 2008-2014. Retrieved from: http://www.bps.go.id/index.php/linkTabelStatis/1026

Emas, Rachel. (2015). *The Concept of Sustainable Development: Definition and Defining Principles*. Florida International University. Retrieved from: https://sustainabledevelopment.un.org/content/documents/5839GSDR%202015_SD_concept_definiton_rev. pdf

Gelder, Jan Willem van. (2004). *Greasy Palms: European Buyers of Indonesian Palm Oil*. Retrieved from https://www.foe.co.uk/sites/default/files/downloads/greasy_palms_buyers.pdf

Harsono, Dina, M. Achmad Chozin, and Anas M. Fauzi. (2012). *Analysis on Indonesian Sustainable Palm Oil (ISPO): A Qualitative Assessment on the Success Factors for ISPO*. Jurnal Manajemen & Agribisnis, Vol. 9 No. Edisi Khusus Juni 2012.

Hia, Ariance Valentina. (2016). *The Responses of The Indonesian Government Through Indonesian Sustainable Palm Oil Regulation on the European Union Biofuels Sustainable Criteria (2009-2014).* President University.

Investor Daily. (2013). *Indonesian Government to Revoke Palm Oil Licenses withoit Sustainable Credentials*. Retrieved from: http://jakartaglobe.beritasatu.com/business/3872/ and

http://www.amcham.or.id/newsrss/4057-government-to-revoke-palm-oil-licenses-without-sustainable-credentials

Kurnia, Jundika C, Ssachin V. Jangam, and others. (2016). *Biofuel Research Journall "Advances in biofuel production from oil palm and palm oil processing wastes: A Review"*. Retrieved from: http://www.biofueljournal.com/article_11937_b39e801349deb76be4a15f0a1fd93e3c.pdf

Krystof Obidzinski. (2013). *Indonesia World Leader in Palm Oil Production*. Retrieved from http://blog.cifor.org/17798/fact-file-indonesia-world-leader-in-palm-oil-production#.VhHxEdKeDGc

Lee, Henry, William C. Clark, and Charan Devereaux. (2008*). Biofuels and Sustainable Development.* Sutainablity Science Program, Harvard Kennedy School of Government. Retrieved from: http://www.environment.harvard.edu/docs/faculty_pubs/lee_biofuels.pdf

Ministry of Agriculture of Indonesia. 28 May 2013. *Pelaksanaan Pengembangan Perkebunan Kelapa Sawit Berkelanjutan Indonesia (ISPO).* Retrieved from: http://ditjenbun.pertanian.go.id/perlindungan/berita-326-pelaksanaan-pengembangan-perkebunan-kelapa-sawit-berkelanjutan-indonesia-ispo.html

Ministry of Trade. (2013). *Diplomasi Perdagangan Wamendag di London: Promosi Produk Sawit Indonesia Berkelanjutan*. [Press Release]. Retrieved from: http://www.kemendag.go.id/files/pdf/2014/06/06/diplomasi-perdagangan-wamendag-di-london-promosi-produk-sawit-indonesia-berkelanjutan-id0-1402071395.pdf

News Release ISPO and RSPO Enter Into Strategic Cooperation. (2013). Retrieved from: http://www.ispo-org.or.id/index.php?option=com_content&view=article&id=56:rspo-and-ispo-conduct-a-joint-study&catid=14&Itemid=211&lang=ina

Official Journal of European Union Renewable Energy Directive L140

Official Website of Indonesian Sustainable Palm Oil. (2011). Retrieved from: http://www.ispo-org.or.id/index.php?option=com_content&view=article&id=51&Itemid=209&lang=ina

Pakar Uni Eropa: Minyak Sawit Baik Untuk Kesehatan. (2014). Retrieved from: http://embassyofindonesia.eu/content/20140626-pakar-uni-eropa-minyak-sawit-baik-untuk-kesehatan-juni-2014

Panwar, N.L, S.C Kaushik, and Surendra Kothari. (2011). *Renewable and Sustainable Energy Reviews. Elsevier.* Retrieved from: http://www.beren.sakarya.edu.tr/sites/beren.sakarya.edu.tr/file/1380752545-07-RenewEn.pdf.pdf

Paoli G.D., P. Gillespie, P.L. Wells, L. Hovani, A.E. Sileuw, N. Franklinand J. Schweithelm (2013) *Oil Palm in Indonesia: Governance, Decision Making and Implicationsfor Sustainable Development*. The Nature Conservancy, Jakarta, Indonesia

Palm Oil. (n.d.). Retrieved from http://www.indonesia-investments.com/business/commodities/palm-oil/item166

Renewable Energy Directive. (n.d). Retrieved from: https://ec.europa.eu/energy/en/topics/renewable-energy/renewable-energy-directive

Salim, Tama. (2014). *Palm Oil Certification Gets International Support*. Retrieved from: http://www.thejakartapost.com/news/2014/10/04/palm-oil-certification-gets-int-l-support.html

Skinner, Ian and Bettina Kretschmer. (2010). *The Interactions between European Policy Drivers for Increasing the Use of Biofuels in Transport*. Retrieved from: http://www.biomassfutures.eu/public_docs/final_deliverables/WP8/D8.4%20RED_and_FQD.pdf

Skoog, Olof. (2015). *Facts about the EU and Palm Oil*. Retrieved from http://www.thejakartapost.com/news/2015/01/05/facts-about-eu-and-palm-oil.html

Sub Portal BUMN PT Perkebunan Nusantara V (Persero). (2012). *Semua Kebun Sawit Wajib ISPO*. Retrieved from: http://www.bumn.go.id/ptpn5/berita/5599/2014,.Semua.Kebun.Sawit.Wajib.ISPO

Szabo, Daniel Gergely. (2010). *Compatibility of the EU Biofuel Sustainability Criteria with WTO Law (Analysis of the Renewable Energy Directive and the EU Biofuel Sustainability Criteria from a WTO Law Perspective)*.p.13

Trade in Goods. Retrieved from http://eeas.europa.eu/delegations/indonesia/eu_indonesia/trade_relation/trade_flows/index_en.htm

Twidell, John and Tony Weir. (2006). *Renewable Energy Resources Second Edition. Taylor and Francis Group*. Retrieved from: http://maxwell.sze.hu/~marcsa/MegujuloEnergiaforrasok/Books/renewable%20energy%20resources.pdf

UNDP and Ministry of Agriculture Launch Indonesia Sustainable Palm Oil (SPO) Initiative. Retrieved from: http://www.ispo-org.or.id/index.php?option=com_content&view=article&id=93&Itemid=271&lang=en

Workshop Perhitungan Emisi Gas Rumah Kaca. Retrieved from: Retrieved from: http://www.ispo-org.or.id/index.php?option=com_content&view=article&id=97:workshop-grk&catid=13&Itemid=213&lang=ina

World Commision on Environment and Development (WCED). 1987. *Our Common Future: The Brundtland report*. Oxford: Oxfor University Press. Retrieved from: https://www.iisd.org/pdf/balatonreport.pdf