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Responsibility in Sustainability Principles Implementation in International Oil Trade

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Abstract

In international trade, especially crude oil trade, which has negative effects such as environmental damage from increased carbon emissions and harmful impacts of oil drilling on both the environment and society, international oil companies have an obligation to apply the principle of sustainability in their business activities. This principle is implemented through the triple bottom line framework—people, planet, and profit. Currently, international oil companies such as Shell, British Petroleum, and Aramco have attempted to apply the principle of sustainability in their net-zero emission commitments and have integrated it into their annual sustainability reports. In Indonesia, the principle of sustainability is incorporated into several regulations, and oil companies operating in Indonesia, such as Pertamina, ExxonMobil, and Medco Energi, are also making efforts to implement sustainability in their commitments and reports. The research shows that while international and Indonesian oil companies are making progress in adopting sustainability principles, the implementation remains largely formal and needs to be strengthened through more concrete, transparent, and enforceable actions. Therefore, oil companies must go beyond declarations and fully apply the principle of sustainability in practice to protect the planet, improve societal welfare, and ensure economic viability.

KEYWORDS: *international oil trade, sustainability, triple bottom line*

Introduction

During the last quarter of the 20th century, there have been several phenomena that have significantly changed the dynamics of relations between countries, namely globalization and the era of free trade.

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Globalization refers to the increasing interaction and dependence between countries and individuals around the world through trade, investment, travel, popular culture, and other forms of interaction, which blur the traditional boundaries between countries. In particular, economic globalization has strengthened the integration of global markets, removed territorial barriers between countries, and produced an increasingly unified market force at the international level.[1] Globalization is a phenomenon in which activities in various fields around the world become more interconnected and involve wider participation from various countries. The impact of the global market is becoming increasingly significant on all aspects of life as a result of this process.[2]

International trade, which is an economic activity across countries, has become a major foundation in today's global structure.[3] International business, as a form of trade in goods between countries, involves the process of buying and selling goods between different countries, often also involving transactions between individuals from different countries. The term international business refers to a series of activities involved in conducting business transactions between different countries.[4]

In 2021, Crude Oil became the world's most traded product, with a total trade value of $951 billion. Between 2020 and 2021, Crude Oil exports increased by 47.4%, rising from $646 billion to $951 billion. Crude Oil trade accounts for about 4.52% of total world trade.[5] Petroleum, or oil, is a fossil fuel that is the basis for various products such as fuel oil, gasoline, and many other chemical products. Petroleum plays a vital role in meeting global energy needs. However, similar to coal, the use of petroleum has a

[1] D. Wahono, *Perdagangan Internasional* (Yogyakarta: Penerbit Deepublish, 2018).
[2] Musa IM Nurhaidah, "Dampak Pengaruh Globalisasi Bagi Kehidupan Bangsa Indonesia," *Jurnal Pesona Dasar* 3, no. 3 (2015): 1–14.
[3] F Amelia, "Perdagangan Internasional Booster Dalam Pertumbuhan Ekonomi," *Change Think* 1, no. 2 (2022): 151–57.
[4] Anishah Wulandari, Devita Maulidia Soleha, and Rechal Wulandari, "Analisis Dampak Globalisasi Terhadap Perdagangan Internasional," *J-MAS (Jurnal Manajemen Dan Sains)* 8, no. 1 (April 30, 2023): 1160, https://doi.org/10.33087/jmas.v8i1.1202.
[5] OEC, "Crude Petroleum," 2021, https://oec.world/en/profile/hs/crude-petroleum.

significant negative impact as it is one of the largest contributors to increasing CO2 levels in the atmosphere.[6] Crude oil has long been the most widely traded commodity in global markets, as a result of the high degree of specialization of regional economies following the law of comparative advantage of crude oil producing countries.[7]

Crude oil has remained dominant in the world's energy supply for the past half century. In 2017, crude oil accounted for 34.21% of total primary energy supply, a larger share than any other energy source. As oil use becomes more concentrated in the transportation and petrochemical industries, where substitution is most difficult, crude oil is likely to continue to play a major role in meeting global energy needs for the next two decades. However, future crude oil supplies are likely to be very limited. According to BP, crude oil reserves at the end of 2017 were only enough to support current global oil production for 50 years. Under these circumstances, international competition for crude oil resources is becoming increasingly fierce.[8]

International trade can play an important role in increasing economic growth by allowing countries to specialize in the production of products in which they have a comparative advantage, and by transferring resources between different countries. However, international trade can also have negative impacts on the environment. International trade has a

[6] Indonesia Investments, "Indonesian Crude Oil - Production & Consumption Analysis." Indonesia Investments," accessed July 17, 2024, https://www.indonesia-investments.com/id/bisnis/komoditas/minyak-bumi/item267.
[7] IEA (International Energy Agency), "Key World Energy Statistics," [IEA (International Energy Agency), 2014, http://www.iea.org/publications/freepublications/publication/key-world-energy-statistics-2015.html; W Antweiler, BR Copeland, and MS Taylor, "Is Free Trade Good for the Environment?," *American Economic Review* 91, no. 4 (2001): 877–908.
[8] Hai-Ying Zhang, Qiang Ji, and Ying Fan, "What Drives the Formation of Global Oil Trade Patterns?," *Energy Economics* 49 (May 2015): 639–48, https://doi.org/10.1016/j.eneco.2015.02.017; British Petroleum, "Energy Outlook 2016 Edition," 2016, http://www.bp.com/en/global/corporate/energy-economics/energy-outlook-2035.html; Yu Yang et al., "Small and Flat Worlds: A Complex Network Analysis of International Trade in Crude Oil," *Energy* 93 (December 2015): 534–43, https://doi.org/10.1016/j.energy.2015.09.079.

significant impact on CO2 emissions from export and import activities.[9] The Stockholm Conference adopted several recommendations dealing with the issue of environment and trade, particularly from the perspective of the effects of environmental policies and practices on trade activities. One example of such a recommendation was that the GATT and other trade-related bodies should consider efforts to monitor, assess and regularly report on the emergence of tariff and non-tariff barriers to trade resulting from environmental policies.[10] The issue of environmental life has now become an issue that is closely related to international trade activities, so that especially in the current era of globalization, environmental law and international trade law have become two closely related areas of law, so that in trade activities it is necessary to implement a commitment to stop in supporting environmental development.[11]

Based on the report entitled "Our Common Future" from the World Commission on Environment and Development (WCED) in 1987, the concept of sustainable development is development that meets the needs of the present without compromising the ability of future generations to meet their own needs.[12] To reduce the negative impacts of international trade on the environment, especially oil trade as the most widely traded commodity,

[9] Mounir Belloumi and Atef Alshehry, "The Impact of International Trade on Sustainable Development in Saudi Arabia," *Sustainability* 12, no. 13 (July 5, 2020): 5421, https://doi.org/10.3390/su12135421; Fakhri J. Hasanov, Brantley Liddle, and Jeyhun I. Mikayilov, "The Impact of International Trade on CO2 Emissions in Oil Exporting Countries: Territory vs Consumption Emissions Accounting," *Energy Economics* 74 (August 2018): 343–50, https://doi.org/10.1016/j.eneco.2018.06.004.

[10] Edith Brown W Eiss and John H. Jackson, "Chapter 1. The Framework For Environment And Trade Disputes," in *Reconciling Environment and Trade* (Brill | Nijhoff, 2008), 1–38, https://doi.org/10.1163/ej.9781571053701.i-716.6.

[11] Endra Wijaya, Kikin Nopiandri, and Habiburrokhman Habiburrokhman, "DINAMIKA UPAYA MELAKUKAN SINERGI ANTARA HUKUM PERDAGANGAN INTERNASIONAL DAN HUKUM LINGKUNGAN," *Jurnal Hukum Dan Peradilan* 6, no. 3 (November 30, 2017): 487, https://doi.org/10.25216/jhp.6.3.2017.487-508.

[12] Ferina Ardhi Cahyani, "Upaya Peningkatan Daya Dukung Lingkungan Melalui Penerapan Prinsip Sustainable Development Berdasarkan Undang-Undang Nomor 32 Tahun 2009 Tentang Perlindungan Dan Pengelolaan Lingkungan Hidup," *Indonesian State Law Review (ISLRev)* 2, no. 2 (May 28, 2020): 168–79, https://doi.org/10.15294/islrev.v2i2.38472.

the application of sustainable principles needs to be implemented and accounted for by the subjects of international oil trade.

The formulation of the research problem is how the commitment to the principle of sustainability in international trade and how international trade law in Indonesia adopts the concept of sustainability. This study aims to determine the influence of conceptual ideas regarding the commitment to sustainability in international oil trade. At a further level, this study also aims to determine the framework owned by Indonesian international trade law in responding to the principle of sustainability in an international trade transaction. Regarding the problems that have been formulated, the projection of this research will be qualified as normative research which will utilize two types of approaches, namely the statutory regulatory approach and the conceptual approach. The statutory approach is carried out by examining all positive legal rules related to the legal issues being discussed. Furthermore, this research projection also utilizes a conceptual approach by starting from the views and doctrines that have developed in legal science.[13]

Not only that, as a follow-up to the reflective questions raised in the formulation of the problem, this research projection will also utilize a critical approach to law. Therefore, it is appropriate if this research is fully qualified as normative-critical research.[14] Further elaboration along with the actualization of this methodological framework will be described in the following discussion of the method.

From the background of the problems that have been described and the formulation of the problems that have been made, the research that will be carried out will be related to several previous studies. Previous studies include Belloumi and Alshehry's research on the impact of international trade on the principle of sustainability in Saudi Arabia[15]. The study placed

[13] P.M. Marzuki, *Penelitian Hukum* (Jakarta: Kencana, 2005).
[14] J.J.H Bruggink, *Refleksi Tentang Hukum: Pengertian-Pengertian Dasar Dalam Teori Hukum* (Bandung: Citra Aditya Bakti, 2011).
[15] Belloumi and Alshehry, "The Impact of International Trade on Sustainable Development in Saudi Arabia."

international trade as a determinant variable in the application of sustainability principles, while this study takes the opposite approach, by making sustainability principles a determinant variable for international trade. This research is also intersect with the research done by Permatasari[16] which emphasizes the state's commitment to the principle of sustainability to reduce carbon emissions in international trade, while this research does not focus on the state, but on private bodies that are subjects in international trade.

Method

This research is conducted in a normative-critical manner involving three approaches, namely the statutory regulatory approach, the conceptual approach, and the critical approach to law. Normative-critical research is actually normative research in general that has a degree of criticality. In general, normative research is research that places law as a sui-generis science[17], but this is considered insufficient to solve the problems that have been formulated. It is also an effort to escape from the normative-empirical dichotomy that exists in higher legal education in Indonesia.[18] Therefore, this research complements it with a critical approach to the application of the principle of sustainability in international trade in Indonesia.[19]

The main legal materials that will be used in this study include the Regulation of the Minister of Trade of the Republic of Indonesia Number 7 of 2021 concerning Stages and Procedures for Making International Trade Agreements along with Presidential Regulation (PERPRES) Number 24 of

[16] Anita Permatasari, "Penerapan Prinsip Keberlanjutan: Strategi Negara Menurunkan Emisi Karbon?," *Uti Possidetis: Journal of International Law* 3, no. 3 (October 11, 2022): 345–75, https://doi.org/10.22437/up.v3i3.18836.
[17] Irwansyah, *Penelitian Hukum: Pilihan Metode & Praktik Penulisan Artikel* (Yogyakarta: Mitra Buana Media, 2020).
[18] W.D. Putro and H.P. Wiratraman, "Penelitian Hukum: Antara Yang Normatif Dan Empiris," *Digest Epistema* 5, no. 1 (2005): 3–16.
[19] R. W. M. Dias, "Legal Politics: Norms behind the *Grundnorm*," *The Cambridge Law Journal* 26, no. 2 (November 16, 1968): 233–59, https://doi.org/10.1017/S0008197300088516.

2022 concerning Amendments to Presidential Regulation Number 82 of 2017 concerning the International Trade Agreement Negotiation Team which will be secondary legal materials to carry out a critical approach to the law. The following are other secondary legal materials in the form of textbooks, scientific journals, or other secondary legal materials that provide explanations for the primary legal materials used in this study. The data obtained are analyzed qualitatively, therefore data collection and analysis process can be done at the same time.[20] In the next stage, the analyzed data will be presented descriptively through explanation using narrative words that are descriptive of the data and findings obtained from the presented data.[21]

Result and Discussions

1. Application of sustainability principles in international oil trade

The earth is about 4.54 billion years old and is estimated to become uninhabitable in 1.5-4.5 billion years. However, if the earth is not properly maintained, it can cause global warming which will cause an imbalance in the ecosystem that will damage the earth, so that the earth cannot be inhabited by future generations. Based on these problems, the concept of sustainability is present. The concept of sustainability was first put forward by Lester Brown in 1980 through the organization he founded, namely the Worldwatch Institute, which was founded in 1974, which stated that a sustainable society is a society that is able to meet its needs without having to sacrifice the chances of survival for future generations.[22] In 1987, this

[20] S. Irianto, "Praktik Penelitian Hukum: Perspektif Sosio Legal," in *Metode Penelitian Hukum: Konstelasi Dan Refleksi*. (Jakarta: Pustaka Obor Indonesia, 2013).
[21] A. Strauss and J. Corbin, *Dasar-Dasar Penelitian Kualitatif* (Yogyakarta: Pustaka Pelajar, 2007).
[22] L. M. S. de Andrade, V. G. Gabriel, and M. B. Dias, "The Ecosystemic View of the Urban Occupation of Fernando de Noronha Island in Brazil," 2008, http://www.globalislands.net/userfiles/_brazil_FdNpdf6.pdf.

definition was used by the Brundtland Report or Our Common Future,[23] a report made by the World Commission on Environment and Development (WCED) chaired by Gro Harlem Brundtland at the United Nations Conference or known as Rio 92 which produced Agenda 21, a proposal that seeks to ensure social justice, encourage economic growth, and ensure environmental protection.

Bossel[24], states that sustainability has several dimensions, namely material, environmental, ecological, social, cultural, legal, economic, psychological, and political dimensions. Carter and Rogers[25] define sustainability as the integration and achievement of an organization's social, environmental, and economic goals strategically and transparently through systematic coordination of inter-organizational business processes that are essential to improving the long-term performance of the company and its supply chain. In line with Carter and Rogers, Hassini et al.[26] defines sustainability as "the ability to conduct business with the long-term objective of maintaining economic, environmental and societal well-being". In order for a project to be said to have a commitment to sustainable development, the project must be considered as a reflection or can follow these three parameters.

The concept of sustainable development seeks to build the possibility of an effective social order that is democratic and ecological, without necessarily implying excessive capitalism. However, a democratic social and

[23] G Bruntland, "Our Common Future. The World Commission on Environment 1 and Development," 1987.
[24] H. Bossel, *Earth at a Crossroads: Paths to a Sustainable Future* (Cambridge: Cambridge University Press, 1998).
[25] Craig R. Carter and Dale S. Rogers, "A Framework of Sustainable Supply Chain Management: Moving toward New Theory," *International Journal of Physical Distribution & Logistics Management* 38, no. 5 (June 13, 2008): 360–87, https://doi.org/10.1108/09600030810882816.
[26] Elkafi Hassini, Chirag Surti, and Cory Searcy, "A Literature Review and a Case Study of Sustainable Supply Chains with a Focus on Metrics," *International Journal of Production Economics* 140, no. 1 (November 2012): 69–82, https://doi.org/10.1016/j.ijpe.2012.01.042.

ecological order is incompatible with a market order that seeks profit and uncontrolled accumulation.[27]

For Arturo Escobar[28], this view is called liberal and is the most widely spread in recent years, including the Brundtland Report. Liberal discourse presents the idea that social reality can be adjusted from new technological knowledge. It is believed that new technological standards and new ways of managing social problems can save nature and prevent environmental collapse. W. Sachs believes that development should use less nature and involve more people. Furthermore, he points out that a decrease in production will not necessarily lead to a decrease in welfare. Alternative development models without much accumulation and waste can produce a more just and more environmentally friendly society.[29]

In applying the principle of sustainable environment, John Elkington introduced the concept of triple bottom line in 1994, namely social, environmental and economic, to balance the development of regulations and practices in the economic sector with equal attention to the impact on the environment and its consequences for society, so that three important factors in sustainability are people, profit, and planet.[30] In the environmental and social sectors, there is an intersection in the form of bearable or something that can still be borne. In the social and economic sectors there is an intersection in the form of equitable or something that is fair and reasonable, and in the economic and environmental sectors there is an intersection in the form of viable or something that can continue to run, and from the three sectors the intersection is sustainable or sustainability. In its development, the University of Western Sydney developed the concept

[27] G. S. Barbosa, P. R. Drach, and O. D. Corbella, "A Conceptual Review of the Terms Sustainable Development and Sustainability," *International Journal of Social Sciences* 3, no. 2 (2014): 1–15.
[28] A. Escobar, *Encountering Development: The Making and Unmaking of the Third World* (Princeton University Press, 2011).
[29] W. Sachs, "Globalization and Sustainability," *Institut for Historie, Internationale Studier Og Samfundsforhold, Alborg Universitet*, 1999.
[30] J. Elkington, *Cannibals with Forks: The Triple Bottom Line of 21st Century Business* (New Society Publishers, 1998).

of social ecology in the principle of sustainability, which shifts economic thinking to the social realm to make room for naming the 'personal' as the main realm in acting on sustainability challenges.[31] The triple bottom line concept seeks to challenge existing regulations and practices, while the social ecological concept further emphasizes the individual's view so that individuals can do something to maintain sustainability.[32]

Neglecting sustainability can be detrimental to a company and jeopardize its prospects if ignored.[33] Therefore, companies need to pay attention to the social, economic, and environmental dimensions of sustainability to improve their prospects. Since each of the three dimensions of sustainability and its subdimensions are somewhat related to supply chain management (SCM) practices, company activities need to balance all three dimensions and their subdimensions.[34] According to Spence[35], to reap the benefits of its sustainability measures, companies must communicate and align all three dimensions of sustainability with their SCM practices. One methodological difference in sustainability and SCM research is that most analysts, instead of using annual reports, have concentrated on Corporate Social Responsibility (CSR) reports, which provide a general overview of social initiatives rather than indicating specific TBL elements.[36] CSR reports have mostly focused uniquely on the ecological dimension of sustainability and do not provide measures of environmental practices relative to the financial and social dimensions. TBL offers a basis for assessing corporate performance using economic, social, and

[31] Sharon Beder, *Environmental Principles and Policies: An Interdisciplinary Approach* (Sydney: UNSW Press, 2006).
[32] M. Mulligan, *An Introduction to Sustainability* (Routledge, 2018).
[33] M.E., Porter and M.R. Kramer, "The Competitive Advantage of Corporate Philanthropy," *Harvard Business Review* 80, no. 12 (2002).
[34] Augustine Okeke, "Towards Sustainability in the Global Oil and Gas Industry: Identifying Where the Emphasis Lies," *Environmental and Sustainability Indicators* 12 (December 2021): 100145, https://doi.org/10.1016/j.indic.2021.100145.
[35] A.M Spence, "Market Signaling: Informational Transfer in Hiring and Related Screening Processes," *Harvard University Press*, 1974.
[36] Hussain Ali Mohammed Barham Ba Omar, Musab A. M. Ali, and Adam Amril Bin Jaharadak, "Green Supply Chain Integrations and Corporate Sustainability," *Uncertain Supply Chain Management*, 2019, 713–26, https://doi.org/10.5267/j.uscm.2019.3.001.

environmental aspects.[37] However, CSR and Corporate Sustainability (CS) are basically similar.[38] CSR is intended to leverage synergies between companies and various stakeholders to create transparency and mutually beneficial partnerships that help organizations become more sustainable. If a company meets the typical environmental and social aspects of CSR, both stakeholders and shareholders will prefer it.[39] Erasmus University Business Society Management proposes CS as a goal, combining CSR as an intermediary stage while both concepts will balance the three important things, namely people, profit and planet.[40]

Aimed at corporate entities, TBL focuses equally on the importance of economic, social, and environmental value provided by an organization. To measure their performance, some companies apply the TBL sustainability model.[41] Similarly, existing sustainability research in the oil and gas industry focuses on developing qualitative and quantitative sustainability criteria for internal and external supply chains, studying consumer perceptions and behaviors toward sustainable oil and gas supply chains, and factors that enable the implementation of sustainable practices. Amidst growing efforts to integrate sustainability into oil and gas research, the industry appears to lack a broader perspective on its sustainability emphasis.[42] Standard sustainability disclosure, based on the Triple Bottom Line (TBL), combines the economic, social, and environmental components

[37] Hanan Alhaddi, "Triple Bottom Line and Sustainability: A Literature Review," *Business and Management Studies* 1, no. 2 (April 3, 2015): 6, https://doi.org/10.11114/bms.v1i2.752.
[38] Marcel van Marrewijk, "Concepts and Definitions of CSR and Corporate Sustainability: Between Agency and Communion," *Journal of Business Ethics* 44, no. 2 (2003): 95–105, https://doi.org/10.1023/A:1023331212247.
[39] A Duttagupta et al., "Corporate Social Responsibility And Sustainability: A Perspective From The Oil And Gas Industry," *Journal of Nature, Science & Technology* 1, no. 2 (April 3, 2021): 22–29, https://doi.org/10.36937/janset.2021.002.004.
[40] M. Kaptein and J. F. D. B. Wempe, *The Balanced Company: A Theory of Corporate Integrity* (Oxford University Press, 2002).
[41] T.F Slaper and T.J Hall, "The Triple Bottom Line: What Is It and How Does It Work," *Indiana Business Review* 86, no. 1 (2011): 4–8.
[42] Ala Shqairat and Balan Sundarakani, "An Empirical Study of Oil and Gas Value Chain Agility in the UAE," *Benchmarking: An International Journal* 25, no. 9 (November 29, 2018): 3541–69, https://doi.org/10.1108/BIJ-05-2017-0090.

of sustainability.[43] The social aspect is measured by evaluating how the company implements sustainable and equitable employment, intellectual capital, and community policies.[44] The economic aspect analyzes the impact of net income and capital movements on the company's activities and the economy.[45] The environmental aspect measures the company's activities that do not harm future generations through the effective use of natural resources, reducing greenhouse gas pollution, and reducing the ecological footprint.[46]

Petroleum is the most traded commodity internationally because almost all community activities use petroleum, such as producing various goods and materials needed by the community, for vehicle fuel such as gasoline and diesel, household needs such as the use of natural gas or liquefied petroleum gas or LPG, making candles, using kerosene, and other uses of petroleum such as raw materials for making asphalt and other needs.[47]

The process of forming petroleum takes millions of years because it comes from very small plant and animal organisms that live in ancient oceans that die and are buried, then buried by sand and mud on the seabed for millions of years forming layers that will eventually form sedimentary rock and with high temperature pressure the rock layers will distill the remaining organic material little by little and turn it into oil and natural gas.[48]

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[43] Trinh Hiep Thien and Nguyen Xuan Hung, "Intangible Investments and Cost of Equity Capital: An Empirical Research on Vietnamese Firms," *Cogent Economics & Finance* 11, no. 1 (December 31, 2023), https://doi.org/10.1080/23322039.2022.2163075.
[44] J. Elkington, "Triple Bottom Line: Implications for the Oil Industry," *Oil Gas Journal* 97, no. 50 (1999).
[45] J. Elkington, *The Triple Bottom Line. In: Environmental Management: Readings and Cases*, 1997.
[46] Alhaddi, "Triple Bottom Line and Sustainability: A Literature Review."
[47] N. K. Rumokoy, "Pelanggaran Hukum Terhadap Penggunaan Minyak Dan Gas Bumi (Migas) Yang Terkandung Di Dalam Wilayah Hukum Pertambangan Indonesia Oleh Pihak Yang Tidak Berwenang," *Jurnal Hukum Unsrat* 22, no. 5 (2016): 40–50.
[48] Kementerian Energi dan Sumber Daya Mineral, "Minyak Dan Gas Bumi Terbentuk Jutaan Tahun," Kementerian Energi dan Sumber Daya Mineral, 2009, https://www.esdm.go.id/id/media-center/arsip-berita/minyak-dan-gas-bumi-terbentuk-jutaan-tahun.

In 2024 global oil demand increases by 870 thousand barrels per day in the second quarter of 2024, reaching almost 1 million barrels per day in 2024 and 2025.[49] The fulfillment of world oil needs is met by OPEC or the Organization of the Petroleum Exporting Countries members, namely Algeria, Congo, Equatorial Guinea, Gabon, Iran, Iraq, Kuwait, Libya, Nigeria, Saudi Arabia, United Arab Emirates and Venezuela, and then added by OPEC+ member countries, namely Azerbaijan, Bahrain, Brunei Darussalam, Kazakhstan, Malaysia, Mexico, Oman, Russia, Sudan and South Sudan.[50] World crude oil supply rose by 230 thousand barrels per day to 103.4 million barrels per day in July as a substantial increase in OPEC+ member production more than offset losses from non-OPEC+ countries. Annual production increases from 730 thousand barrels per day in 2024 to 1.9 million barrels per day in 2025.

Although it is very much needed, the use of petroleum can harm the environment. Environmental aspects are an important consideration in the oil and gas industry because this aspect touches every stage of the industry, from upstream oil and gas which includes exploration activities, oil and gas field development, production/exploitation, lifting of oil or natural gas, to downstream oil and gas, namely processing, transportation and marketing activities of PPSDM Migas.[51] One of the activities that can cause environmental pollution is oil and gas exploration and drilling activities, although offshore technology has developed, this technology has become a source of environmental pollution and dangerous accidents at various stages of the production process.[52] In an effort to gain access to oil and gas reserves, companies have made previously unconventional resources such

[49] International Energy Agency, "Oil Market Report - August 2024," International Energy Agency, 2024, https://www.iea.org/reports/oil-market-report-august-2024.
[50] International Energy Agency.
[51] PPSDM Migas, "Dalami Pengangkutan Migas, ASN KESDM Ikuti Pelatihan Regulasi Hilir Migas Di PPSDM Migas," PPSDM Migas, 2022, https://ppsdmmigas.esdm.go.id/id/Landing/lihat_berita/5mOofcTp.
[52] Mohamad Danish Anis and Tauseef Zia Siddiqui, "Issues Impacting Sustainability in the Oil and Gas Industry," *Journal of Management and Sustainability* 5, no. 4 (December 1, 2015): 115, https://doi.org/10.5539/jms.v5n4p115.

as shale gas, coal seam gas, oil sands and deep water wells the centerpiece of their strategies. Despite their growth potential, these unconventional resources pose a number of environmental and social challenges such as oil spills, safety risks, large greenhouse gas (GHG) emissions, natural resource loss and land & water degradation.[53]

With the high demand for petroleum and the time-consuming manufacturing process, as well as its use that can harm the environment, petroleum entrepreneurs must be able to be responsible for the principle of sustainability. One form of accountability for the principle of sustainability is through the company's annual report which contains three important things in the triple bottom line, namely profit, people, and planet. One important thing to discuss is the environmental impact, how the company is responsible for the use of fossils and is responsible for the environment, with a focus on renewable energy as a means of providing clean energy needed by the world, and the issue of climate change related to carbon emissions. One form of commitment from oil and gas companies is the creation of the Oil and Gas Climate Initiative in 2014 at the UN Climate Summit which was created by 12 world oil companies, namely Aramco, British Petroleum, Chevron, CNPC, Eni, Equinor, ExxonMobil, Oxy, Petrobras, Repsol, Shell and TotalEnergies, which aims to achieve net zero emissions from oil and gas operations under their control by 2050, and help partners achieve the same on assets that they do not operate. OGCI members also collaborate with other companies in the oil and gas industry to reduce methane emissions to near-zero. Achieving net-zero operational emissions could eliminate about 10% of global annual emissions. OGCI also works with other sectors such as shipping, steel, and cement, and supports the development of low-carbon fuels and natural climate solutions. Since 2017, 12 OGCI member companies have halved their upstream methane

[53] Environment Agency, "An Environmental Risk Assessment for Shale Gas Exploratory Operations in England," Environment Agency, 2013, https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/296949/LIT_8474_fbb1d4.pdf.

emissions, reduced routine flaring by 45%, and reduced carbon intensity by 21%. OGCI members have invested $65 billion in low-carbon technologies, including renewables, biofuels, biogas, hydrogen, and carbon capture. The companies are involved in more than 40 CCUS hub projects that help industries such as cement and steel decarbonize. These hubs have the potential to eliminate about 300 million tons of CO2 per year by 2030, equivalent to the emissions of 70 million passenger vehicles.[54]

Following the Oil and Gas Climate Initiative, in 2023 at the 2023 United Nations Climate Change Conference or UNFCCC Conference of the Parties, better known as COP28, the COP28 Presidency and the Kingdom of Saudi Arabia announced that 50 oil and gas companies have joined the Oil and Gas Decarbonization Charter, a global industry charter dedicated to high-scale impact, and to accelerating climate action in the industry. The charter formalizes COP28 President Dr. Sultan Al Jaber's call for the industry to align itself with net zero emissions targets by 2050, eliminate methane emissions, eliminate routine flaring by 2030, and continue to work towards industry best practices in carbon emission reduction. National Oil Companies that signed this charter are ADNOC, Bapco Energies, Ecopetrol, EGAS, Equinor, GOGC, INPEX Corporation, KazMunaiGas, Mari Petroleum, Namcor, National Oil Company of Libya, Nilepet, NNPC, OGDC, OMV, ONGC, Pakistan Petroleum Limited (PPL), Pertamina, Petoro, Petrobras, Petroleum Development Oman, Petronas, PTTEP, Saudi Aramco, SNOC, SOCAR, Sonangol, Uzbekneftegaz, ZhenHua Oil, YPF. International Oil Companies that have made the commitment include Azule Energy, BP, Cepsa, COSMO Energy, Crescent Petroleum, Dolphin Energy Limited, Energean Oil & Gas, Eni, EQT Corporation, Exxonmobil, ITOCHU, LUKOIL, Mitsui & Co, Oando plc, Occidental Petroleum, Puma Energy (Trafigura), Repsol, Shell, TotalEnergies, Woodside Energy Group. The oil and gas companies are committed to investing in future energy systems,

[54] Oil and Gas Climate Initiative, “About OGCI,” Oil and Gas Climate Initiative, 2014, https://www.ogci.com/about.

including renewable energy, low-carbon fuels and negative emissions technologies. Increasing transparency by improving the measurement, monitoring, reporting and independent verification of greenhouse gas emissions and progress on their reductions. Increasing alignment with industry best practices to accelerate the decarbonization of operations, with a target of implementing current best practices by 2030 to collectively reduce emissions intensity. Reducing energy poverty and providing secure and affordable energy to support the development of all economies.[55]

Several world oil and gas companies have also announced their sustainability commitments in their annual reports or on their websites. The world's largest oil company, Saudi Aramco, stated their commitment to sustainability stating their commitment to achieve net zero emissions and gas emissions across all fully operated assets by 2050 and the development of low-carbon energy solutions, which is in line with the Kingdom of Saudi Arabia's goal of achieving net zero emissions by 2060.[56]

Shell on its website states their Climate Target is to become a net zero emissions energy business by 2050. We plan to reduce absolute emissions by 50% by 2030 compared to 2016 levels. This includes all emissions in Scope 1, which come from our operations, and Scope 2, from the energy we buy to run our operations. By 2025, we will eliminate routine flaring of natural gas which produces carbon emissions from upstream operations. We will also maintain methane emissions intensity below 0.2% and achieve near-zero methane emissions by 2030.[57]

British Petroleum in its Sustainability Aims states its commitment to reimagining energy for people and planet, through reducing greenhouse gas emissions, transitioning to renewable energy, and supporting the global

[55] COP28, " Oil & Gas Decarbonization Charter Launched to Accelerate Climate Action," COP28, 2023, https://www.cop28.com/en/news/2023/12/Oil-Gas-Decarbonization-Charter-launched-to--accelerate-climate-action.
[56] Saudi Aramco, "Sustainability," Saudi Aramco, accessed September 9, 2024, https://www.aramco.com/en/sustainability.
[57] Shell, "Our Climate Target," Shell, accessed September 9, 2024, https://www.shell.com/sustainability/our-climate-target.html.

transition to a low-carbon economy. BP is targeting net zero emissions by 2050, reducing methane intensity, improving people's lives through energy solutions, and investing in cleaner technologies such as carbon capture and storage. In addition, BP is focused on improving the health, safety and wellbeing of its workforce and the communities in which it operates.[58]

In addition to stating their commitment to sustainability principles, the world oil company also announced the progress of their sustainability commitment development in a sustainability report that informs how far the progress of reducing carbon emissions has been and what activities they have carried out to support their sustainability commitment. Aramco in its sustainability report has four focus areas, namely climate change and energy transition, safe operations and human resource development, minimizing environmental impacts, and increasing social value.[59]

BP has demonstrated significant progress in reducing carbon emissions, with a focus on its strategy to achieve carbon neutrality by 2050. The company is increasing investment in renewable energy, including wind and solar projects, which are integral to the global energy transition. In addition, BP emphasizes its social and ethical responsibilities, with initiatives to support local communities, promote diversity and inclusion, and implement sustainable business practices. The report also identifies the risks and challenges it faces, such as energy market volatility and operational challenges, and the mitigation strategies it has implemented. BP emphasizes the importance of reporting and transparency in sustainability, with an explanation of how it measures and reports its performance to stakeholders. Overall, the report provides an in-depth look at the steps BP

[58] BP, "Our Aims," BP, accessed September 9, 2024, https://www.bp.com/en/global/corporate/sustainability/our-aims.html.
[59] Saudi Aramco, "Saudi Aramco Sustainability Report 2023," Saudi Aramco, 2023, https://www.aramco.com/-/media/publications/corporate-reports/sustainability-reports/report-2023/english/2023-saudi-aramco-sustainability-report-full-en.pdf.

is taking to manage the environmental and social impacts of its operations and its progress towards its sustainability goals.[60]

In Shell's sustainability report, they report on their progress in reducing their carbon footprint, including significant investments in renewable energy technologies such as wind and solar. Shell also focuses on developing innovative solutions to reduce emissions and improve energy efficiency. In addition to the environmental aspects, the report outlines Shell's efforts in social responsibility, such as supporting local community projects and increasing diversity and inclusion in the workplace. Shell identifies the challenges faced, including energy market volatility and operational issues, and strategies to address these risks. The report also emphasizes the importance of transparency and accountability in sustainability reporting, by showing how Shell measures and reports their progress to stakeholders. Overall, the report demonstrates Shell's commitment to a sustainable energy transition and social responsibility, as well as the steps taken to achieve the company's long-term sustainability goals.[61] In the commitment and also the annual report of each oil and gas company in the world, they apply the triple bottom line in their sustainability principles, so that not only the planet or environment is the focus, the report also focuses on people or social and also profit or economic development. With reports integrated with the triple bottom line, world oil companies strive to be responsible in implementing the sustainability principles.

2. Implementation of sustainability commitments in oil companies in Indonesia

[60] BP, "BP Sustainability Report 2023," BP, 2023, https://www.bp.com/content/dam/bp/business-sites/en/global/corporate/pdfs/sustainability/group-reports/bp-sustainability-report-2023.pdf.
[61] Shell, "Shell Sustainability Report 2023," 2023, https://reports.shell.com/sustainability-report/2023/_assets/downloads/shell-sustainability-report-2023.pdf.

Indonesia is a country with abundant natural resources, one of which is oil and natural gas. Previously, Indonesia was a member of OPEC and joined in 1962. At that time, with a production of 1.6 million barrels per day and consumption of less than 1 million barrels, Indonesia was a fairly important oil exporting country. In 2008, Indonesia decided to leave OPEC due to the continued decline in crude oil production while consumption continued to rise, which caused Indonesia to become a net oil importer starting in 2003.[62]

In 2023, Indonesia produced 605,000 barrels per day (bpd) of crude oil, while its oil consumption reached 1,603,769 bpd.[63] Due to this supply deficit, Indonesia needs to import oil, both in the form of crude oil and refined oil products.[64] Previously, Indonesia was a country that exported the oil and gas sector, especially crude oil, which could make a significant contribution to state revenues, as evidenced by its higher export value compared to non-oil and gas exports. However, oil export activities face challenges, especially related to the restrictions on the amount of exports regulated in Law Number 22 of 2001 concerning Oil and Gas. This is in line with the priority of meeting domestic needs. In addition, export restrictions also support the strategy of sustainable economic development, considering that the price of domestic refined oil is higher than imports.[65]

Indonesia's energy mix is understood as a combination of three main sources used to meet domestic needs: fossil fuels, renewable energy, and

[62] Kementerian Energi dan Sumber Daya Mineral Republik Indonesia, "Indonesia Keluar Dari OPEC," Kementerian Energi dan Sumber Daya Mineral Republik Indonesia, 2021, https://migas.esdm.go.id/post/Indonesia-Keluar-dari-OPEC.
[63] CEIC, "Indonesia Oil Consumption: 1965 – 2024," CEIC, accessed September 9, 2024, https://www.ceicdata.com/id/indicator/indonesia/oil-consumption.
[64] Katadata, "Indonesia's Crude Oil Consumption Twice as High as Production in 2022," Databoks, 2023.
[65] E. Soesanto, M. Agung, and V. F. Sukma, "Implementasi Nilai Nilai Kebangsaan Berbasis UUD 1945 Pada Analisis Pengaruh Ekspor Migas Di Indonesia," *Jurnal Manajemen Bisnis Era Digital* 1, no. 2 (2024).

nuclear power.[66] Oil remains the most important component of Indonesia, followed by coal, natural gas, and renewable energy.[67]

Indonesia's current situation is characterized by a high dependence on oil, potential risks in securing supplies as the country is more than 50% dependent on imports, and relatively little exposure to renewables. How Indonesia can plan in the long term for a secure and sustainable energy mix, the predominance of oil in the country's energy mix can be considered problematic, at least on security and emissions grounds. Such dependence could, in theory, continue as long as a country can afford the financial and non-financial (reputational) costs, but the practicality and desirability of such a move are debatable. If oil were to retreat in favor of renewables, Indonesia would clearly face short-term expenses but also reap long-term benefits in terms of security, independence, environmental impact, and international standing.[68]

Oil and gas business activities in Indonesia should be carried out based on the principles of people's economy, integrity, benefits, justice, equality, prosperity and welfare of the people, security, safety, and legal certainty, and environmental insight. The development of the oil and gas sector is expected to go hand in hand with development in the environmental sector. The creation of a balance between the utilization and sustainability of forests and oil and gas is an important prerequisite for the implementation of sustainable development in the environmental and oil and gas sectors.[69] Since petroleum consumption can also damage the

[66] "What Is the Energy Mix?," Planete-energies.com, 2020, https://www.planete-energies.com/en/medias/close/what-energy-mix.
[67] Indonesian Ministry of Energy and Mineral Resources, "Handbook of Energy and Economic Statistics of Indonesia 2018," Indonesian Ministry of Energy and Mineral Resources, 2019, https://www.esdm.go.id/assets/media/content/conte nt-handbook-of-energy-and-economic-statistics-of-indonesia-2018-final-edition. pdf.
[68] Arief Rahman, Paul Dargusch, and David Wadley, "The Political Economy of Oil Supply in Indonesia and the Implications for Renewable Energy Development," *Renewable and Sustainable Energy Reviews* 144 (July 2021): 111027, https://doi.org/10.1016/j.rser.2021.111027.
[69] Ms. Hidayati and Faisal Santiago, "The Environmental Sustainability Concerning Exploitation of Oil and Gas Based on Law in Indonesia," in *Proceedings of the 2018*

environment, both the Indonesian government and oil companies in Indonesia are obliged to implement their commitments to the principles of sustainability.

One of the main targets of the Indonesian Government in implementing the principle of sustainability is the net zero emissions target set in 2060. Several things that the Indonesian government has done to reduce gas emissions, there are five principles[70] that are applied are increasing the use of new renewable energy (EBT), reducing fossil energy, using electric vehicles in the transportation sector, increasing the use of electricity in households and industry, and utilizing Carbon Capture and Storage (CCS), which is implemented by converting fuel to liquefied natural gas (LNG) or liquefied natural gas, using electric stoves, using biofuels or biofuels to replace fuel, increasing the installation of rooftop solar panels, reducing coal-fired power plants (PLTU) and building power plants using new and renewable energy, and switching the use of motorized vehicles to electric vehicles to reduce the carbon footprint.[71]

The Directorate General of Oil and Gas, through the Directorate of Oil and Gas Engineering and Environment as a policy maker in the oil and gas sub-sector, is trying to reduce emissions produced by the oil and gas industry because in the current energy transition period, oil and gas are still very much needed to meet energy needs before switching completely to green energy. Several steps taken by the Directorate General of Oil and Gas include plans to implement Carbon Capture and Storage/Carbon Capture, Utilization and Storage (CCS/CCUS) technology, limiting routine flare gas burning, and utilizing flare gas. The oil and gas production process also

International Conference on Energy and Mining Law (ICEML 2018) (Paris, France: Atlantis Press, 2018), https://doi.org/10.2991/iceml-18.2018.27.

[70] PPSDMP Aparatur ESDM, "Berkenalan Dengan Net Zero Emission," PPSDMP Aparatur ESDM, accessed September 9, 2024, https://ppsdmaparatur.esdm.go.id/seputar-ppsdma/berkenalan-dengan-net-zero-emission.

[71] Kementerian Energi dan Sumber Daya Mineral, "Tekan Emisi Karbon, Indonesia Naikkan Target E-NDC Jadi 32 Persen," Kementerian Energi dan Sumber Daya Mineral, accessed September 9, 2024, https://migas.esdm.go.id/post/read/tekan-emisi-karbon-indonesia-naikkan-target-e-ndc-jadi-32-persen.

contributes to environmental emissions, one of which is through routine and incidental flare gas burning. Therefore, the management of flare gas is regulated through the Regulation of the Minister of Energy and Mineral Resources No. 17 of 2021 concerning the Management of Flare Gas in Oil and Gas Business Activities, which includes routine flaring limits, the obligation to make a plan for the use of flare gas in new fields or refineries, cooperation in flare gas management, a more comprehensive reporting concept, and the application of sanctions and awards. Through various programs and strategies in efforts to reduce greenhouse gas emissions, the oil and gas industry is expected to become a cleaner, lower-emission industry that can still be relied on to maintain energy security in the energy transition era.[72]

The renewable energy transition in Indonesia includes ensuring long-term national energy security, preventing the worsening financial situation of PLN, measuring and managing the potential for reducing GRDP from fossil energy at the national and regional levels, anticipating the possibility of stranded fossil energy assets and infrastructure, and achieving KEN targets and climate change targets (NDC).[73]

There are several oil and gas companies in Indonesia, the main one is PT Pertamina which is a State-Owned Enterprise and has several subsidiary companies such as Pertamina Hulu Energi which has subsidiaries such as Pertamina Hulu Rokan and Pertamina Eksplorasi dan Produksi. Pertamina Hulu Rokan in 2023 was the highest oil producer in Indonesia after collaborating with the international oil company Chevron, followed by Exxonmobil Cepu which is a subsidiary of the international oil

[72] Directorate General of Oil and Gas Ministry of Energy and Mineral Resources, "LAKIN Ditjen Migas 2022," Ministry of Energy and Mineral Resources, Directorate General of Oil and Gas, accessed September 9, 2024, https://migas.esdm.go.id/cms/uploads/uploads/LAKIN-Ditjen-Migas-2022-24Feb2023-Final.pdf.

[73] Energihijau.id, "Urgensi Transisi Energi Terbarukan," Energihijau.id, accessed September 9, 2024, https://www.energihijau.id/wp-content/uploads/2021/11/2.-Urgensi-Transisi-Energi-Terbarukan.pdf.

company Exxonmobil, and the third rank was occupied by Medco EP Natuna.[74]

Oil and gas companies in Indonesia also apply sustainability principles and also apply the triple bottom line in their sustainability commitments and sustainability reports. The largest oil and gas company in Indonesia, Pertamina, shows its sustainability commitment in its sustainability commitments and strategies and the implementation of the triple bottom line. In its commitment, Pertamina implements strategic initiatives in the form of sustainable community empowerment, with an environmental conservation perspective, strategic initiatives related to business strategies, and are implemented thoroughly (including the provision of infrastructure, behavior, values, and equipping with knowledge/skills). The strategic initiative has covered people, profit, and also the planet.[75] Pertamina has also set a net zero emission target in 2060, in accordance with the Indonesian Government's target, by implementing two main programs, namely business decarbonization by implementing energy efficiency and a green business acceleration program that focuses on renewable energy businesses such as CCS development.[76]

Exxonmobil in its commitment in Indonesia, has established a Low Carbon Solutions (LCS) business in 2021 in Asia Pacific to accelerate the transition to a future with lower emissions. The LCS Indonesia team is developing a carbon capture and storage (CCS) hub focused on reducing emissions in hard-to-decarbonize sectors such as cement, energy, chemicals, and steel. In this effort, ExxonMobil is working with Pertamina to evaluate the potential for developing a CCS hub in Indonesia. This potential CCS project, located beneath the Java Sea, has the capacity to store

[74] Inilah.com, "10 Perusahaan Migas Terbesar Di Indonesia, Pertamina No. 1," Inilah.com, 2023, https://www.inilah.com/10-perusahaan-migas-terbesar-di-indonesia-pertamina-no-1.
[75] Pertamina, "Ikhtisar Kinerja Keberlanjutan," Pertamina, accessed September 9, 2024, https://pertamina.com/id/ikhtisar-kinerja-keberlanjutan.
[76] Pertamina, "Net Zero Emission Commitment," Pertamina, accessed September 9, 2024, https://sustainability.pertamina.com/id-ID/Sustainability-Commitment/Net-Zero-Emission-Commitment/.

up to three gigatons of CO2, making it the largest storage facility in Southeast Asia.[77]

In its global report, ExxonMobil has three types of reports, Global Outlook discusses the dynamics of industrial demand and supply until 2050, which is the basis for the company's business planning. Advancing Climate Solutions Report explains the steps taken by ExxonMobil to strengthen energy supply while reducing greenhouse gas emissions and increasing long-term value. In addition, the Sustainability Report describes ExxonMobil's approach to managing its operations and its commitment to conducting business activities in a proper and sustainable manner.[78]

Medco Energi applies the principle of sustainability through three pillars of sustainability, namely leadership from and by workers, social and environmental development, and empowerment of local communities.[79] In the sustainability report, MedcoEnergi communicates the Company's policies and approaches to sustainable development and to disclose economic, social, environmental and governance performance.[80]

Currently, the oil companies in Indonesia already applied the triple bottom line in their sustainability commitment and also in their annual report, as the company focus on the people with their CSR program, they also focus on the planet with the net zero emission commitment yet they still focus on their own profit. However, with their commitment, the application still need to further controlled and supervised by the government and the society.

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77 ExxonMobil, "Energy Transitions: Solusi Rendah Karbon," ExxonMobil, accessed September 9, 2024, https://corporate.exxonmobil.com/locations/indonesia/energy-transitions#SolusiRendahKarbon.

78 ExxonMobil, "About Our Sustainability and Reports and Legal Information," ExxonMobil, accessed September 9, 2024, https://corporate.exxonmobil.com/sustainability-and-reports/about-our-sustainability-and-reports-and-legal-information.

79 MedcoEnergi, "Sustainability Policy," MedcoEnergi, 2020, https://www.medcoenergi.com/files/Sustainability_Reports/Sustainability%20Policy%20200508%20IND.pdf

80 MedcoEnergi, "Laporan Keberlanjutan 2023," MedcoEnergi, 2024, https://www.medcoenergi.com/files/Sustainability_Reports/Sustainability%20Policy%20200508%20IND.pdf.

Conclusion

In international trade, especially crude oil trade because it has negative effects in its trade such as environmental damage due to increased carbon emissions due to the use of fossil fuels and also other negative effects such as oil drilling that can harm both the environment and society, international oil companies have an obligation to apply the principle of interest in their business activities. The principle of the problem is applied in three sectors, people, planet, and profit or triple bottom line. Currently, international oil companies such as Shell, British Petroleum and Aramco have attempted to apply the principle of poverty in their net zero emission commitments and the principle of compliance in the company's annual desire report. In Indonesia, the principle of sustainability is attempted in several regulations, and several oil companies operating in Indonesia such as Petrtamina, ExxonMobil and Medco Energi are also trying to apply the principle of desire in their desire commitments and in their annual desire reports. However, although international oil companies have attempted to apply the principle of sustainability in their commitments and annual reports, oil companies must still apply the principle of sustainability and actuality, so that they can protect the planet, improve people's welfare, and still be able to make a profit.

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