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Editorial Office : Faculty of Law, Univeritas Islam Malang.
Jl. Mayjen Haryono No.193, Dinoyo, Kec. Lowokwaru, Malang, Provinsi Jawa Timur, 65144.
Phone : (0341) 551 932 / 551 822 / (0341) 552 249
E-mail : yurispruden@unisma.ac.id
Website : http://riset.unisma.ac.id/index.php/yur/index

Green Taxonomy Role As Green Bonds Standardized Policy Instrument

Suci Ariyanti, Andy Usmina Wijaya, Sekaring Ayumeida Kusnadi

Fakultas Hukum Universitas Wijaya Putra
Jl. Raya Benowo 1-3, Surabaya, Jawa Timur, 60197, (031) 7404404.
Email: 19041082@student.uwp.ac.id, andyusmina@uwp.ac.id, sekaring@uwp.ac.id

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Abstrak

Meningkatnya masalah lingkungan dan langkah-langkah yang diambil untuk mengatasinya menjadi topik yang sangat penting dalam masyarakat saat ini. Dengan pertimbangan ini, Otoritas Jasa Keuangan sebagai salah satu regulator dalam bidang investasi menerbitkan taksonomi hijau sebagai proses klasifikasi dan kualifikasi pembagian sektor kegiatan ekonomi berkelanjutan. Relevansi repenerbitan taksonomi hijau dengan tujuan yang diharapkan dan dapat memotivasi tumbuhnya green bonds sebagai alternatif investasi dalam pembangunan ekonomi berkelanjutan dan berwawasan lingkungan. Penelitian ini ditujukan untuk menakartingkat relevansi hal tersebut. Penelitian ini dilakukan menggunakan jenis penelitian turidis normativ dengan menggunakan pendekatan perundang-undangan. Dari hasil penelitian didapatkan bahwa green taxonomy 1.0 Indonesia adalah instrumen yang memiliki relevansi dengan roadmap keuangan berkelanjutan tahap I (2015-2019) - tahap II (2021-2025) dan diharapkan menjadi langkah awal dalam mengembangkan regulasi berikutnya.

Kata Kunci: Taksonomi Hijau, Obligasi Hijau, Pembangunan Berkelanjutan.

Abstract

The increasing environmental problems and the steps taken to solve them are becoming a very important topic in today's society. With this in mind, the Financial Services Authority as one of the regulators in the field of investment issues a green taxonomy as a classification and qualification process for dividing sectors of sustainable economic activity. Relevance of the issuance of green taxonomy with the expected goals and can motivate the growth of green bonds as an alternative investment in sustainable and environmentally sound economic development. This research aims to increase the relevance of this matter. This research was conducted using normative touristic research using a statutory approach. From the research results it was found that Indonesia's green taxonomy 1.0 is an instrument that has relevance to the

sustainable finance roadmap phase I (2015-2019) - phase II (2021-2025) and is expected to be the first step in developing the next regulation.
Keywords: *Green Taxonomy, Green Bond, Sustainable Development.*

INTRODUCTION

Global warming has risen since 1880 and has brought tons of worries in most of economic sectors and market participants. This public investment problem cannot be a solution that is the burden and responsibility of the government it self, the participation of private capital becomes essential in funding green economy with innovative revolution.

Some countries have decided to create development concept which focuses on the growth of economy, industry and technology that frequently drawing attention. This matter has become the effect of development of topics about the fall of environment quality, global climate change, the rise of social inequality and all of the implications, which drive the inception of sustainable development concept that focusing on the balance of economic, social and environmental development (profit, people & planet or usually known as 3Ps).

There are several international policies which urge the inception of Green Bonds as one of the priorities in Green Investment Alternative. Rio Declaration 1992 stated that:[1]

> "States shall enact effective environmental legislation. Environmental standards, management objectives and priorities should reflect the environmental and developmental to which the apply. Standards applied by come countries may be inappropriate and of unwarranted economic and social cost to the other countries, in particular developing countries".

One definition of green bond is as debt securities which specifically assigned to support project fundings/economic activities that adopted sustainability concepts and environmental friendly.[2]

The projects and sectors of economic activities that can use funding facilities of green bonds concept are energy efficiency sector, pollution prevention, sustainable farming, fishery and forestry, protection of aquatic and terrestrial ecosystem, clean transportation, water sustainability management and environmental friendly technology cultivation.

In 2007, intergovernmental panel on climate change from United Nations provided scientific data about climate change, its political and economical effects which then

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[1] United Nations, (12 Agustus 1992), *Report of theUnited Nations Conference on Environment and Development, Rio de Janeiro, 3-14 June 1992).* Diakses pada 27 Oktober 2022. Dari un.org: https://www.un.org/

[2] Krisna Wijaya, (Mei 2019), *Center of Sustainable Finance and Knowledge–Lembaga Pengembangan Perbankan Indonesia (CSFK-LPPI).* Diakses pada ___. Dari LPPI: https://lppi.or.id/produk/sustainable/tentang-center-for-sustainable-finance-knowledge-lppi/

published research result report that connecting humans' activities with global warming. In the end of 2007, a group of Swedish pension funds tried to invest in climate action projects.

On November 2008, World Bank became the first institution they issued Green Bonds,[3] which gathered funds from fixed income investors to support the funding in projects focused on climate that fulfilled the requirement of environmental friendly. In 2010, IFC issued its early Green Bonds as a response to investors who searched for climate related investment with fixed income.

After that, in 2013, IFC issued Green Bond with the first US dollar nominal in market, with two issuance of $1 in that year; this become precedent as the biggest Green Bonds on the issuance and helped to strengthen market.

In 2015 in Europe, there had been the signing of Paris Agreement[4] that the main goal was to restrain the rate of global temperature rise to below 2 degrees Celsius from the number before industrial revolution. Thereafter, UN General Assembly through verdict No. A/RES/70/I[5] which then called as Sustainable Development Goals (SDGs) program that contains 17 points out of 169 points that became the main goal to promote development which applied and prioritized sustainability principle.

In general, the law of development theoretically requires the balance of positive law and live law, which means law is functioned to uphold condition *sine qua non* that always presents as legal justice and certainty beside being planned to face and anticipate renewal in line with the growth and development of economy as well as to protect the existence of the environment. As it develops today, Green Investment has become priority in choosing investment for urban community in general, however the legal basis is still lagging hasn't able to fulfill protection needs for investors and environmental conservation.

In line with this condition, as stated by Emil Salim that, "environmental aspects must be able to dissolve in the development process, environmental aspects should not be seen apart from the development as separating sugar from water and tea, in fact environment must be dissolved in sustainability development as sugar dissolved into sweet tea".[6]

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[3] ___, (___), *What are Green Bonds*. Dikases pada ___. Dari Climate Bonds: https://www.climatebonds.net/market/investor-appetite

[4] United Nations, (12 Desember 2015), *The Paris Agreement is a legally binding international treaty on climate change. It was adopted by 196 Parties at COP 21 in Paris*. Diakses pada ___. Dari UNFCCC: https://unfccc.int/process-and-meetings/the-paris-agreement/the-paris-agreement

[5] United Nations, (25 Desember 2015), *Resolution adopted by the General Assembly*: *Transforming our world: The 2030 agenda for sustainable development*, Diakses pada ___. Dari un.org: https://www.un.org/

[6] Emil Salim, (1991), *Pembangunan Berwawasan Lingkungan*, Jakarta: LP3ES. Hlm. 9.

In the end, legal construction is expected to be a medium to establish protection of environment in the effort of economic development, as in preventive and repressive efforts, can accommodate the needs and purposes of economic development and welfare in wider scope, can provide legal justice and certainty for the investors and is benign in the effort of environment protection and management as mandated in Law Number 32 Year 2009 on Environmental Protection And Management.[7]

This research is expected to contribute to the industrial sector as Green Taxonomy's overarching goal to inspire new ideas for creating environmentally friendly products, programs, and campaigns within legally mandated limits, then to makes room for industries, organizations, and commercial endeavors that have not yet been included in the KBLI database, as per clasifications from the relevant ministries, and aims to improve environmental quality by promoting more sustainable commercial and investment practices, and it also aims to improve the quality of disclosure in FSS' Sustainability Reports.

In Financial Sector Services (OJK), it can help better to understand and categorize green operations as they work to build their financial product and/or service portfolio, and its anticipated to facilitate the periodic monitoring process of implementing credit/financing/investment into the green sector and to prevent the potential reporting of green activities (greenwashing).

In the end, legal construction is expected to be a medium to establish protection of environment in the effort of economic development, as in preventive and repressive efforts, can accommodate the needs and purposes of economic development and welfare in wider scope, can provide legal justice and certainty for the investors and is benign in the effort of environment protection and management as mandated in Law Number 32 Year 2009 on Environmental Protection And Management.[8]

Green taxonomy 1.0[9] as a policy on sustainability and environmental friendly development concept, what constrains were

[7] Undang-Undang Nomor 32 Tahun 2009 tentang Perlindungan dan pengelolaan lingkungan hidup: “Perlindungan dan pengelolaan lingkungan hidup adalah upaya sistematis dan terpadu yang dilakukan untuk melestarikan fungsi lingkungan hidup dan mencegah terjadinya pencemaran dan/atau kerusakan lingkungan hidup yang meliputi perencanaan, pemanfaatan, pengendalian, pemeliharaan, pengawasan, dan penegakan hukum”.

[8] Undang-Undang Nomor 32 Tahun 2009 tentang Perlindungan dan pengelolaan lingkungan hidup: “Perlindungan dan pengelolaan lingkungan hidup adalah upaya sistematis dan terpadu yang dilakukan untuk melestarikan fungsi lingkungan hidup dan mencegah terjadinya pencemaran dan/atau kerusakan lingkungan hidup yang meliputi perencanaan, pemanfaatan, pengendalian, pemeliharaan, pengawasan, dan penegakan hukum”.

[9] Dokumen Taksonomi Hijau Indonesia Edisi 1.0 merupakan sebuah living document yang akan mengalami perubahan apabila terdapat tambahan atau pengurangan sektor ekonomi yang memenuhi kriteria hijau yang disebabkan, antara lain penambahan kegiatan usaha baru, perubahan standar dan kebijakan, termasuk perkembangan ilmu pengetahuan dan kemajuan teknologi. www.ojk.go.id

found in the implementation and development of green bonds specifically which focused on the funding of environmental friendly development and what were the policies taken legally by Indonesia Government to protect consistency in achieving the goal of sustainability and environmental friendly development through green bonds?

Green taxonomy 1.0 [10] as a policy on sustainability and environmental friendly development concept, what constrains were found in the implementation and development of green bonds specifically which focused on the funding of environmental friendly development and what were the policies taken legally by Indonesia government to protect consistency in achieving the goal of sustainability and environmental friendly development through green bonds?

The method used in this study was normative legal research, which was a process to find legal rules, legal principles, and legal doctrines in order to answer legal problems stated, by using legislation approach and conceptual approach,[11] Legislation approach analysis was an approach which carried by analyzing the entire legislation and regulations which linked to legal issues handled, whereas conceptual approach was an approach by moving from views and doctrines which developed in the science of law.

DISCUSSION

Theoretically, environment was considered as primary component in human system that couldn't be separated from human life. As stated by Michael Allaby [12] that environment as "the physical, chemical and biotic condition surrounding and organism".

While in Black Laws Dictionar, [13] environment was defined as *"*the totally of physical, economic, cultural, aesthetic and social circumstances and factors which surround and affect the desirability and value at property and which also effect the quality of people lives*"*.

Green Bonds As One of The Products of Green Investment

The ratification of Paris Agreement 2015 and as UN member, Indonesia Government formed policy and rule devices as legal basis of the implementation of the achievement of sustainable and environmentally sound development goals. Through Law Number 16 Year 2016 regarding validation Paris Agreement To The United Nations Framework

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[10] Dokumen Taksonomi Hijau Indonesia Edisi 1.0 merupakan sebuah living document yang akan mengalami perubahan apabila terdapat tambahan atau pengurangan sektor ekonomi yang memenuhi kriteria hijau yang disebabkan, antara lain penambahan kegiatan usaha baru, perubahan standar dan kebijakan, termasuk perkembangan ilmu pengetahuan dan kemajuan teknologi. www.ojk.go.id

[11] Peter Mahmud Marzuki, (2009), *Penelitian Hukum*, Jakarta: Kencana Prenada Media Group. Hlm. 35.

[12] Michael Allaby, (1979), *Dictionary of the environment,* London: The MacMillan Press. Hlm. 17.

[13] Henry Campbell Black, (1998), *Black Laws Dictionary 6th Edition,* Minnesota: West Publishing & Co. Hlm. ___.

Convention On Climate Change [14] Indonesia Government committed to reduce glass house effect emissions to 29% which was done independently and would be escalated to 41% if gaining international support as business as usual in 2030 that was delivered through NDC/ Nationally Determined Contribution (Presidential Decree No. 98 Year 2021).[15]

In addition, government through Presidential Decree No. 18 Year 2020[16] that arranged RPJM Year 2020 - 2024 affirmed the consistency of Indonesia government to implement SDGs' agenda for the upcoming five years. The opt-in of Indonesia in Paris Agreement 2015 and SDGs had made Indonesia as one of the destination countries of investors in sustainable investment, for that reason the regulations of capital markets that could adjust between investment needs and protection must be prepared to maintain investment stability and financial system as an effect of the shift in the sustainability investment and finance paradigms.

For the last 14 years, green bonds have become important device to overcome the effects of climate change and environmental health challenges. Recently, clean water and food security are being threatened and about 1 million out of 8 million species of animals and plants in the world are facing extinction. Climate change threatens society and economy, and creates risks for farming, food and water supply. A huge amount of financing is needed to overcome this.

It is essential to connect environmental projects with capital markets and investors then distribute the capital for sustainable development - and green bonds is a method to create this connection.

As one of the products of green investment, green bond was a proof of the increment of International awareness towards climate change threat and environment maintenance. Green bonds was a type of income security which was published to fund projects that might have positive benefits for the environment and provide sustainable economy impacts.

Just like the other types of obligation, green obligation offered refund that specified and represent loan from investors to company, organization, or government institution. There are two standards approved internationally to publish green obligation, to wit:[17]

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[14] Undang-Undang Nomor 16 Tahun 2016 tentang Pengesahan Paris Agreement To The United Nations Framework Convention On Climate Change (Persetujuan Paris Atas Konvensi Kerangka Kerja Perserikatan Bangsa-Bangsa mengenai Perubahan Iklim).

[15] Peraturan Presiden Nomor 98 Tahun 2021: Penyelenggaraan Nilai Ekonomi Karbon untuk Pencapaian Target Kontribusi yang Ditetapkan Secara Nasional dan Pengendalian Emisi Gas Rumah Kaca dalam Pembangunan Nasional.

[16] Peraturan Presiden Nomor 18 Tahun 2020: Rencana Pembangunan Jangka Menengah Nasional Tahun 2020-2024.

[17] ___, (___), *Green Bonds Principles & Climate Bonds Standard*. Dikases pada ___. Dari Climate Bonds: www.climatebonds.net www.icmagroup.org

1. Climate Bond Standard & Certification: This is the framework of green obligation criteria which specifically aligned with the decrement of glass house gas emissions which was stipulated in Paris Agreement. This framework is used globally by obligation publishers and investors to identify investment that contributes in climate change action.
2. Green Bond Principles (GBP): These principles are voluntary best practice guidelines to encourage transparency and disclosure. Thus, GBP helps investors by promoting accurate information to evaluate green obligation and it's impact to the environment.

Green bonds in particular were aimed to fund or refund green projects' capital, that was sustainable projects and socially responsible in various fields such as renewable energy, energy efficiency, clean transportation or responsible waste management. There were five types of main projects that were financed by green bonds, as stipulated by GBP, the green bonds categories extensively included:

a. Climate change mitigation
b. Climate change adaptation
c. Biodiversity
d. Natural resources conservation
e. Prevention and control of pollution

In wider area, there were several types of projects which included in green bonds category, which are:

a. Renewable energy
b. Energy efficiency
c. Environmental friendly transportation
d. Water and waste sustainable management
e. Environmental friendly technology and production
f. Green buildings

Green bonds worked similarly to conventional obligation, with a few key differences. Generally, publishers offer obligation with specified interest rate. This debt right was established as legal contract for the money owed that could be purchased and sold between the parties. Investors in green bonds act as creditors from publishers entity, and the latter must repay the money borrowed through these obligations-within an estimated time-plus previously (usually) fixed amount of interest, known as coupon. For this reason, it was a fixed income instrument.

Generally, conventional obligation was not specifically determined how the fund would be used, however Green Bonds offered more transparency in the use of the fund. In Green Bonds, the obtained fund would be aimed exclusively to fund (or refund) sustainable projects which were environmentally friendly, and initiative related to climate change. For instance, the funding used to repurchase electric vehicle fleet, or to buy wind turbines, etc. Therefore, bondholders could be sure that their money would be used to fund renewable investment.

The Growth of Green Bonds in Indonesia

Indonesia had started to develop green bond in the last few years. One of them, was through the study by Financial Service Authority (OJK) in 2016 to map green bond development, started from the aspect of controlling, supervising to the policies needed. This study was known as OJK's first step to realize green bond trading in Indonesia capital markets.

One recommendation from that study was the composing of rules related to green bond. Since a selection and verification process was needed to find out which project was eligible to be fund using green bonds system, so that there must be green program eligibility standards. Following the study, a year later OJK published bomber 60/POJK.04/2017[18] about the issuance and requirements of environmentally friendly debt security (green bonds).

The first issuance of Green Bonds in Indonesia was in 2018 by PT. Sarana Multi Infrastruktur (PT. SMI).[19] As a state-owned corporation that specialized in infrastructure financing, PT. SMI issued obligation with maximum amount up to Rp. 3 trillions. At stage I, PT SMI had realized lower nominal than the initial target that was Rp. 500 billions with an interest rate of 7.55 percent for 3 years and 7,8 percent for 5 years.This nominal was a bit higher compared to the obligation published by Indonesian Export Financing Agency (LPEI) that offered 7,5 percent for 3 years and 7,7 percent for 5 years.

The development of green bonds issuance in Indonesia had now become an fascinating achievement in Indonesia's Capital Market and Banking Industry.[20] At the end of Semester I year 2022, a state-owned banking company was rumored to be issuing Green Bonds with a maximum value of Rp. 5 trillion.

The initial offer of Green Bonds would be started on 11 May 2022. In the prospectus published in the media, BNI ensured that the green bonds issued by the company had a total value of Rp. 5 trillion and had three tenors, viz. 3,5 and 7 years. These BNI Green Bonds would be offered through this Public Offering under the name 'obligasi berwawasan lingkungan (green bond) I PT Bank Negara Indonesia (Persero) Tbk Year 2022".

Indonesia's green bond market holds much prospect. The government is pushing hard for people to switch from using fossil fuels to using renewable energy sources. In today's interconnected global economy, debt securities are gaining more and more respect. The protection of natural resources is a primary focus for many corporations and wealthy individuals.

[18] ___, (___), ___. Diakses pada ___. Dari OJK: www.ojk.go.id

[19] ___, (___), Laporan Obligasi berwawasan lingkungan 2020. Diakses pada ___. Dari PTSMI: www. Ptsmi.co.id,

[20] ___, (11 Mei 2022), *increasing green financing, BNI will issue Green Bonds*. Diakses pada ___, Dari BNI: https://www.bni.co.id

According to Bhima Yudhistira Adhinegara,[21] a researcher at the Institute for the Development of Economics and Finance (Indef), worldwide finance is shifting toward green investment. If local businesses take advantage of the shift toward green energy, they may find themselves in a position to reap the financial benefits of this situation. Since wealthy nations are worried about pollution and global warming, renewable energy sources have great prospect.

According to the International Finance Corporation (IFC), Indonesia is an emerging market for purchasing environmentally friendly bonds. The International Finance Corporation (IFC) is collaborating with the Financial Services Authority to get ready for the growth of the green bond market, according to Philippe Houérou, the organization's executive director (OJK). Rules for investing in green bonds have been developed over the previous two years by the two organizations.[22]

To increase equity for completing renewable energy projects, PT Pertamina (Persero) has shown an interest in issuing green bonds. Pertamina plans to increase its contribution to Indonesia over the next five years, particularly through geothermal projects.

Emma Sri Maritini, the director of finance at Pertamina, acknowledged that securing green money in Indonesia had proven challenging in recent years. This is because, even now, fossil fuels account for the vast majority of energy production. The possibility for green investment can be enormous, especially in light of government policies that prioritize the development of alternative energy sources.[23]

Green Taxonomy 1.0 Regulation as Green Sector Classification System

Environmental issues must be a major concern for every country. The ability of the Financial Services Sector in Indonesia to be able to follow developments in the issuance of green bonds as a form of active role in protecting the environment and implementing the achievement of sustainable and environmentally sound development goals. There are at least two important things to note in its implementation, namely the level of classification and monitoring of green sector projects and businesses.

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[21] Verda Nano Setiawan & Sorta Tobing, (22 Oktober 2020), *Potensi Besar Green Bond Danai Proyek Energi Terbarukan RI*. Diakses pada ___, Dari Katadata: https://katadata.co.id/sortatobing/ekonomi-hijau/5f9152a076594/potensi-besar-green-bond-danai-proyek-energi-terbarukan-ri

[22] Putri Syifa Nurfadilah & Bambang Priyo Jatmiko, (1 Agustus 2018), *Potensi Pasar "Green Bond" di Indonesia Capai 274 Miliar Dollar AS*. Diakses pada ___, Dari Kompas: https://ekonomi.kompas.com/read/2018/08/01/162742826/potensi-pasar-green-bond-di-indonesia-capai-274-miliar-dollar-as.

[23] Intan Pratiwi & Ichsan Emrald Alamsyah, (8 April 2021), *Pertamina Lirik Potensi Green Bond untuk Proyek EBT*. Dikases pada ___, Dari Republika: https://www.republika.co.id/berita/qr91h0349/pertamina-lirik-potensi-green-bond-untuk-proyek-ebt

There need to be provisions that clarified and emphasized the classification of green sector, and it was also necessary to have regular monitoring to ensure that the projects and businesses that were being run remained in green sector.

Some countries through their financial authorities had issued regulations governing classification, qualification and evaluation indicator on economic activities that moved in green sector which then known as Green Taxonomy.

As one of decisive steps of Indonesia Government in supporting and overseeing the growth rate of green bonds as one of green investment products in the effort of environmentally friendly development, to be barrier and differentiator in each development sector, that functioned as classification system in order to clarify which investment is environmentally friendly and which investment is not included in green investment context.

As what was done by the other countries, Indonesia Government through financial service authority had issued green taxonomy 1.0 regulation on 20 January 2022, to develop sustainable financial. This was in line with the priority that had been stipulated in Indonesia through sustainable financial roadmap stage II (2021-2025).

This policy was intended as an effort to protect and manage the environment, that focused on activities which were mitigating and adapting to climate change. Strategically, Green Taxonomy was desired to be able to support the emergence of innovation in developing products / projects / green initiative, according to the specified threshold.

In green taxonomy 1.0, the financial services authority defines a green taxonomy in detail as a classification system of economic activities that support environmental protection and management as well as climate change mitigation and adaptation. This green sector classification is an initial requirement in determining the business activity sector, and is expected to be the first step for the financial services sector to further support the implementation of a sustainable economy.

This is an effort to mitigate environmentally friendly business activities and not just a communication delivery strategy that displays an environmentally friendly image of both products and company goals without actually carrying out activities that have an impact on sustainability (green-washing).

Table 1: ***Classification of Business Activities in Green Taxonomy 1.0***

Sektor NDC Terkait *NDC Related Sectors*	KBLI Level 1	Jumlah KBLI Level 5 *Total of KBLI Level 5*
Energi *Energy*	Pengadaan Listrik, Gas, Uap/Air Panas dan Udara Dingin/*Procurement of Electricity, Gas, Steam/Hot Water and Cold Air*	7
	Pengangkutan dan Pergudangan/*Transportation and Warehousing*	74
Kehutanan *Forestry*	Kesenian, Hiburan dan Rekreasi/*Arts, Entertainments, and Recreation*	7
	Pertanian, Kehutanan danPerikanan/*Agriculture, Forestry and Fisheries*	38
Pertanian *Agriculture*	Pengadaan Listrik, Gas, Uap/Air Panas dan Udara Dingin/*Procurement of Electricity, Gas, Steam/Hot Water and Cold Air*	1
	Pertanian, Kehutanan dan Perikanan/*Agriculture, Forestry and Fisheries*	52
Limbah *Waste*	Pengelolaan Air, Pengelolaan Air Limbah, Pengelolaan dan Daur Ulang Sampah, Dan Aktivitas Remediasi/*Water Management, Wastewater Management, Waste Management and Recycling, and Remediation Activities*	12
IPPU	Industri Pengolahan/*Processing Industry*	431
	Administrasi Pemerintahan, Pertahanan dan Jaminan Sosial Wajib/*Government Administration, Defense and Mandatory Social Security*	4
	Aktivitas Jasa Lainnya/*Other Services Activities*	4
	Aktivitas Penyewaan dan Sewa Guna Usaha Tanpa Hak Opsi, Ketenagakerjaan, Agen Perjalanan dan Penunjang Usaha Lainnya/*Leasing and Leasing Activities Without Option Rights, Employment, Travel Agent and Other Supporting Business*	9
	Aktivitas Profesional, Ilmiah dan Teknis/*Professional, Scientific, and Technical Activities*	5

	Industri Pengolahan/*Processing Industry*	19
	Informasi dan Komunikasi/*Information and Communication*	14
	Kesenian, Hiburan dan Rekreasi/*Arts, Entertainment and Recreation*	34
	Konstruksi/*Construction*	39
Lainnya *Others*	Pendidikan/*Education*	1
	Pengadaan Listrik, Gas, Uap/Air Panas dan Udara Dingin/*Procurement of Electricity, Gas, Steam/Hot Water and Cold Air*	1
	Pengangkutan dan Pergudangan/*Transportation and Warehousing*	16
	Pengelolaan Air, Pengelolaan Air Limbah, Pengelolaan dan Daur Ulang Sampah, Dan Aktivitas Remediasi/*Water Management, Wastewater Management, Waste Management and Recycling, and Remediation Activities*	3
	Penyediaan Akomodasi dan Penyediaan Makan Minum/*Provision of Accomodation and Food and Beverages*	26
	Perdagangan Besar dan Eceran; Reparasi dan Perawatan Mobil dan Sepeda Motor/ *Wholesale and Retail Trade; Car and Motorcycle Reparation and Maintenance*	24
	Pertambangan dan Penggalian/*Mining and Extraction*	42
	Pertanian, Kehutanan dan Perikanan/*Agriculture, Forestry and Fisheries*	53
	Real Estat/*Real Estate*	3
JUMLAH AKHIR/*GRAND TOTAL*		919

Source: *Suci Ariyanti, et.al: Taksonomi hijau 2021.*

On Green Taxonomy 1.0, Financial Service Authority had conducted studies to 2.733 sectors and sub-sectors of economy, that had been mapped into 919 sub-sectors/groups/business activities (KBLI Level 5), and the threshold had been clarified by the relevant technical ministry. This from this amount, there were 15 sub-sectors/ groups/ business activities that could enter directly as green category and the remaining 904 sub-sectors/ groups/ business activities could not be categorized directly as green sector (there were prerequisites that must be met first).

Whereas, the distribution of criteria on Green Taxonomy were classified into three categories:

Table 2: *Category Distribution in Green Taxonomy 1.0*

Kategori/*Category*	Penjelasan/*Explanation*
Hijau *(do no significant harm, apply minimum safeguard, provide positive Impact to the environment and align with the environmental objective of the taxonomy).* Green *(do no significant harm apply minimum safeguard, provide positive Impact to the Environment and align with the environmental objective of the taxonomy).*	Kegiatan usaha yang melindungi, memperbaiki, dan meningkatkan kualitas atas perlindungan dan pengelolaan lingkungan hidup, serta mitigasi dan adaptasi perubahan iklim serta mematuhi standar tata kelola yang ditetapkan pemerintah dan menerapkan praktik terbaik di tingkat nasional ataupun tingkat internasional. *Business activities that protect, restore, and improve the quality of environmental protection and management, as well as climate change mitigation and adaptation, and comply with the governance standards by government, and apply best practices at both the national and international level.*
Kuning *(do no significant harm).* Yellow *(do no significant harm).*	Kegiatan usaha yang memenuhi beberapa kriteria/ambang batas hijau. Penentuan manfaat kegiatan usaha ini terhadap perlindungan dan pengelolaan lingkungan masih harus ditetapkan melalui pengukuran serta dukungan praktik terbaik lainnya. *Determination of business benefits for environmental protection and management must still be conducted through measurement and support of other best practices.*
Merah *(Harmful activities).* Red *(Harmful activities).*	Kegiatan usaha tidak memenuhi kriteria/ambang batas kuning dan/atau hijau. *The business activities do not meet the yellow and/or green criteria/ threshold.*

Source: *Suci Ariyanti, et.al: Taksonomi hijau 2021.*

Green taxonomy 1.0 had clearly become sectors/sub-sectors classification indicators of business activities which included in green category to close the access to green washing practice. Strategically, green taxonomy 1.0 was aimed to:

1. Determine the standards of definition, classification and threshold on green sector in economic activities which support mitigation and adaptation of climate change in Indonesia by applying scientific based approach.
2. Provide stimulus in innovation and investment in economic activities that provide positive impact to the increment of environment quality by applying scientific based approach.
3. Encourage the growth of financial sector in funding and financing green economy activities.
4. Provide reference for financial service sectors, investors, businessmen (national and international) to disclose information related to funding, financing or investment for green economy activities.

Because the financial sector may function as a catalyst to speed up the implementation of green economic activities that help to develop a more resilient economy, the existence of the green taxonomy will have a positive effect on economic growth, particularly in the green sector. with the help of the Green Taxonomy.

The FSS/ OJK can gain a better understanding of green activities and more easily categorize them using the Green Taxonomy, which is useful for creating a portfolio of financial products and/or services. Financial authorities and international organizations throughout the world have collaborated to create a Green Taxonomy, or set of standards for identifying and categorizing green actions.

To aid in environmental protection, climate change mitigation, and adaptation, the Green Taxonomy organizes these sectors of the economy into distinct taxonomies. can boost environmental performance in commercial and investment activities and increase transparency in the FSS/OJK Sustainability Report.

Monitoring and Evaluating System Needs in the Implementation of Green Sector Investment

The financial service authority as the regulator and other government institutions that play a role in developing green taxonomy must continue to monitor those who had been included in green sector classification to encourage greater allocation of fund and comply with national environment priorities. The monitoring could be done towards financial service sectors through reporting or disclosure. In general, there were two approaches in monitoring: obligatory and voluntary.

The obligatory approach ensured that regulators received regular and consistent report that identified the source and usage of green sector support funds. Furthermore, the voluntary approach enabled financial service industries to control reporting scope and frequency, for instance in the form of annual disclosure.

In its preparation, green taxonomy 1.0 is based on four principles:[24]

1. Principle of Responsible Investment; an approach that considers the factors of economy, social, environment and governance in economic activities.
2. Principle of Sustainable Business Strategy and Practice; that is the responsibility to set and apply sustainable business strategy and practice in every decision making.
3. Principle of Environmental and Social Risk Management; covers precautionary principles in measuring social and environmental risks through identification, measurement, mitigation, supervision and monitoring processes.

[24] ___, (___), *Taksonomi Hijau Indonesia edisi 1.0 Tahun 2022*. Diakses pada ___. Dari OJK: https://ojk.go.id,

4. Principle of Good Governance; is linked to the implementation of the enforcement of the governance of Financial Service Sector through business management and operation which cover: transparency, accountability, responsibility, independence, professional, equality and fairness.

The consideration of environmental aspects in business processes in the financial service sector was a brand new thing to most actors of economic activities in the financial service sector. Therefore, green taxonomy was made to guide the financial service sector in implementing the funding and mapping its green portfolio.

To avoid green washing in reporting by Financial Service Sector, it was expected that the defined reporting would not change significantly from the previous reporting standards. The efforts to increase public understanding of the financial service sector towards products and/or financial service in green sector must be improved constantly in order to run the checks and balances process. As mentioned previously, the improvement of understanding could be achieved through the issuance of guidance, development program and effective communication strategy.

CONCLUSSION

Taxonomy 1.0 is to provide classification and qualification standards to economy activities and the fundings especially green bonds as one of the products which focuses on project funding and although green bonds have developed in Indonesia financial service sector, there are several things to note and be homework that must be fixed. As the essential target in the preparation of green environmentally friendly and sustainable development activities.

However, in order to realize the ideals and objectives of the environment law that aimed to protect and conserve the environment, the issuance of Green Taxonomy 1.0 must be followed by some policies or supporting rules so that the sustainable development goals can be achieved.

It is necessary to provide incentive for the publishers and investors on the green sector businesses and projects. The first thing is about the green bonds pricing in market that is still similar to the non green bond. It becomes the biggest challenge, since funding in green sectors requires extra effort compared to funding in conventional. Begins with the classification stage, verification and controlling procedures which are done periodically. This matter should be regulated by the government since that in the future green bonds can be designed with a well-structured system in order to be able to accommodate the interests of various relevant stakeholders and can stimulate green bonds issuance as the green instrument financing.

An extra method is required to confirm whether or not this is the underlying green industry. Finding which industries qualify for the sustainable financing category, and which do not, requires the services of an independent verifier at an additional cost. Upstream recipients will be rewarded for helping downstream ones. Further, interest rates on green-sector credit facilities will be lower than those on traditional lending. Companies working in the electric vehicle industry receive tax breaks at battery facilities, for instance. Dealers who sell Electric Vehicles may be eligible for working capital financing.

Legal role is required as government policy with legal consultant as a dedicated tool and able to present legal due diligence routinely and periodically that will be able to monitor and guide the projects and businesses that have been classified and also be able to pass procedures that determine and confirm their inclusion in the green sector industry. With the support of these two matters, the growth and development of green bonds as one of the products of the green investment that fund/finance projects which have sustainable and environmentally friendly economic concept will be able to realize the ideals and objectives of the environmental law which aims to protect and conserve the environment which is not just as social instrument, but specifically is an economic and legal instruments.

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