

Green Finance for the Era of Post COVID-19: A Systematic Literature

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ABSTRACT

Green finance products are needed in the era of post Covid-19. Unfortunately, studies to synthesize, summarize and identify green finance for future research and formulation of policies in the banking sector are rare. This study presents a systematic literature review of green finance of banks in the post Covid-19 era. The objectives of this study are to identify background, relevant issues on green finance of Banks, and research gaps and future directions. This study found implementations of green finance in some countries, the challenges that all stakeholders facing in the development, and the future development opportunity of green finance.

Keywords: banking, green financing, sustainable business.

1. INTRODUCTION

During the Covid-19 pandemic, the banking industry was very careful in distributing credit. The exposure of the credit segment to customers who are considered risky is reduced or even stopped. For example, at the beginning of pandemic issuance of credit cards at several banks in Indonesia was suspended. Personal loans product, such as unsecured loans (KTA), became one of those that were closed by banks. In post Covid-19 era, it is a certain that bank loan transactions will increase. The sustainability awareness also arises because everyone experiencing the catastrophic condition in the pandemic era, such as job losses and economic recession at national and global levels. The Asian Development Bank (ADB) estimates that the global economy could suffer between \$5.8 trillion and \$8.8 trillion in losses, equivalent to 6.4% to 9.7% of global gross domestic product (GDP) [1]. To answer these problems, the development of green finance products can become solution.

Green finance is any structured financial activity that has been created to ensure a better environmental outcome. For banks, green finance are financial products (sustainability bond, social bond, etc.) and services that consider environmental factors throughout the loan decision, post-monitoring and risk management; it promotes environmentally responsible investment and stimulates low carbon technologies, projects, industries and businesses [2]. Approximately the size of green finance market in 2019 is \$ 465 billion (Fig 1). Green Finance also needed to achieve the Sustainable Development Goals (SDGs) [3]. Green finance products is needed in the era of post Covid-19. Unfortunately, studies to synthesize, summarize and

identify trends on green finance for future researches and formulation of policies in the banking sector are rare [4].

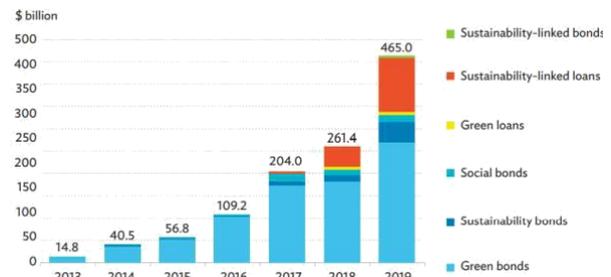


Figure 1 Growth of the Green Finance Market.

Green finance is any structured financial activity that's been created to ensure a better environmental outcome. Green finance is needed to achieve the Sustainable Development Goals (SDGs). To achieve the SDGs will require the establishment of new financial schemes for green projects. For "Green Finance" to succeed, governments will have to introduce policies to increase rates of return of green projects in order to incentivize private investors to invest in them. In the banking sector, green finance is attaining priority due to the quest to sustain banks and society in general against unforeseeable future economic challenges resulting from unpredictable global financial occurrences, climate crisis, social unrest and corporate scandals [5]. Moreover, conventional banking paradigm is shifting towards the provision of ecofriendly products [6]. The examples of green finance product are Green-labeled bonds, sukuk, and loans. Those products have been

widely recognized. across the world as an effective way of channeling investment money into climate change mitigation, resilience, and adaptation initiatives.

The introduction of green bonds, as well as the rise of the green bond and other 'labelled bonds' markets, has been one of the most visible financial breakthroughs in the field of sustainable finance during the last 10 years (e.g. sustainability and social bonds). Green bonds are often structured in the same way as conventional investment-grade bonds, with the exception of a 'use of proceeds' provision stating that the funds would be utilized for green investments. A buyer of a green bond will often have access to the issuer's full balance sheet, which means that the investor is not directly exposed to the financial risks of the specific projects that the green bond funds. (Climate Bonds Initiative n.d.). Green bonds are a significant advancement since they are a financial innovation meant to simplify long-term investing for institutional investors such as pension funds, insurance companies, mutual funds, and sovereign wealth funds. Green bonds, for example, are frequently cited as an innovation that might assist institutional investors to expand their investments in sustainable infrastructure by enhancing the liquidity of infrastructure assets [7] [8].

ASEAN green bonds are on the rise where the Philippines is the first ASEAN country to enter the green bond market, with AP Renewables' PHP10.7 billion (USD226 million) Certified Climate Bond, which financed geothermal assets. As of the end of November 2018, issuers from Indonesia, Singapore, Malaysia, Thailand, and Vietnam had issued green debt totalling USD5.03 billion. The ASEAN Green Bond Standards, which are based on the ICMA Green Bond Principles, aim to improve transparency, consistency, and standardization in order to minimize issuance and investment costs.

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A Sukuk is an Islamic financial certificate issued in accordance with Sharia law. The certificates provide a portion of the underlying nominated assets or earnings from those assets. The funded assets must provide

environmental advantages in the event of a green Sukuk. Green Sukuk has the potential to attract both green investors and Shariah-compliant mandates, which is a benefit. The global recognition of Islamic investment as a component of the sustainable investment universe has generated enormous opportunities for Islamic finance to catalyze the creation of novel funding structures that meet the global demand for sustainable development projects. Tadau Energy released the world's first green Sukuk in July 2017. The MYR250 million (USD58 million) transaction will fund solar projects in Malaysia. The market has now expanded to a total of USD2.13 billion, with all transactions save the Indonesian sovereign Sukuk originating from Malaysian issuers.

The usage of sukuk (Islamic bonds) as such a funding vehicle has gained popularity in Malaysia after the Securities Commission Malaysia issued the Sustainable and Responsible Investment (SRI) Sukuk Framework in 2014. The Framework has made it possible for Malaysian issuers to issue SRI sukuk in the form of green, sustainable, and social sukuk. As of January 2021, Malaysia had issued 16 SRI sukuk, making it the country's largest issuer of sustainable sukuk to date in terms of corporate issuances (2020 Capital Market Malaysia). Malaysia issued the first green sukuk and has the greenest sukuk issuances to date. Meanwhile, Indonesia has raised the most funds through green sukuk issuances. Size of green Sukuk issuances, USD6.1 billion has been raised through 12 unique green sukuk issuers from Indonesia, Malaysia, the United Arab Emirates and one multilateral development bank (up to July 2020). USD-denominated issuances make up 65% of green sukuk issuances, followed by Euro-denominated (18%), Ringgit-denominated (16%) and Rupiah-denominated (1%). (Pioneering the Green Sukuk: Three Years On. (2020, October 6, World Bank).

In order to address these gaps, this study presents a systematic review of relevant studies on green finance of banks in the post covid-19 era. The objectives of this study are identifying the background and relevant themes of green finance of bank and to identify the potential research gap and future direction of green finance in the era of post Covid-19. This study has limitation. Firstly, this paper just reviewed the scholarly journal. The conference papers & proceedings, dissertation & thesis, and working papers were excluded from the selection. Secondly, in selection we make the limitation of publication date until last 3 years.

2. MATERIALS AND METHODS

This study using qualitative method. The data used in this study is secondary data. We obtained the secondary data from selected journal. We retrieve and select relevant research papers in two stage searches. The two-stage search process are (1) initial search and selection and acceptance of relevant papers. We are using ProQuest Advanced Search to do the selection paper.

The initial involves the use of journals that we used in the background of this study and also selected journal using ProQuest Advanced Search. We input “green finance” in abstract and “green loan” in abstract as the criteria keyword. We also choose “scholarly journals” as the source type, “last 3 years” as the publication date and “English” as the language of the paper. In the beginning of this study we used 13 paper and from the ProQuest Advanced Search we found 13 results (Figure 2). In the first initial we have 26 journals.

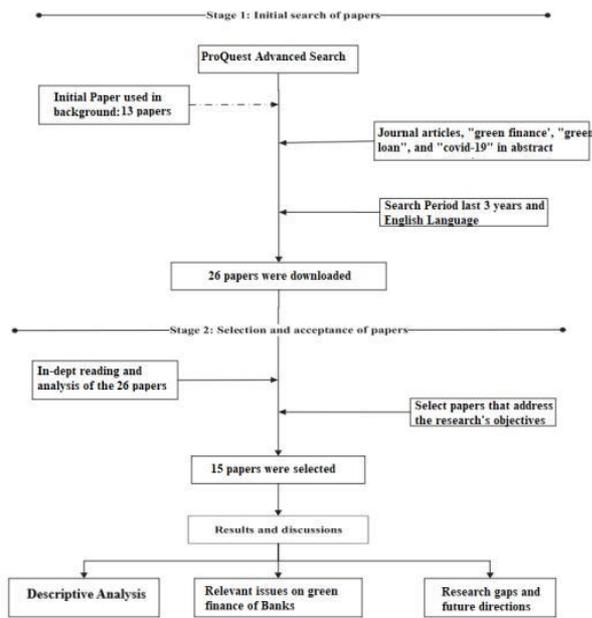


Figure 2 Research Methodology Process

3. RESULTS AND DISCUSSION

3.1. Descriptive Analysis

Green finance is financial investment instruments that provide environmental benefits [3]. Green finance is essential for economic development and sustainability [9]. There are seven prominent green finance products of banks which are green loan/bonds, green investment, climate finance, green infrastructural bonds, green insurance, green securities, and carbon finance (Frimpong, et al., 2021). Frimpong also identified 21 key determinants of green finance of banks with the 9 topmost determinants being: risks, banking sector regulations, bank size, environmental policies and climate change, internal practices and

ethics, technology and innovation, religion, interest rates, social inclusion and social justice. In terms of product, green finance generically refers to green bonds and green loans. Green bonds can be generally summarized as any type of bond instrument where proceeds will be exclusively applied to finance or re-finance, in part or in full, new or existing eligible green projects. Green loans are, typically, where the loan proceeds are utilised for green projects. Green bonds itself are novel in financial instrument. The structure, risks and recurrency of green bonds are similar to those of conventional bonds, but the proceeds are spent exclusively on green project implementation. Bank can finance loan facilities in environmental infrastructure, renewable energy, and green building projects. The development of green finance also shift to blue bond, the financial instrument designed to support sustainable marine and fisheries projects on the archipelago and in the waters comprising its exclusive economic zone [10]. Some of country that already used green finance are European Union [11], China [12], Malaysia [13], Indonesia [14], and Bangladesh [15]. Even though the importance of the implementation of green finance, some country such as in Indonesia still facing the low performance for the institution that implement the sustainable finance. Besides the demand in the future, green finance also can be used for post Covid-19 economic recovery through these 3 financial innovations: (i) government catalytic funds, (ii) capital market instruments, and (iii) specific thematic concepts [1].

There are three challenges facing such a strategy: identifying the right projects, developing complex plans that involve both the public and private sectors (and often more than one country), and structuring the financing.[3] Based on Ivanova (2021), The main issues to be solved by the governments for development of green finance are standardization of approaches used to assess the effectiveness of environmental projects, improvement of green financial products, attraction of a wide range of investors, including the population, to finance regional and municipal green projects, and establishment of criteria to define the green finance concept [16]. Some institution try to answer this problem with the development of Green Financial Instrument Guide [17]. Gilchrist (2021) argued that another significant challenge faced by most corporate environmental studies is the endogeneity problem, even in defining ‘green’ is also a challenge since, in practice, different jurisdictions face different environmental problem [18]. Even though these challenges, green financing has become common throughout the world, and now it extensively provides investments in projects that facilitate greening and decarbonization of the economy Green investments are typically characterized by significant initial capital costs, long payback periods and strong dependence on legal restrictions. Such projects, especially in the sphere of public infrastructure,

are not always economically attractive and often do not provide the expected rate of return.

3.2. Relevant Issues in Green Finance of Banks

The research conducted established a fixed time lag evaluation model of green innovation in light of the current situation of large-scale application of big data technology in green innovation of domestic energy saving and environmental protection enterprises [19]. The importance of applying a complex systemic and methodological approach in developing a green finance framework, summarizing leading practice in green finance and green economy fundraising, taking into account the limitations in the use of green financial tools in the current state of affairs, strengthens the power of federal and regional authorities in solving emerging financial problems. related to energy conservation, and expanding the green finance framework [20]. In response to general regulatory pressures, China's financial sector has institutionalized sustainability reporting, primarily in the banking sector [21]. Based on Yoshino et al. (2021), the discrepancy in portfolio allocation between firm-related and global measures of greenness is referred to as portfolio allocation distortion [22]. Few studies have looked into the impact of green bonds on corporate financial and environmental performance [23]. The main findings show that issued green bonds and the regulatory quality index have positive impacts on energy efficiency, whereas any increase in inflation or urbanization slows energy efficiency progress [24]. The growth-led finance hypothesis encourages policymakers to strengthen green growth policy initiatives. Green growth reduces economic and environmental risk, resulting in a more stable financial environment. However, in terms of financial stability, social inclusion must be examined through a different paradigm [25]. The benefits of implementing green banking include avoiding the use of paper by utilizing online transactions such as internet banking, SMS banking, and ATMs for daily operations. This will introduce paperless operations into the banks, reducing forest logging. For their business activities, banks can also develop an environmentally friendly lending policy [26].

Based on J. D. Sachs et al. (2019), because of the majority of bank investment still on fossil fuel, relying on banking finance is not a solution for financing green projects; There's a demand for new channels of financing this sector. One possible solution is to stimulate non-bank financial institutions' investments in green projects. These institutions, including pension funds and insurance companies are keeping long-term financial resources that are suitable for green infrastructure investments. For small and medium-sized green projects, community-based funds and village funds could be a suitable solution. The Hometown Investment Trust (HIT) funds is a new source of community-based trust funds created to support solar and wind power. The basic objective of the HIT funds is

to connect local investors with projects in their own locality, where they have personal knowledge and interests. An example for community- based green finance is the Hokkaido Green Fund. Last but not least, new financial technologies ("fintech") can offer the potential to unlock green finance technologies, such as blockchain, the Internet of Things, and big data. However, the net effect of applications of fintech and blockchain technology to the wide range of potential use cases will be to substantially improve reliability (such as identity and financial inclusion), increase access to services (such as energy, banking and property ownership) and importantly, lower overall system costs.

3.3. Research gap and future direction

We found some of the research gaps are the channel business model that help financing green projects, the blue bond business model, the using of fintech to answer some of the green financial issues, the development of green marketing, and also the role of grass roots to success the green financing projects. As with any sophisticated capital market, a broader selection of financial products will be necessary. As a result, we have provided a quick overview of our own developing green financial products that we called "Green Securitization".

Green Securitization bundling green loans into securities can free up extra money to fund the transition to a low-carbon, climate-resilient economy. Securitization allows for the consolidation of many small-scale loans and helps to attract a diverse investor base. Importantly, securitizing existing loans allows banks and other main lenders to refinance existing loan portfolios and recycle money to establish new green loan portfolios. Structures like collateralized loan obligations and asset-backed securities transactions can be used. Green securitization issuance has increased considerably during the last five years, as structured finance investors have become more concerned with sustainability in their investment selections. However, it accounts for a relatively minor portion of the total securitization industry. Green securitizations might be a cost-effective solution for corporations and financial institutions to fund green initiatives. They might free up banks' capital and incentivize them to grow their green lending operations if sufficient risk transfer is achieved. Before a pandemic-related slowdown in the first half of 2020, there was significant growth in volume in China, France, the Netherlands, and the United States. The green securitization market encompasses a diverse variety of transaction types that differ significantly by area and collateral type. Green asset and note conditions vary according to the transaction, but they are often backed by pools of green assets (or debt secured by green assets) or contain revenues that will be invested in green initiatives.

4. CONCLUSION

The need for a global green sustainable development has prompted this study to employ a variety of tools to highlight the advantages of such a development. Furthermore, state regulation tools for green finance have been proposed. The daily operations of green banking, capital adequacy, and bank liquidity have a positive impact on bank profitability. For example, the adoption of sustainability reporting in China's financial sector has been institutionalized, primarily in the banking subsector, in response to general regulatory pressures. But not all the country has achieved this positive impact. The development of green finance will be facing some challenges, but this paper also found some opportunity from the research gap and potential future direction. One of the ideas that we provided in this paper is the development of green Securitization product. So that we still need the further research to develop the green finance in post Covid-19 era.

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