



Implementation of green banking on six bank first mover pilot projects in Indonesia based on the Green Coin Rating (GCR) in the 2022 period

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ABSTRACT

The aim of this research is to determine the implementation of Green Banking on Six Bank First Mover Pilot Projects in Indonesia based on the Green Coin Rating (GCR) in the 2022 period. This research is a descriptive analytical method using case studies, namely by collecting information related to objects, subjects, and events that occurred in the Six Bank First Mover Pilot Projects in Indonesia. Green Banking Implementation at six first mover pilot project banks in Indonesia in the 2022 period indicates an illustration of the efforts that have been made by companies to provide benefits and minimize negative impacts on the environment. From the analysis results, it can be seen that the efforts made by the company are classified into six categories, namely Carbon Emissions, Green Rewards, Green Building, Reuse/Recycle/Refurbish, Paper Work or Paperless, and Green Investment. Carbon Emissions describes the company's efforts to minimize the carbon levels produced, which is also one of the highest categories that has been implemented by all the first mover pilot project companies studied

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1. INTRODUCTION

Nowadays, the Earth is suffering from a chronic condition that causes the Earth's temperature to warm up day by day. This increasingly rapid global warming causes climate change, which in turn causes various natural disasters, such as floods, tsunamis, earthquakes, etc. Indonesia, as a part of the Earth, has the similar problems related to global warming. Based on the SDG's Indonesia fact sheet in 2016, as many as 2,139,124 people were adversely affected by disasters from climate change (Kemkes RI, 2017; Sari et al., 2022; Syamsuri et al., 2022).

Based on Indonesian data, Green House Gas (GHG) emissions produced in 2021 will reach 259.1 million tons of CO₂ and are projected to increase by 29.13% or the equivalent of 334.6 million tons of CO₂ in 2030. This figure is still considered very high. Greenhouse Gases (GHG) in Indonesia increase along with increased use of coal. In detail, Green House Gas (GHG) emissions originating from coal reached 298.9 million tons of CO₂ or the equivalent of 89.3% of total emissions in 2030. As one of the world's lungs, Indonesia is committed to reducing Green House Gas emissions as outlined in Presidential Regulation No. 61 of 2011 concerning the National

Action Plan for Reducing Greenhouse Gas Emissions [JDIH BPK RI] (Colling et al., 2016; Indira & Sridiyya, 2012; Sukumaran, 2014; Varma et al., 2020; Xiao et al., 2022). This regulation explains Indonesia's plan to reduce Green House Gas Emissions by 29% with its own efforts and by 41% with international assistance by 2030. To realize this commitment and plan, Indonesia is undertaking various countermeasures (Adam & Apaydin, 2016; Gavriilyeva et al., 2020; Goh et al., 2015).

One form of mitigation in Indonesia is implementing Green Banking. It is a company operational activity that concern to risks related to a sustainable environment. These operational activities are packaged in the form of a long-term business strategy that prioritizes environmental conservation values, such as energy efficiency and eco- friendliness transportation, etc. Green Banking is applied to banking sector companies. According to the World Bank, Green Banking is a financial institution that concern to Banking, which aims to strengthen risk management for the sustainability of companies (banks) related to the environment (Khairunnessa et al., 2021; Mir & Bhat, 2022; Sharma & Choubey, 2022; Zhang et al., 2022).

Apart from reducing bad risks for the environment and empowering a sustainable environment, Green Banking is also able to increase competitiveness company advantages. This research reveals the positive impacts and benefits of implementing Green Banking, both for companies and the environment. Company operational activities that minimize risks related to the environment will certainly increase the sustainability of the environment itself. On the other hand, good implementation of Green Banking also has a direct impact on the company's good name, which can also become competitive advantage for the company (Bose et al., 2021; Bukhari et al., 2020; Mediastika & Lie, 2015; Sehen Issa et al., 2022).

In the sustainability of banking sector companies, the implementation of Green Banking really supports the creation of a sustainable environment and the achievement of the company's targets. Several companies in the banking sector that implement Green Banking are the Six First Mover Pilot Project Banks in Indonesia. Therefore, according to the description above, it can be seen that the analysis of the implementation of Green Banking on six bank first mover pilot projects in Indonesia based on the Green Coin Rating (GCR) in the 2022 period is an important and interesting thing to be analyzed and studied. The contribution of this research is that it can determine the implementation of green banking on six bank first mover pilot projects in Indonesia based on the Green Coin Rating (GCR).

2. RESEARCH METHOD

This research is a descriptive analytical method using case studies (Nursapia, 2020; Sugiyono, 2020), namely by collecting information related to objects, subjects, and events that occurred in the Six Bank First Mover Pilot Projects in Indonesia. The data collected in this research is secondary data from sustainability reports of Six Bank First Mover Pilot Project in Indonesia from 2022 related to the implementation of Green Banking in companies. Data collection techniques are carried out in natural conditions, primary data sources, and data collection techniques are mostly participant observation, in-depth interviews, and documentation. Data processing techniques used content analysis techniques (Darmalaksana, 2020; Fadli, 2021).

3. RESULTS AND DISCUSSIONS

Analysis of Green Banking Implementation on Six Bank First Mover pilot projects in Indonesia based on the Green Coin Rating (GCR) in the 2022 period is:

Table 1. Green Coin Rating at the National Bank of Indonesia

Green Coin Rating (GCR)	BNI	Information
<i>Carbon Emissions</i>	1	The company has implemented a culture of reducing and preventing emissions and running various carbon emission reduction programs.
<i>Green Rewards</i>	0	The company has not implemented an award program for innovation and environmental conservation efforts.
<i>Green Buildings</i>	1	The company utilizes buildings that always support environmental sustainability.

<i>Reuse/Recycle/Refurbish</i>	1	The company implements various efforts to reuse paper and other waste.
<i>Pepper Work or Paperless</i>	1	The company has reduced paper use in company administration.
<i>Green Investments</i>	1	The company has provided various funding for projects that are environmentally friendly and support sustainability.
Total	5	

Information:

0: Company does not implement

1: The company has implemented it well

a. *Carbon Emissions*

Bank Nasional Indonesia or BNI has succeeded in reducing carbon emissions by making efforts to save electrical energy, water, and reduce waste. In 2022, Bank Nasional Indonesia will reduce electricity use by 26.693 kWh.

b. *Green Buildings*

Bank Nasional Indonesia has received building design certification that is considered environmentally friendly by the Green Building Council Indonesia (GBCI). Buildings that have received certification include Plaza BNI and Menara BNI. Moreover, BNI also received a cyclist-friendly building from the Governor of DKI Jakarta for the BNI Tower Building.

c. *Paper Work or Paperless*

Bank Nasional Indonesia is also developing digital banking to reduce paper use. The company also implements a culture of saving paper and reusing used paper for its operational activities.

d. *Reuse/Recycle/Refurbish*

Bank Nasional Indonesia actively reduces plastic waste by reducing plastic use and bringing personal Tumblers to the office environment. The company also utilizes used paper wherever possible for operational needs.

e. *Green Investments*

Bank Nasional Indonesia has fulfilled the Green Investment category. In 2022, the company issued a Green Bond worth IDR 5 trillion to finance projects in the category of environmentally sound business activities. In addition, BNI also provides financing of up to IDR 29.77 trillion for sustainable business activities.

The implementation of the Green Coin Rating at Bank Central Asia is carried out by developing and updating their strategy to support sustainability and environmental preservation.

Table 2. Green Coin Rating at Bank Central Asia

Green Coin Rating (GCR)	BCA	Information
<i>Carbon Emissions</i>	1	The company has implemented a culture of reducing and preventing emissions and running various carbon emission reduction programs.
<i>Green Rewards</i>	0	The company has not implemented an award program for innovation and environmental conservation efforts.
<i>Green Buildings</i>	0	The company has not utilized buildings that always support environmental sustainability.
<i>Reuse/Recycle/Refurbish</i>	0	The company has not implemented efforts to reuse paper and other waste.
<i>Pepper Work or Paperless</i>	1	The company has reduced paper use in company administration.
<i>Green Investments</i>	1	The company has provided various funding for projects that are environmentally friendly and support sustainability.
Total	3	

Information:

0: Company does not implement

1: The company has implemented it well

a. *Carbon Emissions*

Bank Central Asia or BCA has succeeded in reducing carbon emissions by 1.995.8 tons of CO₂. This figure has increased from the previous year of 125%. This achievement is supported by reducing waste, electricity and water use, as well as fuel savings which are implemented in the company's operational culture.

b. *Paper Work or Paperless*

BCA is actively developing its digitalization so that it now handles up to 7.2 million services on HaloBCA Apps. Digitalization is BCA's effort to reduce paper use, this initiative has contributed to reducing carbon emissions equivalent to 1.458.3 tonnes of CO₂.

c. *Green Investments*

In 2022, BCA's contribution to financing sustainable business activities will increase. BCA provides financing of up to IDR 183.2 trillion for projects that are environmentally friendly and support sustainability principles.

Fulfillment of the Green Coin Rating is an assessment of Bank Mandiri's commitment to implementing Green Banking.

Table 3 Green Coin Rating at Bank Mandiri

Green Coin Rating (GCR)	Bank Mandiri	Information
<i>Carbon Emissions</i>	1	The company has implemented a culture of reducing and preventing emissions and running various carbon emission reduction programs.
<i>Green Rewards</i>	0	The company has not implemented an award program for innovation and environmental conservation efforts.
<i>Green Buildings</i>	1	The company utilizes buildings that always support environmental sustainability.
<i>Reuse/Recycle/Refurbish</i>	1	The company has not implemented efforts to reuse paper and other waste.
<i>Pepper Work or Paperless</i>	1	The company has reduced paper use in company administration.
<i>Green Investments</i>	1	The company has provided various funding for projects that are environmentally friendly and support sustainability.
Total	5	

Information:

0: Company does not implement

1: The company has implemented it well

a. *Carbon Emissions*

Bank Mandiri has succeeded in reducing carbon emissions by up to 59.076 tons of CO₂ by making efforts to save electrical energy, water, reducing waste, using electric vehicles, etc. In 2022, Bank Mandiri will reduce electricity use by 26.000 kWh.

b. *Green Buildings*

Bank Mandiri designs and operates various Bank Mandiri buildings by concern to positive impacts and reducing negative impacts on the climate and environment.

c. *Reuse/Recycle/Refurbish*

Bank Mandiri has implemented a recycling water culture to reduce the amount of water waste produced. This effort was carried out by Mandiri by using a Water Recycle with Reverse Osmosis System, which can process waste water into water with standard quality standards. The recycled water is then used for plant maintenance, flushing toilets, etc. From this effort, Mandiri has saved water usage of up to 84.877 m³.

d. *Paper Work or Paperless*

In 2022, Bank Mandiri has reduced work usage by up to 300 tons. By implementing a digitalization and paperless administration system, Bank Mandiri has indirectly reduced tree cutting by 22.882 trees.

f. Green Investments

In 2022, Bank Mandiri will increase its green portfolio by 11.4%, reaching IDR 106 trillion. Besides, Bank Mandiri also issued a Sustainable Bond worth US\$300 million and an ESG Repo of US\$500 million.

The fulfillment of the Green Coin Rating category to become a Green Banking company is presented in the table below:

Table 4 Green Coin Rating at Bank Rakyat Indonesia

Green Coin Rating (GCR)	BRI	Information
<i>Carbon Emissions</i>	1	The company has implemented a culture of reducing and preventing emissions and running various carbon emission reduction programs.
<i>Green Rewards</i>	1	The company has implemented an awards program for innovation and environmental conservation efforts.
<i>Green Buildings</i>	0	The company has not used buildings that always support environmental sustainability.
<i>Reuse/Recycle/Refurbish</i>	1	The company implements various efforts to reuse paper and other waste.
<i>Pepper Work or Paperless</i>	1	The company has reduced paper use in company administration.
<i>Green Investments</i>	1	The company has provided various funding for projects that are environmentally friendly and support sustainability.
Total	5	

Information:

0: Company does not implement

1: The company has implemented it well

a. Carbon Emissions

Bank Rakyat Indonesia or BRI actively reduces carbon emissions from company operations and makes various efforts to avoid emissions. Moreover, BRI also makes various efforts to save electricity, water, and reduce waste, which has an impact on reducing greenhouse gas emissions and supporting environmental sustainability.

b. Green Rewards

BRI provides various rewards in the form of funding for MSMEs or projects that are deemed capable of having a positive impact on the environment and supporting sustainability principles.

c. Reuse/Recycle/Refurbish

Bank Rakyat Indonesia has succeeded in recycling waste totaling 237.957.5 kg. This effort is equivalent to avoiding greenhouse gas emissions of up to 164 tons of CO₂. In addition, by improving waste management, the company has succeeded in reducing waste-related greenhouse gas emissions by up to 85%.

d. Paper Work or Paperless

BRI strives for efficient use of paper through technological system support for both customers and company operations. In 2022, BRI successfully achieved management Paper usage per worker is up to 17.31kg.

g. Green Investments

Bank Rakyat Indonesia has fulfilled the Green Investment category. In 2022, the company will issue a Green Bond worth IDR 5 trillion to finance projects in the environmentally sound business activity category. BRI also provides credit to the green sector or environmentally sound business criteria of up to IDR 18.8 trillion.

The implementation of the Green Coin Rating at West Java Bank is carried out by evaluating the implementation of Bank Jawa Barat operations.

Table 5. Green Coin Rating of Bank Jawa Barat

Green Coin Rating (GCR)	BJB	Information
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<i>Carbon Emissions</i>	1	The company has implemented a culture of reducing and preventing emissions and running various carbon emission reduction programs.
<i>Green Rewards</i>	0	The company has not implemented an award program for innovation and environmental conservation efforts.
<i>Green Buildings</i>	0	The company has not used buildings that always support environmental sustainability.
<i>Reuse/Recycle/Refurbish</i>	0	The company has not implemented efforts to reuse paper and other waste.
<i>Pepper Work or Paperless</i>	1	The company has reduced paper use in company administration.
<i>Green Investments</i>	1	The company has provided various funding for projects that are environmentally friendly and support sustainability.
Total	3	

Information:

0: Company does not implement

1: The company has implemented it well

a. Carbon Emissions

Bank Jawa Barat supports Green Banking by committing to reducing carbon emissions. BJB has reduced carbon emissions and reduced water usage by up to 49% by implementing a culture of saving electricity and water implemented by all BJB employees.

b. Paper Work or Paperless

Bank Jawa Barat has met this indicator by continuously innovating in terms of digitalization. This is done to reduce the use of paper in company operations, which also indirectly has an impact on increasing tree growth.

c. Green Investments

Bank Jawa Barat is building its green portfolio by providing financing for sustainable business activities. In 2022, BJB will have issued funding of up to IDR 14.649.424 million.

The implementation of the Green Coin Rating at Bank Artha Graha International is carried out by paying attention to how the company carries out its operations and re-evaluating the efforts that the company has made regarding energy efficiency, waste management, use of renewable resources, and environmental preservation. etc.

Table 6 Green Coin Rating at Bank Artha Graha Internasional

Green Coin Rating (GCR)	Bank Artha Graha Int.	Information
<i>Carbon Emissions</i>	1	The company has implemented a culture of reducing and preventing emissions and running various carbon emission reduction programs.
<i>Green Rewards</i>	0	The company has not implemented an award program for innovation and environmental conservation efforts.
<i>Green Buildings</i>	1	The company utilizes buildings that always support environmental sustainability.
<i>Reuse/Recycle/Refurbish</i>	0	The company has not implemented efforts to reuse paper and other waste.
<i>Pepper Work or Paperless</i>	0	The company has not reduced paper use in company administration.
<i>Green Investments</i>	1	The company has provided various funding for projects that are environmentally friendly and support sustainability.
Total	3	

Information:

0: Company does not implement

1: The company has implemented it well

b. Carbon Emissions

Efforts made by Bank Artha Graha International to reduce carbon emissions are by carrying out electricity savings. These are carried out by implementing a culture of turning off electrical equipment that is not in use, such as lifts, cables, air conditioners, and computers.

c. Green Buildings

Green Building principles, namely buildings that prioritize saving electrical energy, water, as well as lots of natural lighting and plants.

d. Green Investments

Bank Artha Graha International has supported the principles of Green Banking by providing various financing to support sustainable business activities in various fields in Indonesia. Apart from that, Bank Artha Graha International is also working to become a member of the Green Climate Fund to further increase the distribution of funds for environmentally friendly projects. Table 7 provides an overall picture of the fulfillment of the Green Coin Rating for the Six First Mover Pilot Project companies in each category.

Table 7. Analysis of Green Banking implementation in banking companies in Indonesia with Green Coin Rating (GCR)

Green Coin Rating (GCR)	BNI	BCA	Bank Mandiri	BRI	BJB	Bank Artha House Int.		%
<i>Carbon Emissions</i>	1	1	1	1	1	1	6/6	100%
<i>Green Rewards</i>	0	0	0	1	0	0	1/6	16%
<i>Green Buildings</i>	1	0	1	0	0	1	3/6	50%
<i>Reuse/Recycle/Refurbish</i>	1	0	1	1	0	0	3/6	50%
<i>Pepper Work or Paperless</i>	1	1	1	1	1	0	5/6	83%
<i>Green Investments</i>	1	1	1	1	1	1	6/6	100%
Total	5	3	5	5	3	3		

Information:

0: Company does not implement

1: The company has implemented it well

a. Carbon Emissions

Carbon emissions referred to in this research, which have also been discussed in the previous chapter, include the results of burning engine fuel that is released through the exhaust system, including electricity use, and building wall selection. The Six First Mover Pilot Project banking companies in Indonesia already have great awareness of reduction Carbon Emissions. Various efforts to reduce carbon emissions have been implemented, including using electricity-saving lamps, air conditioning wisely, especially for Bank Rakyat Indonesia which places Carbon Emissions as the Number 1 priority category in the topic of company materials.

b. Green Rewards

Green Rewards is a practice of supporting environmental preservation by giving awards to people or companies that apply sustainability principles. The awards referred to here can be in the form of certification, awards, etc. However, it turns out that only one of the six first mover pilot project banks in Indonesia that has implemented Green Rewards. Bank Rakyat Indonesia is the only banking company studied that implements Green Rewards. One of the programs run by BRI is to provide funding facilities for the five best SMEs in creating environmentally friendly products.

c. Green Buildings

Green Building is an indicator of the implementation of a green banking company by providing work space for healthy, comfortable activities, as well as concerning to environmental sustainability. In constructing this green building, the company utilizes more environmentally friendly materials, such as increasing plants, flowers and a layout to allow sunlight to enter. That

way, implementation of Green Building is indirectly expected to reduce electricity use for lights, air conditioners, etc. Half of the six first mover pilot project banking companies in Indonesia have realized and implemented Green Building in their company operations, including Bank BNI, Mandiri, and Artha Graha International. BNI applies magnetic bearings on Plaza BNI coolers thereby minimizing friction on driving components. Plaza Mandiri uses more solar panels and glass panels at the head office to minimize electrical energy used.

e. Reuse/Recycle/Refurbish

Reuse/Recycle/Refurbish mean using or reprocessing rubbish or waste produced by the company into useful new products. Companies reuse goods that are no longer used into new goods both outside the company and within the company's activities. Form of Reuse/Recycle/Refurbish activities include reprocessing paper, processing plastic bottles, and others. Only three of the six first mover pilot project banking companies in Indonesia have focused on recycling this waste. One of them is Bank Mandiri, which has unique innovations that are rarely implemented by other companies. Bank Mandiri implements water recycling to reduce waste generation.

f. Paper Work or Paperless

Paper Work or Paperless is a policy to reduce the use of paper in company operational activities, particularly administration. During the time, the number of banking customers increases, which of course requires an increasing amount of paper. If banking administration continues to use paper, it can certainly have a negative impact on forests and the environment. In an effort to reduce paper use, currently five out of six first mover pilot project banking companies in Indonesia have switched to using technology to carry out company operational activities, such as using an all-online work system, mobile banking facilities, etc. The company that has not implemented it is Bank Artha Graha International because it is still operating mostly offline until now and its administration still uses a lot of paper.

h. Green Investments

Green Investment refers the activity of investing capital by companies aimed at projects or companies that have investment prospects while implementing the principles of sustainability and commitment to protecting the environment, such as conservation of natural resources, production of new alternative and renewable energy sources (EBT). Currently, six first mover pilot project banking companies in Indonesia are making sustainable investments because apart from being able to support nature conservation, Green Investment can also improve the good name and image of the company. One of the companies is BRI. This provides the largest total financing for the Sustainable Business Activity Category (KKUB) among five other companies. In 2022, BRI will provide KKUB funding with a total of IDR 616.07 trillion and BCA obtained second place in KKUB funding with a total of IDR 183.2 trillion.

Overall, the company that implements the most Green Banking is Bank Rakyat Indonesia. This is based on the fulfillment of the most complete Green Coin Rating category. Bank Rakyat Indonesia has currently made almost all efforts to support sustainable banking even though BRI has not yet implemented Green Building in its company operations.

4. CONCLUSION

Green Banking Implementation at six first mover pilot project banks in Indonesia in the 2022 period indicates an illustration of the efforts that have been made by companies to provide benefits and minimize negative impacts on the environment. From the analysis results, it can be seen that the efforts made by the company are classified into six categories, namely Carbon Emissions, Green Rewards, Green Building, Reuse/Recycle/Refurbish, Paper Work or Paperless, and Green Investment. Carbon Emissions describes the company's efforts to minimize the carbon levels produced, which is also one of the highest categories that has been implemented by all the first mover pilot project companies studied. From this research, it appears that the implementation of Green Banking has several significant positive impacts in supporting sustainable banking company business activities with environmentally friendly policies and practices. This research limited the sources of information available for this research. For further research, it can utilize primary data

directly from the company as the object of research to obtain more detailed, accurate, and in-depth data regarding the practices and policies that are being implemented.

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