THE ROLE OF SHARIA ECONOMICS IN REALIZING SUSTAINABLE DEVELOPMENT BASED ON GREEN ECONOMY

ABSTRACT

The Green Economy is an issue that has started to become a hot topic of discussion and has been continuously raised in recent times. This research aims to determine the role of sharia economics in reducing carbon dioxide emissions and helping realize the goals of SDGs, especially in the economic development pillar. This research variable is renewable energy using hydroelectricity and biofuel samples. From these two variables, we can see how much influence they have on the contribution of carbon dioxide emissions produced each year in Indonesia. Quantitative with descriptive explanation is the most suitable approach used in this research, supported by secondary data sources. Based on the t-statistical test, the two variables hydroelectricity and biofuel have no influence on carbon dioxide emissions produced due to various activities. However, from the F test carried out, it can be seen that the hydroelectricity and biofuel variables both contribute to carbon dioxide emissions, even though their contribution is only 1%.

Keywords : Green economy, renewable energy, emissions

1. INTRODUCTION

Scarcity is a global issue that occurs due to the impact of damage to environmental ecosystems and natural resources which causes the phenomenon of a shortage of supply of manufactured goods in various sectors which is in line with economic growth in the current era (Fauzia, 2016) . Issues that are related to sustainable development programs such as high carbon levels caused by environmental pollution and even emissions, apart from that are also caused by the continuous extraction of natural resources and the phenomenon of inequality and the absence of social justice. The Green Economy has become an issue that continues to be raised in recent times. It is not surprising that many people define it as an economy that prioritizes environmentally friendly principles (Wardhana, 2021) . A green economy is an economic activity that can be expected to increase the prosperity and welfare of the people as the ultimate goal of economic activity, not forgetting that it is also devoted to achieving fairness, justice for society or the environmental ecosystem and natural resources themselves (Fua, 2015) .

If viewed from a sharia economic perspective, the problems that occur have similarities with Maqashid al-Syariah. Viewed from a terminology perspective, Maqashid al-Syariah is Allah's desire to sow benefit to humanity, by fulfilling the needs of daruriyah, hajyah, and tahsiniyah so that humanity can have a guaranteed life and become complete servants of Allah (Iskandar & Aqbar, 2019) . Therefore, in order to achieve life in accordance with Allah SWT's purpose in creating humans, you must make efforts to carry out the provisions of Allah SWT. (Lestari, 2022).

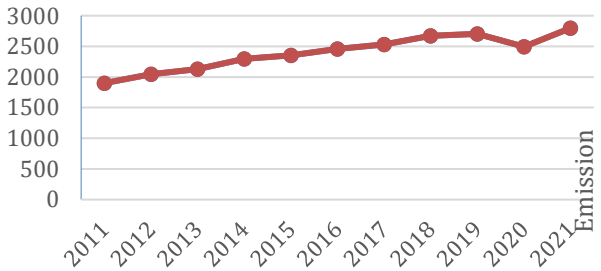
Humans who always prioritize profits from anything have led to the emergence of green economic thinking which aims to erode little by little the human nature of always prioritizing personal interests over other interests that must also be considered (Adawiyah, 2023) . The nature

that leads to greed must be opposed with the good nature that some humans still have, namely humans who still care about other creations of Allah SWT, such as protecting and preserving nature which is also a creation of Allah SWT. However, in fact, in various activities and production activities, it is still very rare to pay attention to environmental sustainability but instead only think about making as many profits as possible. If this greed continues in the long term, it will also have a negative impact on human survival itself.

The negative impacts that occur as a result of climate change have made many countries in various parts of the world, including Indonesia, try to find and explore solutions to start step by step to maintain, protect and maintain the earth on a regular basis (Hutagalung & Aisyah, 2022) . The UN is directly involved in looking for efforts and solutions to deal with this phenomenon. Indonesia is the host of the G20, Indonesia expresses policies in financing sustainable development, green economy and the low carbon movement (Hayati et al., 2020) . Although predicted global economy will slow down , foundation from Indonesia's economy is assessed have sufficient resilience Good than other countries . Based on from experiencing economy growth at 5 % in seven quarter streak .In quarter II-2023 as much as 5.17% with level inflation is still there spelled out safe at 3.17% in August 2023. " Strong foundation become Indonesian basis for give support for the economy green which is source new growth economy in a way sustainable in the future come ," said the Coordinating Minister Field Airlangga Hartarto's Economy reported from event Data on Sustainability Action for The Future Economy (SAFE) 2023 on Tuesday 26 September (*Ministry of Finance, 2023*).

The constitution was created to manage the environment, Law NO 32 of 2009 concerning Environmental Protection and Management taking into account improvements to Law Number 23 of 1997 concerning Environmental Management with the hope of guaranteeing legal certainty and protection of individual rights to have a good, safe living environment. , and healthy as a concern for the sustainability of the entire ecosystem. Presidential Regulation (Perpres) Number 98 of 2021 which talks about reducing carbon in order to contribute to greenhouse gas emissions to support national development efforts which is the government's commitment to environmental maintenance aimed at a green economy.

Graph 1 Carbon Dioxide Emission Levels in Indonesia



Source: *BP Statistical Review of World Energy* (2022)

Based on data reported from the BP Statistical Review of World Energy in 2022, we can see that carbon dioxide emissions produced by various activities have continued to increase rapidly

in the last 11 years. Although from 2019 to 2020 emissions decreased due to Covid-19 which hampered many activities so that emission levels continued to decline. However, emission levels continue to increase in 2021 until now due to the new normal life after Covid-19. This causes carbon dioxide emissions to increase again, and there is a need for a solution to this phenomenon.

2. LITERATURE REVIEW

2.1 SDGs (Suistanable Development Goals)

The global and national commitment contained in the SDGs which aims to provide prosperity to society is linked to 17 goals which are targets globally until 2030, which were implemented in developed and developing countries at the UN General Assembly which was held in September 2015 (Solomon, 2023) . The SDGs plan has 17 goals and is outlined in four pillars of sustainable development, namely the Economic Development Pillar, Social Development Pillar, Environmental Management Legal Pillar, and Environmental Development Pillar (Bainus & Rachman, 2018) .

The Economic Development Pillar has hopes of improving the quality of the economy through opening job opportunities and business opportunities, providing new colors that are creative and innovative, inclusive industry, supporting infrastructure, clean energy that is environmentally friendly (Hari Kristianto, 2020) . The Economic Development Pillar has five goals, including clean and easily available energy, decent work accompanied by economic improvement, opening up many industries with creative innovation supported by adequate infrastructure, and having partners to work together to achieve the goal.

2.2 Emissions

According to the main trigger of climate change is global warming which comes from fossil energy intensive activities which have the potential to increase carbon dioxide emissions (Sri Sulasminingsih et al., 2024) . Developed countries that have gone through a period of industrialization account for more than two-thirds (67 percent) of total global carbon emissions historically (Friedrich et al., 2020). So, indirectly, economic activities that use fossil fuels also contribute to carbon dioxide emissions. It is incompatible with sharia principles which pay attention to the environment and living things in it. So that sharia economics provides a solution by using and benefiting from Allah's creation. such as wind energy, sunlight and water which can be converted into more environmentally friendly electricity generation (Alatas Alwi, 2023) .

2.3 Renewable Energy (Renewable Energy)

One of the most important factors in human life is an energy source that can be utilized and used to facilitate the survival of mankind (Damanik, 2023) . As time passes, the human population grows and develops at a higher rate every year, which indirectly makes the need and demand for energy even higher. For example, the need for energy from fossil fuels and coal is also increasing and energy like this is included in energy that is not easily renewable. Thus, many people think about replacing this energy with energy that is easier to obtain and easier to produce in a short period of time. For example, there is an opinion to utilize energy sources such as wind, water or fuel made from organic fuels for use and this is what is called a renewable energy source (Tauhid, 2018) . The emergence of renewable energy which is considered friendlier to the environment means that support for changing to a low-carbon era will become increasingly easy to achieve.

1. Water is a renewable energy
   Abundant water sources make water one of the greatest renewable energies. Utilization of this energy can be aimed at converting water into electrical energy so that water can also be used as a hydroelectric power plant. (Deliana Siregar et al., 2023) . Water can be converted into electrical energy if the water energy is processed by a hydroelectric power plant and the energy is converted into mechanical energy by a turbine, then converted again by a generator into electrical energy by utilizing the speed and height of the water so that electricity can then be channeled and distributed.
2. Biofuel (Organic fuel)
   Biofuel is a new and renewable fuel category that utilizes and processes organic materials such as algae, plants and waste from organic materials. They can be used to produce alternative fuels and substitutes for fossil fuels such as diesel. For example, ethanol is made by fermenting sugar cane or corn (Puspita, 2024) .

2.4 Green Economy

The basic concept of a green economy can be divided into two parts. First, it is not only centered on macroeconomics but the green economy is here to see and think about the problems that arise due to complex economic activities. The green economy offers solutions by looking at environmental sustainability with more environmentally friendly solutions both in terms of industry, investment and the consequences produced by various economic activities. Second, provide steps to start green investment and offer policies that can eradicate poverty and increase employment opportunities for all groups with support from the government and other levels of power (Lukas, 2015) .

The theory of planned behavior is the origin of the emergence of the concept of a green economy, where this theory states that a person will have a reason to protect and maintain the place where their survival occurs. In other words, humans indirectly have an emotional perspective to help protect the ground on which they stand (Soehardi, 2022) .

In the green economy there are maqashid sharia values which make it in line with sharia economics. In this way, the green economy and sharia economy have several similarities. Maqashid al-syariah is inclined towards benefit, paying attention to and maintaining al-dharuriyyat. There are basic objectives in it which are stated in: (1) Hifdz al-din which requires us to maintain religion, (2) Hifdz al-nafs focuses on maintaining our souls so that we can differentiate between haram and halal which have been determined by Allah SWT, (3) Hifdz al-aql prioritizes always using common sense, (4) Hidz al-Nasl guarantees the survival of our descendants so that their prosperity can be guaranteed, (5) Hifzhu al-Maal requires us to be careful in managing the assets that have been entrusted to us, sharia economics does not only think about the world but the consequences that will be borne in the afterlife (Dewi et al., 2023) .

2.5 Empirical Study

The study on "Renewable Energy and Sharia Economics: Synergy to Realize Sustainable Development" by Iskandar & Aqbar (2019) is aimed at looking at and studying the concept of combining sharia economics and renewable energy programs in the Indonesian region to see their

role in sustainable development. Shows the results that the contribution of sharia economics has a role in increasing an independent economy through energy self-sufficiency.

A study on "The Relationship between Sharia Microfinance Institutions and the Sustainable Development Goals (SDGs) Agenda" was also carried out by Nuringsih (2019) with the aim of finding out the role of sharia financial institutions in achieving a sustainable economy. Shows that BPRS and BMT provide access to financial services for the lower middle class, and also hope to improve the standard of living of society as a whole. By providing capital to small and medium businesses to be able to contribute to improving welfare.

3. RESEARCH METHODS

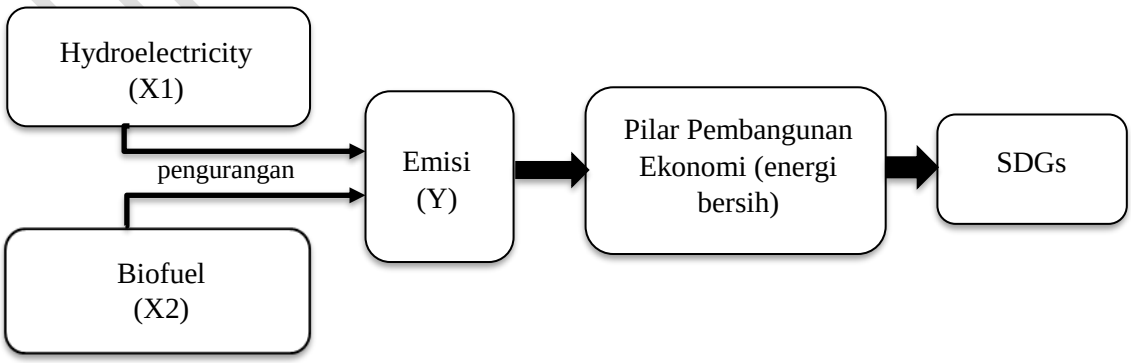
Descriptive quantitative is the most appropriate method to present the process of providing results in this research. Numbers are data that is very suitable for quantitative research. The data is then processed to determine the effect of renewable energy, which in this context is hydroelectricity (Hydroelectricity) and biofuel (organic fuel) on carbon dioxide emission levels.

3.1 Data Source

This research data was taken from a second party who has processed and published the data so that the data source for this research is included in secondary data. The data used in this research was obtained indirectly through the bp Statistical Review of World Energy via the website https://www.bp.com/en/global/corporate/energy-economics.html

3.2 Variables

The independent variables in this research are Hydro electricity (X1) and biofuel (X2). Where these two variables will influence emissions. The dependent variable of this research is Emissions (Y). Where this research will look at the influence of hydroelectric and wind power plants partially and simultaneously. Does each variable have an individual influence on the level of carbon dioxide emissions and see whether the two variables also have an influence together on the level of carbon dioxide emissions?



H $_0$: There is no significant influence of hydroelectricity and biofuel on carbon dioxide emissions .

H $_1$: Hydroelectricity has a positive effect on carbon dioxide emissions.

H $_2$: Biofuel has a positive effect on carbon dioxide emissions.

H $_3$: Hydroelectricity and Biofuel simultaneously have a positive effect on carbon dioxide emissions.

3.3 Data Analysis Techniques

The data was analyzed through testing which was guided by the classic assumption test which was used to see whether the data was distributed normally or not. Then carry out classical assumption tests, multiple linear regression tests and hypothesis testing.

4. RESEARCH RESULTS AND DISCUSSION

4.1 Normality Test

Table 1. Normality Test Results

One-Sample Kolmogorov-Smirnov Test

			Unstandardized Residuals
N			10
Normal Parameters [a, b]	Mean		.0000000
	Std. Deviation		30.10516336
Most Extreme Differences	Absolute		,259
	Positive		,259
	Negative		-.166
Statistical Tests			,259
Asymp. Sig. (2-tailed) [c]			,057
Monte Carlo Sig. (2-tailed) [d]	Sig.		,058
	99% Confidence Interval	Lower Bound	,052
		Upper Bound	,064

Based on the output above, it can be seen that the Sig. (2-tailed) of 0.057>0.05. This means that the standardized residual value is declared to be normally distributed.

4.2 Paired Sample T-Test

Table 2. Paired Sample Statistical Hydroelectricity Test Results

Paired Samples Statistics

		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	Hydroelectricity	.1810	10	.03695	.01169
	Emission	522.2600	10	51.87809	16.40529

The average level of emissions produced by hydroelectric power plants in Indonesia is only 0.1810, which is smaller than the average amount of emissions in Indonesia of 522.2600. This indicates that hydroelectric power plants only contribute very little emissions each year.

Table 3. Paired Sample T-Test Hydroelectricity Test Results

Paired Samples Test									
		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower	Upper			
Pair 1	Emissions - Hydroelectricity	522.07900	51.85009	16.39644	484.98768	559.17032	31,841	9	<.001

Based on from the output results above known mark significance equal to 0.001 < 0.05. Then you can withdrawn conclusion that h0 is accepted and h1 is rejected . Show that hydroelectricity does own significant influence to emissions . That matter show that energy renewable No give rise to excessive emissions . Signify that energy renewable success donate energy friendly clean environment .

Table 4. Paired Sample Statistical Test Results for Biofuel

Paired Samples Statistics

		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	Biofuels	57,1000	10	46.51511	14.70937
	Emission	522.2600	10	51.87809	16.40529

The average level of emissions produced by hydroelectric power plants in Indonesia is only amounting to more than 57,1000 small compared to with the average number emissions in Indonesia amounted to 5,222,600. This matter signifies if biofuel only contributed very little emission every the year

Table 5. Paired Sample T-Test Biofuel Test Results

Paired Samples Test							
	Paired Differences				t	df	Sig. (2-tailed)
	Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference			

					Lower	Upper			
Pair 1	Emissions - Biofuels	465.16000	30.63122	9.68644	443.24775	487.07225	48,022	9	<.001

Based on from the output results above known mark significance equal to 0.001 < 0.05. Then you can withdrawn conclusion that h0 is accepted and h2 is rejected . Show that biofuels do not own significant influence to emissions . That matter show that energy renewable No give rise to excessive emissions . Signify that energy renewable success donate energy friendly clean environment .

4.3 F Test

Table 6 F Test Results

ANOVA [a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	16065.136	2	8032.568	6,893	.022 [b]
	Residual	8156.888	7	1165.270		
	Total	24222.024	9			

Based on from the output results above known If mark significance is 0.022 < 0.05, then H3 is accepted . X1 and X2 respectively simultaneous own influence to emission carbon dioxide . If counted of the average emissions produced then the average of X1 and X2 is 0.1810+ 57,100.0 = 57,100.1810.

So :

$$\frac{Rata-rata\ X}{Rata-rata\ Y} \times 100\%$$

$$\frac{57.100,0}{5.222.600} \times 100\% = 1.093\ \%$$

From the data above Can show that merger from the average of the hydroelectricity and biofuel variables only contributed 1.093% of the average emissions in Indonesia. Show that energy very little renewable produce emission and very friendly environment . This matter in line with objective from Sdgs programs especially in the economic development pillar which has quality and realized economic development goals through energy clean . Therefore that 's energy adapted net from principle economy matching green with Sharia maqashid is assessed Can help in realize sustainable development goals .

5. CONCLUSIONS and RECOMMENDATIONS

Based on the t-statistical test that has been carried out, it shows that each hydroelectricity and biofuel variable has no influence on carbon dioxide emissions produced due to various activities. However, from the F test carried out, it can be seen that the hydroelectricity and biofuel variables together have an influence on carbon dioxide emissions, even though the influence is only 1%. However, we can see that 99% of other variables outside this study are the biggest

contributors to carbon dioxide emissions. This means that the SDGs goals can be achieved if the use of renewable energy is increased to continue to reduce carbon dioxide emissions.

The concept of a green economy which is in line with maqhasid sharia principles can play a role in realizing one of the SDGs pillars, namely the pillar of economic development through clean, environmentally friendly energy. Based on research results on the role of sharia economics in realizing sustainable development based on a green economy, there are suggestions that need to be considered, namely:

1. Studies related to the role of sharia economics in reducing various emissions caused by various activities must be studied more deeply because sharia economics offers various healthy and environmentally friendly economic activities, one of which is by utilizing natural resources such as clean and environmentally friendly renewable energy.
2. Activities related to environmental sustainability must be considered because Allah SWT. revealed humans as caliphs on this earth. We can be given the right to utilize the resources that Allah SWT has given us. However, we must not forget our obligation to protect the earth as a form of appreciation for having been given abundant blessings by Allah SWT.

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