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Covid-19 and Renewable Energy in BRICS Countries: An Opportunity or a Threat?

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Abstract: ***The emergence of the COVID-19 pandemic, the renewable energy industry in South Africa and the rest of the region has been severely affected. This study aims to analyze the various steps taken by the governments of the five BRICS countries to address the issue.***
The study analyzed the various factors that influence the development of the renewable energy sector in five emerging economies: China, Russia, India, Brazil, and South Africa. The emergence and spread of pandemics has affected the production and use of renewable energy in the country. Although the pandemic affected the renewable energy sector, it also contributed to the GDP growth of the country. This paper also called for the government to formulate long-term policies that will increase the use of sustainable energy.
The paper is also based on the analysis of the various data sources, such as online/offline research papers, conference proceedings, and text books. These data are used to identify the key competitive advantages of Renewal Energy.

Keywords: BRICS Organization, Covid-19 Outbreak, Renewable Energy, Solar Energy, Present Scenario in India.

1. INTRODUCTION

Before starting our analysis, it is important to introduce the acronym of the organization, which is the BRICS. It refers to the five potential economic countries of China, Russia, India, Brazil, and South Africa. The BRICS in 2010, has estimated area of 39,746,220 square

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kilometers (26.7% of the world land surface), and has a population of over 3.21 billion (41.5% of the world population).
The coronavirus pandemic, which started in December 2019 in China, has caused widespread destruction in various parts of the world. Due to its severity, the World Health Organization (WHO) and other national and local governments have been forced to respond in unprecedented ways to prevent a global health disaster. Due to the situation, various lockdowns were implemented at various levels. These measures have affected up to 30% of global population. These restrictions have caused the temporary closure of around 80% of the businesses in the affected regions. The pandemic has caused an economic downturn, which has affected various sectors such as the production and consumption of goods and services. It also caused a decline in energy demand.

The International Energy Agency noted that the global energy demand decreased during the first quarter of 2020.The decline in energy demand during the financial crisis was larger than the effects of the recession during the previous years. The outbreak of the coronavirus has also affected the production of renewable energy resources.
The reduction in the global conventional energy demand caused by the pandemic has also affected the investments in renewable energy projects. The government has also shifted its focus to the relief effort. As a result, the incentives for the renewable energy industry have also been shifted to the aid efforts. The sudden decline in the global production of renewable energy has caused severe disruptions to the industry. Also, lack of incentives has hindered the country's growth potential.

The outbreak has also negatively affected the operations of wind tribune manufacturing facilities. The lack of incentives for the renewable energy industry has also hindered the country's growth. Similarly, the solar industry has also been experiencing a decline in its operations. Many workers in the solar energy industry have also been affected by the pandemic. As a result, many companies in the renewable energy sector have temporarily suspended their operations. Various measures have also been implemented to address the issues faced by the industry.
The government has taken various measures to prevent the spread of Ebola. Among these are restricting the movement of people and preventing the entry of infected individuals into the country.This has also affected the production and consumption of various types of goods and services. As a result, a larger portion of the global renewable energy production is coming from countries such as China, Japan, and the US. Since the outbreak started, the effects of the disease control measures have been varying across different economies. For instance, in Japan and South Korea, the small-scale restrictions have resulted in a reduction in the energy demand. Due to the government’s efforts to impose restrictions and lockdowns, China's weekly energy consumption decreased by 15 percent.

In response to the growing number of infections and deaths, many European countries decided to impose complete lockdowns on their economies. This resulted in a 17 percent reduction in their weekly energy consumption. According to the International Energy Agency, the reduction in global oil production is expected to reach 9 percent by 2020.In the

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past year, the production of coal-fired power plants has decreased by 10 percent globally. The consumption of electricity has also decreased by 5 percent.
The pandemic has also caused a reduction in the energy use, which has affected the production and operation of coal-fired power plants, as well as other types of power plants. Due to the sudden decline in the energy demand, the reduction in the incentives for the investment in renewable energy projects has also affected the market.
One of the main factors that have contributed to the growth of the renewable energy sector has been the reduction in the cost of production. According to a study, foreign trade can stimulate the development of the industry. It can also help reduce greenhouse gas emissions. Despite the positive effects of foreign trade, the approval process for new renewable energy projects has been delayed due to various factors. Germany is one of the world's leading producers of wind and solar energy. However, the country's coal production is also decreasing.

The emergence and spread of this pandemic has also affected the pricing schemes for carbon credits. It is believed that these policies have indirect effects on renewable energy production and consumption. Although the exact effects of this phenomenon are still not known, the literature on the subject has already explored various factors that affected the energy sector.
The goal of this study is to provide an overview of the situation in China's renewable energy industry following the outbreak of the pandemic. It also aims to recommend policies that can help improve the industry's operations. The study also aims to provide policymakers and regulators with an overview of the various factors that affect the development of the renewable energy industry.

The study aims to provide a comprehensive analysis of the various factors that affected the production and operation of renewable energy in China. Through this study, policymakers can learn how to stimulate the industry and develop effective policies.
The global economy is experiencing a decadalization. The increasing greenhouse gas emissions from China and other industrial countries have also affected the air quality in these regions. The study aims to analyze the effects of the pandemic on the production of renewable energy in the five countries of the BRICS.

Literature review
The outbreak of the COVID-19 pandemic has caused various sectors in the energy industry to be affected. One of them is the renewable energy industry, as it has been severely affected by the global economic slowdown and the lack of government support.

During the global lockdown, various governments provided relief to the affected individuals and groups, but they did not have the necessary funds to support the energy industry. The pandemic has been regarded as the biggest economic shock to the sector in the last three decades. The lack of government support has caused the global supply chain of renewable energy to be disrupted. Many of the governments did not provide incentives for the development of this industry.

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Experts predict that the global wind energy production will drop by about 4.9 gigawatt due to the outbreak of the influenza pandemic. In North Dakota, several wind power plants are expected to be closed due to the outbreak. The pandemic has also affected the solar energy industry. In 2020, it is estimated that the demand for solar energy will decrease by around 28%.

According to a survey conducted by a solar panel manufacturer, the number of orders for their products that were delayed or canceled during the pandemic increased significantly. In the US, a large portion of the workforce lost their jobs due to the outbreak of the pandemic. This is another example of the effects of the pandemic on the development of the renewable energy industry. It could cause the production of non-renewable resources to be negatively affected. In Europe, the price of electricity has also dropped due to the reduced demand. A report by ICIS stated that the reduction in the electricity demand in Italy and France was caused by the pandemic.

Aside from being beneficial for the environment, renewable energy sources have also gained various social and economic advantages. One of these is biomass, which can help reduce greenhouse gas emissions. One of the main advantages of renewable energy is its relatively low operational and investment costs. In 2020, Ikram and colleagues noted that consumption of renewable energy can reduce greenhouse gas emissions by up to 70%. They also noted that it can provide additional energy sources and improve energy efficiency.

To achieve sustainable development, countries should increase their efforts to promote the use of renewable energy. They should also allocate more resources for the development of new technologies that can produce more energy from renewable sources.

Unfortunately, there are various barriers that prevent the production of renewable energy. Some of these include the finance and technology sectors, as well as an unexpected pandemic. In response, several studies have been conducted to identify these factors that have affected the renewable energy supply. One of the studies conducted by Tsao and Thanh in 2011, suggested that the financial services industry should adopt a model that focuses on the development of renewable energy by providing financial services.

Various feed-in tariff strategies have also been used to support the development of new technologies in the renewable energy sector. Although these strategies have been beneficial for the development of new technologies, they can also prevent the production of renewable energy due to the weather conditions. The use of renewable energy in the grid can also threaten the system's stability.

Objectives of the Research Study

1). To know the present situation of Renewal Energy in BRICS
2).To evaluate the impact of COVID-19 Pandemic on Renewal Energy
3). To study the Social and Economic Impact of the countries.
4). Think to the future of renewable energy.

Hypothesis

In this context, the question of our research is as follow:

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Does COVID 19 epidemic impact on the renewable energy sector of BRICS members?
In this perspective, we suggest to examine the following hypotheses:
1st Hypothesis: The epidemic of COVID 19 doesn't effect on the renewable energy.
2nd Hypothesis: The pandemic of COVID 19 damaged on the renewable energy sector.

2. RESEARCH METHODOLOGY

To meet the objectives of our paper, the research was conducted on the basics of Primary and secondary data which was collected from several websites and the report of bp Statistical Review of World Energy.

Renewal Energy and Need
In words of (KAMRAN & FAZAL 2021), renewal energy is the energy source that does not require immediate replacement after it has exhausted. This energy source is referred to as conventional energy. For a long time, these sources have been used to meet the energy requirements of the world.
In other words, we can add to the previous definition that conventional energy is described as unsafe and dirty energy for its high CO2 foot print, unless of the outbreak of COVID 19 on industrial activities which generate an important amount of dioxide carbon emissions, the recent statistics shows that the year of 2020 witnessed drop of the emissions of 34807 Mt CO2.
Wind turbines and solar panels are commonly used to produce renewable energy, which is derived from the natural resources such as water, sunlight, and plants. These technologies help meet the increasing energy needs of the country by converting these fuels into usable energy (Renewable Energy: An Overview 2001)

Aside from being beneficial for the environment, renewable energy sources are also widely used by organizations and individuals to improve their quality of life.

Types of renewable energy
In this article we can find out about various types of renewable energy such as solar energy, wind energy, and bioenergy etc.

1. Solar Energy
One of the most abundant energy sources on Earth is sunlight. This natural resource can provide over a thousand times the energy requirements of the planet in just an hour. Although solar energy is a great source of renewable energy, its exact amount can vary depending on the season and time of day; we can find the following energies out of solar:

- **Solar Electricity**

Photovoltaic solar panels generate electricity that is eco-friendly for the ecological environment as well as for the health of consumers, by converting sunlight into electricity. However, it cannot be used to generate high electricity voltage as which factories need in

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their production process, therefore it is exploited only for the residential sector or small electricity power needs for lighting Streets.

- **Water Heating by Solar Panel**

Solar water heaters are devices that use the energy from the sun to heat water. They can be divided into two categories: active and passive. The main components of a solar water heater are a water storage tank and a solar collector. These are usually placed in the same room.

- **Solar Thermal Power**

The difference between a solar thermal electric system and a solar-electric system is that the former converts the heat from the sun into electricity. Through the use of concentrated solar energy, it is possible to convert solar heat into electricity. This process involves deploying mirrors to focus the sunlight on a receiver, which then transfers the heat to a steam turbine.

2. Wind Energy

Wind energy is a plentiful and renewable source of energy. It can help meet the country's growing energy needs. However, it's important to note that some people are not suitable for wind turbines. Wind turbines are used to generate electricity by driving generators that then pass through the National Grid. Although there are various types of generation systems available, not everyone is suitable for a wind turbine.

Wind energy is derived from the wind by the use of the windmills. The tool used in this process is called wind turbines and it is the most energy which generates high potential of electricity but it exists 3 types of wind energy in the matter of electricity generation power:

- High production wind energy that generates 250 Kilowatt/hour
- Medium production wind energy that creates between 36 and 250 KiloWatt/hour
- Wind energy of low production which gives between 0.1 and 36 KiloWatt/hour

Besides, two modes are possible to produce electricity from the wind:

- **Offshore**: it refers to wind turbines installed on sea and coasts
- **Onshore:** it means the turbines installed in the land such as Montaigne, cities.

3. Hydropower

One of the most effective ways to reduce greenhouse gas emissions is by developing hydroelectric power, which can be produced by building a dam or a barrier. This renewable energy source can be used to generate electricity. Although it can be more profitable than other forms of energy, hydro can also be utilized for domestic purposes. This process involves transforming the energy from flowing water into electricity by using dams and turbines.

4. Bio-energy

In terms of energy production, biomass is a type of solid fuel that's derived from the production of plant materials. Although it involves burning organic materials, it's a much more energy-efficient process and produces a lower environmental impact. By converting

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various industrial and agricultural wastes into fuel, biomass can generate electricity at a lower environmental cost.

Bio-energy is a type of solid fuel that's derived from the production of various organic materials such as plants, wood, and paper. It can be produced from various sources such as agricultural products, household waste, and natural gas. Although it's part of the circular economy, its efficiency is low compared to other forms of energy such as electricity. This type of energy can be produced from large volumes of waste and biomass, which can then be used as both natural gas and biofuels.

5. Geothermal energy

Geothermal energy is a type of renewable energy that can be used to heat and power homes. Although it can be produced directly below the surface of the Earth, it is relatively less important in the UK than in other countries such as Iceland. The energy produced by the earth's heat is taken from its core, which then flows to the surrounding area. This heat can then be used to generate steam and hot water. This technology can be used to heat buildings and produce electricity.

6. Tidal energy

The energy produced by tidal waves is a renewable resource that can be used to produce electricity. Although tidal power is still relatively new, it has already produced a small amount of electricity. There are only a few commercial plants operating globally. The first commercial tidal power plant was established in France. The biggest facility is in South Korea. Although the US does not have a tidal power plant, other countries such as China, Russia, and France have the potential to produce more power from this resource.

Covid-19 Impact on Renewable Energy in India

A lockdown is a type of emergency response that the government uses to prevent the spread of contagious diseases. In this instance, the authorities told people to stay inside their homes and avoid leaving them. Aside from legal actions, individuals could also be charged for violating the restrictions placed on them due to the presence of the virus. This decision prevented industries from operating normally during a lockdown.

During this period, many people resorted to working from home. Many of them started taking on new jobs that were not feasible during the previous period. Due to the nature of the situation, various issues faced by migrant workers and individuals from other states emerged. One of the most affected sectors was the power industry. This was because the transport facilities were completely shut down. The sudden closure of various industries and the suspension of the operations of the railways affected the energy demand in the country. This resulted in a gap of around 40% in the current energy consumption.

On March 16, 2020, the country's energy consumption reached 3494 million units. This situation is expected to increase to around 2800 million units during the lockdown period. The impact of the lockdown on the power sector can be seen in Figure 1. It is estimated that the country's electricity distribution companies lost over 85000 crores Indian Rupees due to

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the lockdown. This is expected to have a negative effect on their cash flows. The renewable energy sector, which is fully integrated into the Power Grid of the country, is expected to face the same issues as the other sectors due to the sudden drop in energy demand. The first step in addressing this issue is restricting the power generation.

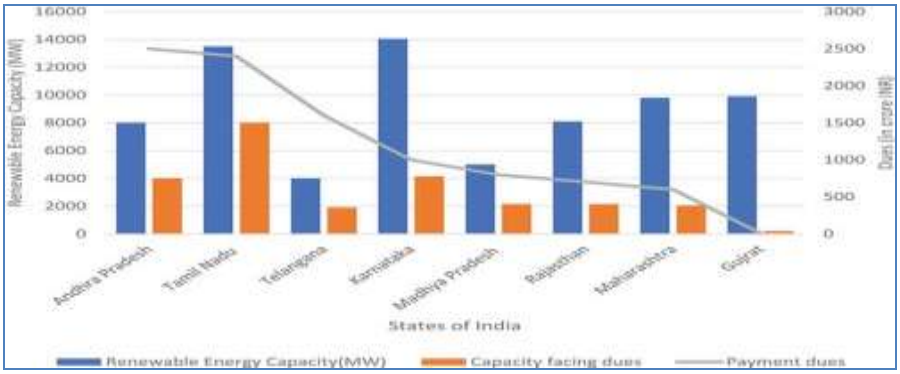
The investment in the renewable energy sector peaked in 2017 and has since declined. This is due to the global economic crisis and the COVID-19. The lack of funds has also affected the sector. Due to the spread of the disease, it has become mandatory for areas in India and across the globe to be in lockdown. This has affected the renewable energy sector. Kerala, which is a major hub for the renewable energy industry in India, is experiencing the effects of the corona-virus outbreak. The KREEPA, an association representing the renewable energy sector in the state, has expressed its concerns about the current conditions of the industry.

The outbreak has affected the entire solar industry in Kerala, as China was the biggest producer of PV modules. Due to the virus' impact, the state lost over 7 billion Indian dollars. It plans to recover this amount through the establishment of new solar projects. The state's tropical terrain and dense population make it an ideal location for developing solar projects. According to a report by KREEPA, the lack of manpower to maintain the plants has affected the operations of the industry.

The lack of trust between the customers and the project developers has also affected the operations of the solar industry. In some cases, the delays caused by the virus have affected the relationship between the two parties. Due to the decline in the subsidies, the renewable energy sector has requested the government to provide additional incentives.

The financial impact of the COVID-19 outbreak is the most significant factor that has affected the renewable energy sector. According to a report by KREEPA, the distribution companies have lost over 12 billion dollars due to the decreased energy demand. Even before the outbreak of COVID-19, the distribution companies of the country already owed the renewable energy sector a huge amount of money. Some of the prominent companies that were affected by this include Tata Power Renewable Energy and Adani Group. As of July 2019, these companies were owed a total of over 3,500 crores.

Fig.1: Dues owed by states of India to the renewable energy sector as of July



2019Source: Central Electricity Authority of India (CEA)

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The increasing financial burden of the renewable energy sector has put a huge strain on the government's efforts to achieve its renewable energy target of 175 gigawatts. According to a report by the Central Electricity Authority, the production of renewable energy has exceeded the dues of 9,735 crores by July 2019.Out of the total dues owed by the various states in India, four of them account for over 50%. These include Karnataka, Andhra Pradesh, Telangana, and Tamil Nadu. Due to the outbreak of COVID-19, these states have become almost bankrupt.

The construction of around 4 gigawatts of solar plants in India could be affected due to the delay in the supply and delivery of solar modules from China. Around 80% of the solar panels that are used in the country are made in China. Due to the high prices of solar modules in Malaysia and Taiwan, it is not feasible for solar companies to import these products from these countries. To help ease the situation, the Finance Ministry of India has exempted certain projects from their obligations.

The outbreak of the pandemic would have a huge impact on the wind energy sector in India, which is the fourth largest in terms of market size. It was supposed to achieve a total of 60 gigawatts of energy by 2022.Several companies, including Siemens Gamesa, LM Wind Power, and Vestas, have already suspended the production of wind energy due to the lockdown. This could affect the total installed capacity of the wind energy industry by around 600 MW by 2022.If the lockdown continues, the production of wind energy in India could decrease by another 600 MW. This would translate into a loss of around 2.69 gigawatts of energy in the country in later years. Before the outbreak of the pandemic, China and India were the leading players in the wind energy industry.

Although the US and the UK were among the countries that added the most amount of new wind power in 2019, they are currently among the worst affected nations due to the outbreak of the pandemic.In Uttar Pradesh, the state government forced renewable energy generators to issue an incapability declaration to uphold their contracts due to the actions of the Solar Energy Corporation of India.

During the lockdown, the Ministry of New and Renewable Energy (MNRE) asked the states to allow the movement of people and materials related to the renewable energy sector. It also asked the authorities to consider waiving the laws that prevent people from gathering in areas where the projects are located. The MNRE also allowed renewable energy plants to extend their deadlines on the grounds of unforeseeable developments. It also instructed the distribution companies to clear all outstanding bills of the generators.

It is also important to note that the COVID-19 pandemic has had a significant impact on the oil industry. Since tensions between Saudi Arabia and Russia have already started to affect the global oil market, the prices of oil have already started to fall. The continuous global lockdown that started in 2020 led to a drop in the oil prices. As a result, the demand for oil decreased, which resulted in the consistent supply of oil from Saudi Arabia. This led to a flood of oil in the market.

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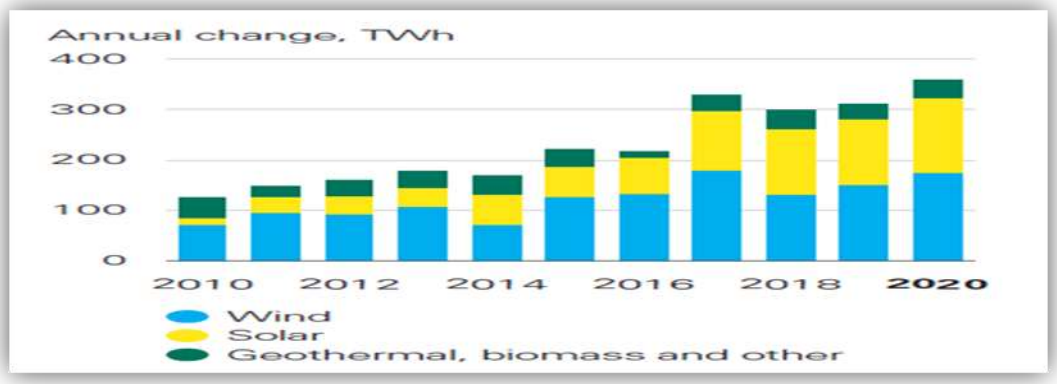
Due to the continuous decline in the prices of oil, several oil-dependent countries, such as Nigeria, Venezuela, and the Middle East, have had to face severe budget deficits. Some of these countries even resorted to seeking loans from the World Bank and the International Monetary Fund. Despite being an oil-consuming country, India has the advantage of being more dependent on oil imports than producers. It is widely believed that the falling oil prices will benefit India's import bill. This could amount to around 3,000 crores.

The falling oil prices are also expected to benefit India's currency by making it more competitive against the US dollar. This article explains how the falling oil prices are affecting the country's economy. Due to the increasing number of renewable energy projects in the country, the government's target of generating 175 gigawatts of renewable energy by 2020 has been threatened. According to a report released by the CEA, the total outstanding dues of various renewable energy generators reached 9,735 crores by July 2019.Out of the total dues, over 50% are owed by the states of India. Some of these include Karnataka, Andhra Pradesh, Telangana, and Tamil Nadu. Due to the COVID-19 pandemic, these states have become almost insolvent.

Data Analysais

The figure bellow shows the evolution of renewable energies per type in the world, it can be stated that both wind and solar energy are rising in the last decade, and we can expect a big evolution for the solar energy in the next years if the consumers of electricity will be really involved in this process. However, the other types like geothermal and biomass are less used because there is a small performance in the electricity generation.

Fig.2: Annual evolution of renewable energies in worldwide



Source: bpStatistical Review of World Energy 2021. Whitehouse Associates, London.

Carbon dioxide emissions in BRICS contries

The following figure demonstrates that members of BRICS countries organization witnessed an important drop in their Carbon dioxide emissions during 2019 - 2020. That is means clearly that the outbreak of covid-19 was benefit in this issue.

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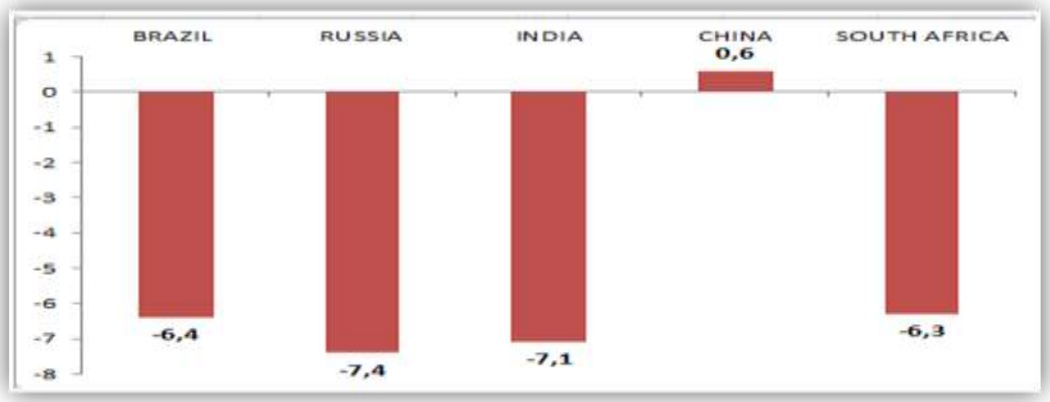
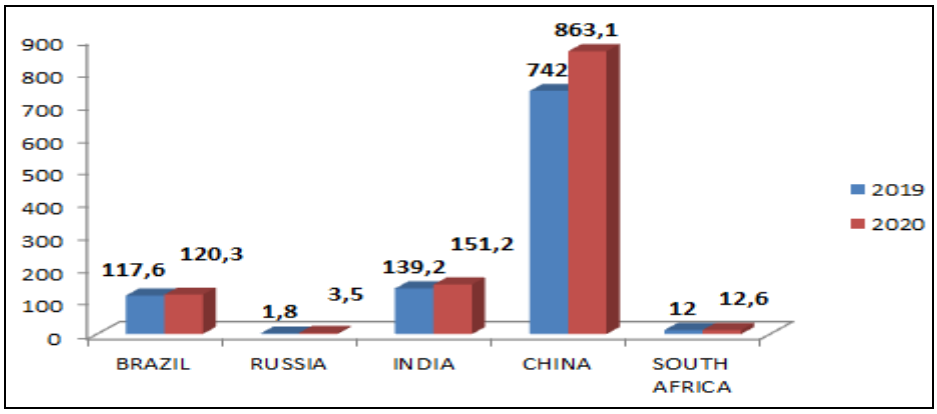
Fig.3 : Drop on CO2 emission in BRICS organisation members



Source: Authors

The following figure is interesting to check the part of renewable electricity used in BRICS countries. It should be stated that all members of this organization grow in 2020 comparatively to 2019 especially for china, in the other hand, it had been confirmed that Covid 19 pandemic doesn't affect on the renewable sector of the BRICS

Fig.4 : Renewable electricity generation in BRICS organisation members (Terawatt-hours)



Source: Authors by using the data available on bp Statistical Review of World Energy 2021. Whitehouse Associates, London. pp65

Renewable energy facts around the world

- Around 5% of global solar PV demand could be achieved by 2020.
- By 2050, we can expect to meet our energy needs with 95% renewable energy.
- According to Price Waterhouse Cooper, Africa could be on the verge of running on 100% renewable energy by 2050.
- The price of solar PV panels has significantly declined over the past four decades.

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- A study conducted in the US revealed that renewable energy sources create more jobs than fossil fuels.

- The global renewable energy market has reached a value of over $250 billion. It is expected that this amount will continue to increase.

Future of Renewable Energy

The outbreak of COVID-19 has affected various countries and individuals. It is not possible to predict when the disease will end or how it will affect the rest of the world. According to experts, it will take at least 18 months for the production of a vaccine to reach the market.

Aside from causing temporary changes in the way people interact with each other, experts believe that the outbreak can also affect the way humans think and act. This is why speculations about the effects of the disease on the renewable sector have been made. One company that specializes in renewable energy noted that the prolonged lockdown of the solar industry could cause the deadlines of the projects to be delayed by up to six months.

The prolonged lockdown of the solar industry could also affect the operations of the commercial operation declaration, which is a document that allows investors and developers to conduct business. In India, the government had set a target of having 40 gigawatts of rooftop solar power by 2022. However, with the onset of the COVID-19 outbreak, the country's ambitious target may not be met.

Before the outbreak of COVID-19, it was widely expected that the rapid development of renewable energy projects would be a golden opportunity for the industry. Unfortunately, the situation has left that promise in doubt. Due to the limited movement of people and the complete lack of transport facilities across the country, the rooftop solar projects have been identified as the most affected segment of the renewable energy industry.

Due to the various delays in the development of renewable energy projects, the achievement of the 2020 renewable targets has become more difficult. During the previous two years, the country missed its renewable energy targets by around 5000 MW each time. In 2018, only 55% of the target was achieved, while in the previous two years, only around 5000 MW was added.

If the government does not take immediate action to address the issues related to the outbreak, the country's renewable energy targets for the 2019–20 period may not be met. This will make the country slip further from its renewable energy goals. Since the current situation makes it impossible for the government to meet its 2022 target, the country's unemployment rate is expected to increase.

During the lockdown period, the closure of several thermal power plants affected the renewable energy sources. This has resulted in an increase in the drawl from the renewable energy sources. This could prove to be a good thing as it will allow the country to regain its position as a major power producer once the pandemic ends. The lockdown period has been beneficial for the country's power system as it has ensured that the renewable energy sources

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are not affected by the power cuts. The MNRE has also given the green signal to the renewable energy projects operating in the country.

The implementation of the lockdown has significantly improved the status of the country's renewable energy projects. It has also made it easier for the developers to get the projects started. The government's decision to require the states to purchase electricity from renewable energy sources has also increased the market share of this sector.

The government has also issued an order to the states to pay the dues of the renewable energy projects. However, it is still not clear how the pandemic will affect the global economy. Although it is widely believed that the renewable energy sector will be able to benefit from the pandemic, its effects on the country's renewable power goals remain. Despite this, the environmentalists and scientists are still hopeful about the renewable energy sector's future. In their recent report, Leidenberger and Bodenheimer, 2020, noted that the pandemic could be a golden opportunity for the renewable energy sector. However, it would require a comprehensive strategy and coordinated communications to ensure that the sector's potential is realized.

Recommandations
The only way to decarbonize the economy in the whole world is to increase the exploitation of renewable energies and reducing the use of conventional energies, especially for public departments such as universities, and schools.
On the other hand, BRICS members are really an example to other countries which are not developed in the use of green energy.

3. CONCLUSION

According to Hosseini, 2020 and Pradhan & Ghose 2020, the presence of the COVID-19 pandemic has affected renewable energy production and supply. This is consistent with the findings of the Tsao and Thanh, 2021, who also noted that the global shutdown has affected the renewable energy sector. The global shutdown has also affected the development of renewable energy technology. The lack of clarity regarding the industry's future has affected the investor sentiment. According to researchers, this has led to a reduction in projects.

The china financial resources were diverted from climate mitigation to the health of its citizens. In response to the effects of climate change, China and other countries have already sacrificed a huge amount of their gross domestic product to achieve a green economy. However, Shah et al., in 2021, a study revealed that the number of clean energy projects has decreased.

Aside from being harmful to humans, the pandemic has also shown positive effects on the environment. Aside from improving air quality and reducing harmful effects on the environment, it has also helped boost the growth of various animal populations. Despite the positive effects of the pandemic, it can still be argued that an existential lockdown is never a normal life. As long as people are still prevented from leaving their homes, it is still

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important to consider the benefits of the pandemic while also trying to minimize its negative effects.

There are various things that can happen during the course of a man's life that are beyond his control. It is therefore important to remember that the impact of these events can be minimized by implementing stringent laws. The introduction of a robust and efficient system to handle the resources has been regarded as one of the most important factors that have contributed to the development of a sustainable economy. This study explores the effects of the COVID-19 outbreak on the renewable energy sector. Due to the high energy requirements in India, the government has set a target of generating 175 gigawatts of renewable energy by 2022. However, this target has been thrown into doubt due to the outbreak of COVID-19.

In order to promote self-sustenance, the government of India has been working on various initiatives. One of these is the goal of reducing the country's imports from other countries. This is a vital step towards attaining this goal. By reducing the country's imports, it will not only boost the economy but it will also create a large number of jobs. This is because the savings that the country would make on its foreign exchange would be used to compensate for the losses that the private sector experienced due to the lockdown. Although it is a long process, the introduction of the concept of self-sustenance is an achievement that the government can be proud of. Aside from inviting foreign and domestic investors, the government also has to improve the country's strategic framework. The introduction of self-sustenance would also help the country bounce back from the current economic crisis. It would also provide it with an advantage in the future.
Basically short, the first hypostasis is true, which suggest that the Covid-19 outbreak doesn’t impact in the renewable energy of BRICS members.

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