



# The Influence of the Belt and Road on the Development of Green Economy

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**Abstract.** In 2013, China put forward the Belt and Road Initiative, which aimed at cooperating with countries along the route in many ways to promote common development. Beside the development of infrastructure playing a critical role in development, the Belt and Road Initiative is comprehensive in nature also including policy dialogue between and within the connected states, free trade across the regions, common financial support, and person to person exchange. The Belt and Road Initiatives play a significant part in the growth of a green economy at a time when environmental protection is a global concern, but they are not without difficulties. According to our research on Central Asia, the Belt and Road Initiative has the ability to stabilize economically underdeveloped regions by incorporating the success of developing markets. From the standpoint of constructing the Belt and Road as a whole, this article evaluates the impact of the Belt and Road Initiative on green economic development, growth possibilities, and difficulties and gives recommendations for future development.

**Keywords:** Belt and Road Initiative, green economy, Central Asia, environmental protection

## 1 Introduction

With the increasingly prominent global resource and environmental issues, countries and some international organizations in the world have deeply recognized the importance of green development. The adoption of the 2030 Agenda for Sustainable Development in 2015 and the signing of the Paris Agreement in 2016 fully demonstrate the determination of all countries in the world to jointly face and solve resource and environmental problems. Against this background of the international community, China has also incorporated green development into its vision and actions for the Belt and Road Initiative.

However, the countries along the Belt and Road are still in the development model of “high energy consumption, high pollution and high growth”. Therefore, how to transform to a development model of low consumption, low emission and high efficiency and achieve the green development goal of coordinated development of economic and social development and ecological and environmental protection has become the top priority of the transformation of countries along the Belt and Road. This

requires a comprehensive analysis and study of the status quo of green development in the countries along the “Belt and Road” and implementation of green development strategies according to local conditions and policies.

This article strongly recognized the necessity of analyzing the situation of the development of green economy and the role that the Belt and Road plays in motivating the joint development of economy and ecology. It also provided suggestions for the policymakers and future focus of the development of green economy.

The rest of this article is organized as follows: the second section introduces the situation and significance of Belt and Road Initiative, the third section discusses the development status quo and difficulties of the green economy from the perspective of the world and China, and the fourth section uses the Central Asia as a case to analyze the development of the green economy with the help of the Belt and Road Initiative and offer the future direction. Then, in the fifth section, this article tried to figure out the opportunities and challenges brought by the Belt and Road Initiative to the development of the green economy. On the basis, the sixth section provides suggestions for the future development of the green economy.

## **2 What is the Belt and Road Initiative**

### **2.1 Introduction to the Belt and Road Initiative**

After visiting nations in Central and Southeast Asia in September and October 2013, Chinese President Xi Jinping announced the Belt and Road Endeavor, a worldwide strategic initiative. Following the trends of multi-polarization, globalization, economic diversification, culture, and social media, the Belt and Road Initiative, the historical icon of the old "Silk Road," aims to build efficient economic cooperation with the governments along this route. It is viewed as a demand for an open, inclusive model of successful growth of economic, cultural, and political cooperation based on the ideals of peaceful coexistence of sovereign states. Financing multilateral financial instruments and enhancing connectivity. One of the main goals of the Belt and Road Initiative is to adhere to the principles of extensive consultation, cooperation, construction and sharing, as well as the development of infrastructure and infrastructure. The trend is to jointly build an open and balanced regional economic cooperation strategy and integrate this goal. Finally, worldwide countries together build a community with a common future for humanity.

The Belt and Road Initiative is currently being built by more than 100 nations and international organizations, and the UN General Assembly and Security Council have frequently included it into pertinent solutions. The Belt and Road Initiative is being developed into the most comprehensive international cooperation forum in line with the trends of Economic globalization will be rooted in Eurasia. All the way to Africa, Latin America and the South Pacific region, the countries along the route have developed to a great extent in terms of economic development, infrastructure construction, exchanges in commerce, collaboration in tourism, health and medical services, etc. The Belt and Road Initiative's collaborative building is improving for the benefit of all nations' citizens. At present, the construction of the Belt and Road has achieved many

major achievements, such as promoting the liberalization of trade. In 2020, the total trade volume between China and the countries along the route will increase by about 17% compared with seven years ago, and the regional trade growth rate will exceed 10%. The construction of China has brought benefits to countries along the route, and this benefit to other countries even exceeds the impact on China itself [1]. Inter-regional transitions have also been made stronger by the Belt and Road Initiative. Less than 100 trains traveled annually between China and Europe prior to the 2013 Belt and Road Initiative proposal. Within a year, the data had nearly doubled, and more than 6,000 trains had already been run, linking the biggest interior region from Vladivostok to Lisbon and from Moscow to Singapore with a complex web of hard and soft infrastructure development. Trade in commodities has grown by 25 times as well.

## **2.2 Implications of Belt and Road Initiative**

The Belt and Road Initiative has some effects and implications, according to earlier studies and research that has been done. This program has both beneficial and detrimental effects. Numerous studies show that China is perceived as a nation that offers other nations economic possibilities. This has always been about the development of infrastructure, the rise of trade, the expansion of the GDP, and employment possibilities. As a result, China is seen as a contributor to the economic prosperity of other nations, and the Belt and Road Initiative can be seen in a positive light.

However, they contend that the effort could also have a detrimental impact on the economy. For instance, a lot of individuals have been opposing the BRI, calling it China's purposeful attempt to push its goods to other nations. In addition, the campaign could be viewed as a persistent attempt by China to seize control of some assets or commercial entities, robbing some local businesses and organizations of their ability to influence important choices. The Belt and Road Initiative may be seen as a replacement for local labor after the influx of Chinese laborers. This implies that residents of those involved nations may potentially lose their current occupations in favor of the new employment opportunities that the Belt and Road Project will create. The Belt and Road Project may put the participating countries under additional strain from Chinese export rivals. This circumstance undoubtedly existed in the United States up until the state had to increase taxes on Chinese products to protect domestic industries and businesses. The BRI initiatives may also lead to increased corruption and uneven financial support for infrastructural development.

The ideas presented above demonstrate unequivocally that the Belt and Road Plan may adversely affect some of the nations involved. Corruption will inevitably occur in every task or project, particularly when there are a large number of players or stakeholders. The question of equitable funding allocation, particularly for money designated for infrastructure projects, is another significant issue. There is a good chance that the participating nations will not get the monies equitably. This suggests that the effort might also have some unfavorable effects.

The Belt and Road Program has some beneficial impacts in addition to the unfavorable ones that the majority of researchers have examined in their research. In a

2011 study by Fijalkowski, there are numerous advantages of the Belt and Road program, from economic expansion to the advancement of infrastructure. The increase in trade relations, the construction of infrastructure, and significant FDI inflows into the participating nations all contribute to economic development. Based on this study, the Belt and Road Program can provide all of these advantages.

### **3 The Development Status of Green Economy**

In the history of human development, people's understanding of the green economy has also been constantly changing. Especially with the rapid development of modern society, people are becoming more aware of the importance of a green economy. The two terms are used interchangeably, referring to many concepts that are partially linked to the development of low carbon from the narrow constraints of the eco-industry and environmentally friendly production. With the increase in production volume in industry, there is an increase in anthropogenic effects and degradation of the external environment, which becomes the reason for the emergence of non-functioning markets, regardless of the negative impact from the outside. Several writers have evaluated the current state of affairs and indications of the influence of environmental elements on other quality of life measures, and comparisons between industrialized and developing nations are made. The introduction of the "green economy" raises a number of trends and important challenges, which are examined together with useful indicators and instruments for influencing the degree of ecological and economic growth. After 2010, the green economy is defined as “bringing about human well-being and social justice, while significantly reducing environmental risks and improving ecologically deficient economies [2].

#### **3.1 The Development Status of China's Green Economy.**

At present, China's green economy has become a factor that cannot be ignored in the national economy, accounting for about 10% of GDP and still growing. The main components are often accounted for by the green economy, controlling environmental pollutants, using clean technologies, renewable energy sources, and developing sustainable infrastructure. China's green economy has been continuously developed throughout the twenty-first century. The two primary components of ecological civilization and social diversity are economic progress and environmental protection. Innovation-driven development comes after economic development. Regional variations in green economic growth are plain to see. Although there is little doubt that the eastern area is superior to the middle and western regions, overall regional distinctions are dwindling. At the same time, there is a clear spatial agglomeration impact in the green economic growth. The Chinese government has taken many measures and promulgated many laws for the green economy, mainly covering two major themes: energy conservation and emission reduction and energy structure optimization [3]. The Chinese government is not only committed to controlling pollution and promot-

ing encouraging the development of energy-friendly enterprises, which has achieved significant results.

### **3.2 The Development Status of Foreign Green Economy.**

The growth of the green economy is highly valued by other nations as well. Urban green economy growth has grown to be a significant indication of the region's sustainable development. The US focuses on long-term green development investment, encourages the research and development of green innovations, uses green and clean materials to build houses, builds green power grids, and reduces power consumption. At the same time, the food industry also pays more attention to green and degradable packaging. EU countries are the first regions to attach importance to the development of the green economy, and promoting the development of the green economy has become the conscious awareness of citizens. The level of green development in Shenzhen, Zhuhai, and Guangzhou is higher than other cities with the benefits of improving ecological efficiency and increasing economic growth. The rates of green development in Zhongshan, Dongguan, Huizhou, and Foshan average in PRD, while Jiangmen and Zhaoqing have slow rates of green development due to their ineffective economic structure and broad growth trend, sustainable growth of the system. Economic cooperation has a significant role in the construction of highways, linking roadways, increasing commerce, and financial cooperation. East Asia saw the biggest percentage rise, with the Belt and Road Initiative area accounting for 82% of the growth. Second, the Belt and Road Initiative has the ability to help 34 million people escape the global economic crisis and bring 8.7 million people out of poverty. The main goal of the Belt and Road Initiative is infrastructure construction, corporate partnerships, investments, and funding is to reduce harm to the natural ecological environment and to establish a good and efficient distribution that demonstrates the continuation of ecological values. In the course of the Belt and Road cooperation, encourage the growth of green items. Green components should be added to and constructed during the integration process for belts, highways, and cities. Consequently, the three components of the green economy are green business, green investment, and green infrastructure. After the financial crisis, Japan and South Korea's main measures for a green economy are to implement environment-friendly investment and financing and to evaluate the performance of enterprises in environmental protection.

## **4 Case Analysis**

### **4.1 Case Selection**

In today's world, global ecological problems occur frequently, and human beings face increasingly severe challenges for survival. Sustainable development has become a common problem faced by people all over the world. Through a combination of infrastructural initiatives and soft-power initiatives, it seeks to connect the continents of Asia, Europe, and Africa. Not only does the Belt and Road Initiative promote economic growth in the nations along its path, but also integrates the resources of various

countries, improves development efficiency, saves costs, promotes the coordinated development of environmental protection and green economy, and builds a new order for the world's energy pattern. Central Asian nations play a significant role among the participating nations of the Belt and Road Initiative. The foundation of communities' livelihoods and socioeconomic well-being in Central Asia is biodiversity, which also serves to define cultural and racial identities. Geographically speaking, Central Asia is situated in the middle of Eurasia and connects China and Europe through commerce. From a historical perspective, Central Asia was crucial to the ancient Silk Road, and there has long been commerce with China. The natural resources of Central Asian nations are abundant and have a significant impact on economic growth. Therefore, this article selects Central Asia as a case study to analyze the assistance of the Belt and Road Policy for its green economy development.

## **4.2 The Necessity of Developing Green Economy along the Belt and Road**

First of all, Central Asia is very rich in green energy resources. The reserves of oil and gas resources are the highest in the world. There is also a large quantity of wind energy resources and photovoltaic resources that can be useful for making solar panels. The development of the green economy has considerable prospects[8]. Among them, the solar energy reserves of Kazakhstan and Uzbekistan are four times the demand, far exceeding the world average. Tajikistan ranks eighth in the world in terms of water resources, and Kyrgyzstan has more than 20 rare earth resources. Turkmenistan has the potential for wind power generation. The region accounts for about 40% of the country's land area[9]. However, the distribution of hydropower resources in Central Asia is uneven and faces serious ecological deterioration. In the way to make improvements to severe environmental problems, Central Asian countries are confronted with unavoidable obstacles. Firstly, due to the lack of funds, countries in Central Asia invest less in research and development expenses in the green economy, resulting in low resource utilization. The development level of new energy facilities construction is only 1/4 of the world average level[10]. The comparison table of new energy installed capacity of Central Asian countries from 2015 to 2017 is shown in Table 1. Additionally, due to the threat of terrorism and the oil crisis, the economic development in Central Asia is apparently not fast. Therefore, Belt and Road Initiative is an opportunity for the governments to realize expectations in developing the green economy to improve people's livelihood, like improving drinking water and air quality, and play a role in protecting the ecosystems. The Belt and Road Initiative offers an entryway to opportunities for United Nations Sustainability to assist beneficiary nations in using Belt and Road resources to attain the Sustainability Goals. By using the firm's current knowledge of the Belt and Road framework, United Nations does work to "green" the Belt and Road Initiative. Working with nations that access Belt and Road projects to enable them to reach the enabling environment that will guarantee the investment opportunities are ecologically sustainable is thus the fundamental objective. To promote green investments, United Nations must therefore collaborate with its Chinese counterparts.

**Table 1.** 2015-2017 Central Asian Countries New Energy Installed Capacity (Unit: 10,000 MW)

Country	2015	2016	2017	Hydropower installed capacity in 2017	Average growth rate 2015-2017
Kazakhstan	0.273	0.279	0.285	0.269	2.21
Kyrgyzstan	0.295	0.295	0.295	0.295	0.05
Uzbekistan	0.176	0.176	0.176	0.176	0.03
Tajikistan	0.463	0.463	0.463	0.463	0
Turkmenistan	-	-	-	-	-
World Level	169.018	184.518	200.62	124.41	8.95

Source: IRENA, Renewable Capacity Statistics 2018

### 4.3 Results Achieved

Not only are Central Asian nations active participants in the Belt and Road Initiative, but they actively support it. The Belt and Road Initiative has helped Central Asian nations grow their green economies, and the results have been impressive. Since Xi Jinping's initial Belt and Road Initiative proposal in 2013, China and Central Asian countries have shared many development plans and have maintained close ties and high levels of trust. China has undertaken the construction of large-scale hydropower stations and wind power stations in Kazakhstan and Uzbekistan, thus opening up the power supply gap and greatly improving the local ecological environment. Additionally, the trade balance between China and several nations was altered as a result of the water crisis. There is a huge disparity in the usage of virtually limited water among nations to obtain equivalent economic advantages from China when taking into account both the effects of water scarcity and economic benefits. Chinese enterprises have also participated in basic projects such as oil well rehabilitation and road construction, imparted experience in pest control in farmland, and promoted saline-alkali land planting techniques to ensure green production and green travel for local residents. Tajikistan's cotton production has increased significantly through the crisis of lake drying and achieved zero emission of production waste while improving energy efficiency[11]. At the same time, China and Central Asian countries also cooperate in energy production and consumption. China has built large-scale natural gas pipelines for Central Asian countries, which solves the local green economy problem and alleviates China's energy shortage problem. The oil transport volume from Central Asia to China exceeds 80 billion square meters per year, meeting more than 20% of China's demand[12]. Among China's current imports of natural gas, the share from Central Asia has exceeded 50%, providing a material guarantee for China to continue its green economic development[13]. At the same time, the local green economy has been developed. China's local environmental facilities construction has brought more than

15 billion US dollars of revenue to the joint venture[14]. The growth rate of green development level in Central Asia is ranked second among all the regions along the route. The consumption of renewable energy is increasing. The proportion in the structure has increased by 8%, and the new energy exploitation rate has been increased from less than 5% to more than 10%[15].

#### **4.4 Future Direction**

In the context of China and Central Asian nations' collaborative building of the Belt and Road, there are still a lot of flaws in the green economic growth plan. China and the countries of Central Asia are under strain from the energy transition. The energy structure of the two sides is different, and the consumption capacity and structure of residents are also different. However, in the face of growing energy demand and high oil prices, the development of new energy technologies and the investment of economic cost have become issues to be considered by both sides[16]. In terms of infrastructure construction, Central Asia countries lack systematic green energy facilities. Most of the equipment is seriously aging and lacks power supplies. Only cooperation can promote the development of its green economy.

Therefore, in the future, it is important to strengthen relations and build new energy, speed up the energy exchange of Central Asian countries and encourage the use of new energy-related products to promote green economic development. Planning for the Green Belt and Road, the One Belt Road upholds the concepts of green development, ecological civilization, sustainable and integrated development, and green development by completely taking into account the ecological environment of the nation and the area. At the same time, it is important to combine the development of different countries to build unique and innovative green projects to meet the needs of different countries and achieve a combination of localization and green economy standards. In addition, it is necessary to promote international cooperation, develop mutual talents, address fundamental issues, and achieve technological innovation.

## **5 Development Prospects**

### **5.1 The Development Direction of Green Economy**

In the future, the construction of the green economy along the Belt and Road should develop in a multi-dimensional, all-round, and phased manner in combination with the overall thinking and specific goals of the construction. Annual investments in 10 prioritized sectors will be the primary instrument for putting this scenario into action. The Belt and Road should prioritize policy coordination, infrastructure connection, unrestricted commerce, financial integration, and interpersonal ties as key areas for the growth of the green economy in the future. In order for resources to drive economic and environmental development, it is important to improve communication at the leadership and decision-making levels, to build on one another's strengths, to seek common ground while putting aside differences, to fully exploit the role of policy guarantees, and to allocate resources wisely in the area of infrastructure building.

China has suggested a plan for inclusive green growth that integrates society, the environment, the economy, and the environment in reaction to the rising pressure from issues with environmental protection and global resource management, as well as a slowdown in the associated economic growth. The Belt and Road Ecological and Environmental Protection Cooperation Plan, the Belt and Road Green Investment Principles, and other policy documents have all been produced by the Chinese government in an effort to promote Belt and Road development. An important problem that has to be solved for inclusive green growth is the matching of resources with socioeconomic development objectives. Rating Index System are just a few of the assessment and research institutions that frequently employ the equal-weight assignment approach. A thorough directional distance function and slacks-based measurement approach are presented to evaluate the inclusive green growth levels. In terms of trade exchanges, governments should speed up the pace of liberalization and facilitation, increase trade channels, and strengthen comprehensive strength. Countries should improve financial cooperation, encourage social funds to take part in Belt and Road building, and do a good job of guaranteeing in terms of cash. Additionally, nations should open up the social basis, improve cultural, tourist, and medical connection, and enlist the aid of the populations of the nations along the path.

## **5.2 Development Proposals**

Strengthening the development of a system of policy guarantees to offer funding for fundamental projects. Enhancing the Belt and Road's policy guarantee may ease the concerns of local construction workers and increase member states' level of solidarity, fostering shared development and creating a favorable external environment for the growth of the green economy.

Layer-based classification of the nations along the route and targeted collaboration should also be carried out. It is very important to coordinate national actions with international organizations, especially within the framework of the WTO, and to incorporate the ideas of international agreements into the legal system and the actual making of economic choices. Accurately identifying the different demands and strengths of different member states on green economic development, Belt and Road Initiative needs to adhere to an open and inclusive attitude, promote green development in countries with different levels of social development, allocation of resources, and religious beliefs, and form a framework for building a community of shared interests through extensive consultation.

Strengthening personnel exchanges between member countries and enhancing China's leading role, all the member countries should strengthen the training and experience exchange of talents and experts in related fields. China should play a leading role in this process, eliminate the doubts about democracy in the countries along the route, and aim to build a green economy around the world to promote the green economy of member countries.

## 6 Conclusion

Development of the green economy and achieving sustainable development have emerged as global issues that affect all nations and are connected to the fate of all humankind. China has demonstrated a commitment to sustainability and progress. This demonstrates China's development and sustainable development aspirations in a very obvious way. Green is the color of belt and road building, which started in China but is now global in scope. A crucial step toward service is the development of a road and green belt plan, as well as a community with a shared vision for the future and obligations. The government is requesting an acceptable ecological environment to support economic growth in light of major domestic and national environmental problems. Every government in the globe has a duty to prevent and reduce air deterioration in addition to affecting the environment. Promoting ecological civilization, green development, and the building of green belts and roads are crucial steps for China to do in order to participate in global environmental regulation. They also represent an unavoidable trend towards assurance. The destiny of man the Belt and Road Initiative has significantly accelerated the growth of the green economy by allowing the nations involved to fully use their individual advantages, redistribute and consume resources, enhance the share of clean energy development, and advance development for China, West Asia, and Europe in particular. Green economic growth in Central Asia is crucial. Countries along the Belt and Road must keep enhancing their collaboration, resilience, and policy effect. However, the growth of a green economy cannot be entirely based on the might of the nation along the belt and the road; it needs global cooperation. Therefore, in order for the industrialized nations of the West to address the common interests brought about by the Belt and Road Initiative for global green economic development, long-term development is required.

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