

# The prospect forecast of the development status of green economy

**Wenkun Tan**

## **Abstract:**

This paper mainly discusses the development status, prospect forecast and data analysis of green economy. Firstly, the concept and background of green economy are introduced, including the domestic and foreign green economy policy and implementation, green economy and sustainable development theory, etc. Then, the evaluation index system of green economy and the global development trend are elaborated in detail. Then the in-depth analysis of economic model, involving the changes of global economic situation, the comparison of traditional economy and green economy, and the cases of green economy in developed countries. In addition, the outlook of the green economy is predicted, the development opportunities, future markets and the impact on the overall global economy are discussed. Finally, through the establishment and analysis of the data model, we made the process of comment and reflection on the whole research project.

**Keywords:** forecast, development trend, economic G.E(green economy)

## **1. Introduction**

### **1.1 Background information**

Green economy means to the economic model that focus on the environmental protection, sustainable utilization about resources while developing the economy. The international community is paying more and more attention to green economy, and countries have increased their support for green economy. With the increasing awareness of environmental protection and the severe challenge of global climate change, green economy has become an important trend of global economic development.

### **1.2 Research Aim and Objective**

The research on the prospect of green economy development aims to quantify the growth path, scale and structural changes of green economy in the future through in-depth analysis of the current development trend and key driving factors of green economy(-Li,2024). Its core goal is to identify the main factors affecting the development of green economy, such as policy support, technological progress, market demand, etc., and to explore the interaction mechanism between these factors.

On this basis, the research will further explore the development path and mode of green economy suitable for different countries and regions, promote the green

transformation of traditional industries, cultivate emerging industries, and strengthen international cooperation, so as to realize the coordinated development of economy, society and environment.

Finally, through building an effective policy framework and incentive mechanism, such as fiscal, tax, financial preferential policies, establish green standards and certification system, strengthen supervision and law enforcement, etc., the prospect of green economy development research for the government, enterprises and the social from all walks of life to provide decision support and action guide, promote the rapid and healthy development of green economy.

### **1.3 Research Significance**

The research on the prospect prediction of green economy development is of great significance. The Economics of Sustainable Development (Sun,2024), it helps promote the economy to be sustainable, low-carbon and environmentally friendly, provide scientific basis for the government to formulate relevant policies, and provide guidance for enterprises to develop long-term development strategies. In addition, the research on green economy development also focuses on the improvement of social well-being and explores ways to improve people's quality of life and happiness while protecting the environment and ecosystem. At the same time, the research also promotes international cooperation and exchanges, jointly addressing global climate change and environmental issues, and promotes the realization of the global Sustainable Development Goals. In the field of academic research, the research of green economy development involves the interdisciplinary integration of multiple disciplines, which helps to enrich and develop the existing theoretical system. Finally, by studying and spreading the prospects of green economy development, the public awareness of environmental protection and sustainable development can also be improved, and the enthusiasm and initiative of public participation can be enhanced (Zeng,2020).

## **2. Literature review**

### **2.1 The core concept of a green economy**

Green economy is a long-term economic development model, which not only focuses on the current economic growth, but also pays more attention to how to meet the current needs without damaging the development opportunities of future generations. Green development and ecological progress(Xu,2019), this means that in the process of economic development, the carrying capacity of

the environment needs to be fully considered to ensure the healthy and harmonious coexistence of green economic growth and natural ecosystems. Green economy advocates improving the efficiency of resources and reducing the waste of resources. The economics of sustainable development, such as the recycling and reuse of waste, and reducing the consumption of natural resources such as energy and water(Li,2017). The green economy focuses on social inclusion and ensures that the fruits of economic development benefit all people, especially the vulnerable groups. This requires the full consideration of social interests in economic development and promoting sustainable development in social areas such as employment, education and health. The green economy relies on green technology and management to achieve sustainable development. This includes developing clean energy, improving energy efficiency, improving the ecological environment, and promoting green and low-carbon industries (Zhang, Zang,Sun,2015). Green economy believes that policy and market mechanisms become a more important status in changing the green transformation. National institutions need to establish laws to govern economic transformation, policies and financial subsidies, and have complete the importance of markets for the mechanism technological innovation.

### **2.2 Review of green economic policies at home and abroad**

The evolution of green economy policy in China there are two different levels. The Analysis and Evaluation of the Green Development Index in China. The development of early green policies mainly focus on environmental protection laws and regulations (Sampene, Nsiah,2024), ecological compensation mechanism, resource utilization efficiency and other aspects. At present, construction of an evaluation index system for green transformation and development (Zhang,Zhang,Teng,2023), the focus of green policy turns to the development of exuberance and low cost by carbon industries, to building of an ecological society and the modification of the energy structure. However, during the use about the changing of green-economy method, some problems and challenges have also been exposed, such as the imperfect policy system, insufficient policy implementation, and the unbalanced development of the green industry. Regarding global green economy policy, it is valuable to draw lessons from the development experiences of the United States, Japan, and the European Union.

The alliance of developed countries has jointly launched economic development policies aims to achieve low-carbon, environmentally friendly and fair economic develop-

ment, while the United States promotes green economic development by implementing green energy policies and promoting carbon emission trading. Final demand decomposition analysis of carbon dioxide emissions from Japan based on hybrid analysis (Zhang, Xuan,2022). Japan focuses on green innovation as the core and develops green industries and technologies. As the global focus on climate change deepens, more and more countries have announced carbon-neutral goals and committed to developing green production norms and industry standards. Countries are limiting the environmental impact of upstream and downstream by implementing green supply chain procurement, study on the environmental quality improvement path from the perspective of green economy. (Liu yudi , 2021) China's difficulties and solutions to green development. (Qi Yixin, 2016, )while developed countries regard green economy as an important development strategy.

### **2.3 The theoretical basis and research status of green economy development**

The idea of sustainable development and ecological economics serves as the primary theoretical foundations for green economic development(Oosterveer,Kamoliripichai-porn,Rasih,2006), which is a new development paradigm. The peaceful coexistence of environmental preservation and economic progress is emphasized by this development paradigm and is committed to realizing the efficient utilization of resources and the long-term sustainability of the ecological environment. Ecological economics is an important theoretical basis for green economy development. It advocates that in the process of economic development, the measures of environmental protection and resource conservation should be taken to achieve the efficient use of people (Xu,Zhang,2001), money and material. This idea highlights the idea that environmental preservation shouldn't come before economic growth but should seek a balance between economic benefits and ecological benefits. Through the implementation of environmental protection policies and the promotion of resource-saving technologies, sustainable economic development can be achieved, and the ecological environment can be protected. Sustainable development is another core theoretical basis of green economy development. (Li Minghui, 2020) It requires that while meeting the current development needs, without jeopardizing the natural ecosystem or the needs of future generations for development. Sustainable encourages the recycling of resources and the sustainable development of the whole society. In the process of green economy development, it is necessary to follow the principle of sustainable development to ensure the environmental friendliness of economic activities and the high

efficiency of resource utilization.

In terms of the current research situation, the market size of the global green industry has reached trillions of dollars, mainly including renewable energy, environmental protection engineering, new energy vehicles, green buildings and other fields. This shows that the green economy is gradually becoming an important part of the global economy. As the world's largest developing country, China has also attached great importance to the development of green economy. In these years, governments of various countries have introduced policies and measures for the development of green industries and have achieved remarkable results. For example, study on the impact of government intervention on green economic efficiency (Zhang, Wang,2017). China has made important breakthroughs in renewable energy, new energy vehicles and other fields, and its market size is constantly expanding. Due to the broad market prospect of green industry, more and more enterprises are attracted to enter, resulting in fierce market competition. New entrants need to face high market competition pressure, but also need to constantly innovate and improve their own competitiveness. The technology level of green industry in some fields has reached a high level, but some fields are still lagging behind, and technological innovation and transformation.

#### 3. Analysis of the development status of green economy

### **3.1 The global evolution situation of the G.E**

The historical background of green economic evolution can be traced back to the end of the 20th century, and many countries have put forward the concept of green development and gradually integrated green policies into their national development strategies (Yue,Jun-qi,Wang,2014). On a global scale, the situation about the universal G.E has been shown the following characteristics: first, the rapid rise of green industries, second, a continuable emergence of better technique innovation, and thirdly a perfect better policy system. To promote the development of a green economy, countries around the economic policy have been taken many methods. In international situations, countries take an active part in global climate governance and restrict greenhouse gas emissions through international laws such as the Paris Agreement. At the national level, national governments have formulated green development strategies, green industrial policies and green technology standards, and increased support for green industries. At the local level, with the increase of the consumption level, such as carbon trading and green travel, to promote the development of the green economy (Ma,Gong,2009). The green economy development of each country has its own characteristics and advantages.

For example, Germany proposed the “energy transition” strategy to increase the proportion of renewable energy; China vigorously promotes the construction of green infrastructure and green industry and becomes an important force in the global green economy; Japan pays attention to green technology innovation and promotes the development of green travel and green building. On a global scale, countries complement each other to jointly promote the development of global economic property. Key technologies in G.E are widely used around the world. For example, clean-energy technologies, such as solar energy, water-force energy, wind-force energy, have become as the most important factor about the world’s energy development; energy saving and environmental protection technologies, such as new energy vehicles, energy-saving buildings, waste disposal, obviously been elevated the change all word green property, meanwhile G E change has become the global priority. Now the development of green economy is also facing great challenges. While the global severe increasing dramatically, climate change, better clean economy has become the common goal of all countries(Cai,Lu,Wang,2006). Significant progress has been made during the developing process about G.E. so many countries have been increased their research and development and investment in renewable energy, and the installed capacity of clean energy such as solar, wind and hydropower continues to grow. The widespread use of these energy sources not only helps to improve air quality emissions and injects new impetus into economic growth. In order to promote during the developing process about G.E, countries have strengthened the research and development and innovation of green technologies. For example, continuous technological breakthroughs in new energy vehicles, smart grids, green buildings and other fields have provided efforts to increase the rapid expansion of the clean industry. The green financial market is also becoming increasingly active. Energy-saving stocks, plot funds and related digital economy products continue to appear, which providing various forms of industrial projects to adjust the financial channels. At the same period, governments around the world are also actively promoting the regulation and developing process about G.E. Faced with global environmental problems, countries have recognized the importance of strengthening international cooperation. About the layout of the green finance industry, many countries have been strengthened cooperation through sharing of experience, joint research, and financial assistance to jointly promote global green transformation (Feng,Li,Wang,2010). The government plays a key role in promoting during the developing process about G.E. Governments of various countries have introduced policies and measures, such as providing financial subsidies

and tax incentives, to guide enterprises and individuals to participate in the construction of green economy.

### **3.2 Traditional economic development before the green economy**

Under the traditional economic development model, we have observed a mode which growth at the expense of the environment and resources. Construction and application of the evaluation index system for green economic development (Souhir,Khamoussi,Wang,2016). The following is an analysis of the characteristics of economic development in this period: under the traditional economic model, the dependence and consumption of production activities on natural resources is huge. For example, in manufacturing, a large number of raw materials are used to produce various commodities, and the acquisition of these raw materials is often accompanied by damage to the natural environment. In addition, with the increase of the consumption level, people’s demand for material things is also increasing, which further aggravates the consumption of resources. Due to the lack of environmental awareness and technical means, the production activities under the traditional economic mode often produce a large number of pollutants. These pollutants are directly discharged into the environment without effective treatment, causing serious pollution to the air, water bodies and soil. This pollution not only affects the quality of human life, but also poses a threat to the stability of the ecosystem. In the traditional economic model, the pursuit of economic efficiency is often put in the first place, while the environmental benefits are ignored. This unbalanced development pattern has led to a series of environmental problems, such as climate change and biodiversity loss. These problems not only affect the life of contemporary people, but also pose a threat to the living environment of the future generations. The traditional economic development model lacks the concept of sustainable development. In this model, people tend to focus only on immediate economic benefits while ignoring long-term social and environmental impacts (Edmund, Kwaw,1997). This short-sighted approach not only damages environmental sustainability, but also restricts the long-term economic development. The traditional economic development model before the green economy has many drawbacks, and the traditional economy has not solved the fundamental problem to a large extent.

### **3.3 Case analysis of green economy in major countries**

I will analyze the practical cases of major countries in the field of green economy and show the efforts and achievements of all countries in the green economy. Take



Shenzhen as an example, which has made remarkable achievements in green city construction. Shenzhen's buses already use electric vehicles, a move that has greatly reduced carbon emissions from urban traffic. In addition, Shenzhen has vigorously promoted green building and energy saving and emission reduction technology, effectively improve the level of green development; Germany is the leading green energy in Europe, the country has achieved more than 20% of renewable energy utilization. Among them, wind energy, solar energy and other clean energy has been widely used. This not only helps reduce carbon emissions, but also creates a lot of green jobs for Germany; the US has extensive experience in promoting a circular economy. For example, the recyclable waste sorting system in the United States has always been a global model. Through effective waste sorting and recycling, the United States has greatly reduced the cost of waste disposal and improved the efficiency of resource utilization. In addition, the United States has made important break-

throughs in the development and promotion of new environmentally friendly materials, and African countries have many examples of innovation in tackling climate change. Kenya's solar light bulbs provide convenient lighting conditions for local people, which not only improves the quality of life, but also reduces the reliance on traditional energy sources. Ethiopia's environmentally friendly irrigation system also provides local farmers with more sustainable agricultural production methods. It can be seen from the above cases that all countries have made positive efforts and explorations in the green economy. Both China's green city construction, the green energy development in Europe, the circular economy practice in the United States, and the climate adaptation technology in Africa all reflect the great importance and firm determination of all countries to green development. These successful cases not only provide valuable experience for the development of the global green economy, but also provide valuable examples for other countries to learn from.

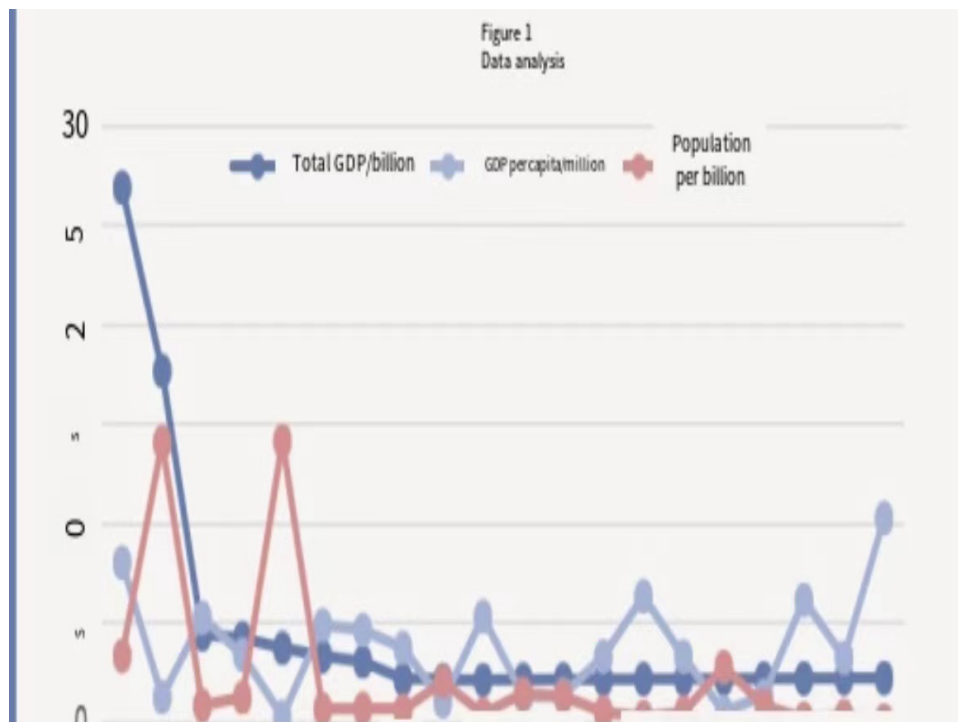


Figure 1. Feasibility of the national GDP development case.

## 4. The outlook for the green economy

### 4.1 Future market forecast of the green economy

We have deep insight into the future of the green economy which will show huge potential and vitality. Here are our predictions of the future market for the green economy

based on current trends, technological advances and the global policy environment: First, we must point out that demand for green products and services will explode as global environmental awareness grows. Consumers are increasingly inclined to choose products and services that have little impact on the environment and low resource consumption. This means that companies that can quickly adapt to this trend and provide green solutions will be well

positioned in the future market. Second, technological innovation will continue to be promoted during the developing process about G.E. We expect more technological breakthroughs in areas like clean energy, waste management and resource recycling. These technologies will not only reduce the cost of environmental protection and improve the efficiency of resource utilization, but also bring more convenient and efficient green living and working experience for consumers and enterprises. In addition, the global policy orientation will also have a profound impact on the green economy. From the perspective of the global market, the green economy will become a new growth point. With the popularization of environmental awareness and consumers' favor for green products, green economy will usher in a broad space for development in the world. We foresee that in the next few years, green industries will become an important force in global economic growth. As governments continue to attach more importance to environmental protection, I expect more policies and regulations to support the development of green industries. These policies will not only provide a strong institutional guarantee for the green economy, but also will further stimulate market vitality and innovation momentum. Finally, we want to emphasize that the future market of the green economy will be a diversified and inclusive market. Both large companies and start-ups, whether developed or developing countries, will have the opportunity to demonstrate their innovation and strength in this market. We believe that through global cooperation and joint efforts, the green economy will become an important force driving global sustainable development and have a strong influence.

#### **4.2 The integration of green economy and green industry**

I am well aware of the close relationship between the green economy and the green industries and the importance of their integration. The mutual promotion of green economy and green industry, and the development of green economy, promote the growth of green industry. With the increasing global attention to environmental protection and sustainable development, a green economy has become a new development concept. This concept emphasizes the coordination and balance between economic growth and environmental protection. At the same time, the rapid development of green industry also provides strong support for the green economy. The rise of green industry has not only brought new economic growth points, but also provided feasible technical solutions and industrial support for solving environmental problems. The wide application of clean energy is an important embodiment

of the integration of green economy and green industry. With the continuous progress and cost reduction of clean energy technologies such as solar energy and wind energy, more and more countries and regions begin to vigorously promote clean energy to reduce their dependence on fossil energy and reduce carbon emissions. The development of energy conservation and environmental protection industry is also an important aspect of the integration of green economy and green industry. This industry involves the research and development and production of energy-saving technology, environmental protection equipment, as well as the provision of environmental protection services. These technologies and services also effectively protect the environment while driving economic growth. The rise of circular economy is another important achievement of the integration of green economy and green industry. Circular economy emphasizes the maximum utilization of resources and the minimization of waste discharge and realizes the sustainable development of economy through waste recycling and reuse. The promotion and application of this economic model has not only brought economic benefits, but also brought significant environmental benefits.

#### **4.3 The impact of green development on the overall global economy**

Green development has had a profound impact on the overall global economy. Here's my detailed analysis of the impact: First, green development is leading the new direction for global economic growth. Under the background of resource constraints and environmental pressure, green development has become a new and sustainable economic growth path. It urges all countries to adjust their economic structure and promote industrial upgrading, so as to realize the harmonious coexistence of economic growth and environmental protection. Second, green development has spawned new industries and market opportunities. With the increasing consumer concern for environmental protection, health and sustainability, the demand for green products and services is growing. This has not only provided a broad space for the development of green industries, but also injected new vitality into the global economy. At the same time, green development has also promoted the rapid development of emerging industries such as clean energy, circular economy and ecological agriculture, providing new growth points for economic growth. Moreover, green development has promoted international cooperation and exchanges. Faced with global environmental problems, countries need to strengthen cooperation and jointly meet the challenges. Green development provides a good platform, promotes international

technology exchange, experience sharing and resource integration, and promotes the common development of the global economy.

In addition, green development has also made the global economy more resilient and sustainable. By reducing the negative impact on the environment, improving the efficiency of resource utilization and reducing energy consumption, green development can help alleviate environmental problems such as global climate change and biodiversity loss, thus providing a strong guarantee for the long-term development of the global economy.

However, green development also faces many challenges, such as technical bottlenecks, lack of funds, policy environment and so on. In order to overcome these challenges, the government, enterprises and the public need to work together to strengthen policy guidance, technological innovation, publicity and education (Chan,1991).

#### **4.4 Innovation and challenges of the green financial market**

In recent years, the green financial market has shown a variety of innovation trends, which are not only reflected in the development of financial products, but also include service mode, market mechanism and other aspects. Green bonds as an emerging financial instrument provide a low-cost source of funds for environmental protection projects. Its circulation and types are increasing, becoming an important part of the green financial market. Green insurance the launch of green insurance products such as compulsory environmental pollution liability insurance has provided an effective guaranteed mechanism for environmental pollution risks and reduced the potential risks of enterprises. The Green Investment Fund focuses on investing in green projects and sustainable development enterprises, providing investors with opportunities to participate in green development, while promoting the growth of green industries. Innovation of the green financial service model Financial institutions can provide more efficient and convenient financial services for green projects by opening up green channels and improving the speed of approval. For example, innovative credit products such as “low-carbon loans” launched in some regions will help enterprises transform and develop with low-cost funds. The establishment and development of the carbon trading market makes the carbon emission right become a tradable commodity and promotes the realization of the emission reduction targets through the market mechanism. In addition, the emergence of new financing methods such as carbon quota financing has further enriched the trading varieties and financing methods of the green finance market.

Despite the continuous innovative development of the

green financial market, it still faces many challenges. At present, the definition and standards of green finance have not been unified in the world, making it difficult for market participants to accurately identify and evaluate green projects, which affects the reasonable allocation of funds and the standardized development of the market. The information asymmetry in the green financial market is relatively prominent, and it is often difficult for investors to obtain comprehensive and accurate project information, which leads to uncertainty in investment decisions. This needs to be addressed by enhanced disclosure and transparency. Despite the huge potential of the green finance market, there is still a shortage of funds. On the one hand, some investors have low awareness of green finance and lack of investment willingness; on the other hand, some green projects find it difficult to attract sufficient financial support due to their high risk or long return cycle. The healthy development of the green financial market needs the support of perfect laws, regulations and policy environment. However, there are still deficiencies in the formulation and implementation of relevant laws and regulations, and the policy support and incentive mechanism also need to be strengthened (Swanson,Rogoff,1988). This has restricted the further development and growth of the green finance market.

## **5. SWOT analysis of green economy development prospect forecast**

With the increasing severity of global climate change and environmental pollution, a green economy has gradually become an important direction of economic development in all countries. The green economy is characterized by high efficiency, low consumption and low emission, and emphasizes the realization of sustainable economic development while protecting the environment. Conduct the SWOT analysis of the development prospect of green economy.

### **5.1 Advantage (Strengths)**

#### **5.1.1 Policy support:**

The governments of all countries have generally recognized the importance of a green economy and have issued relevant policies to support the development of green industries. For example, China has put forward the “dual carbon” goal to promote the research and development and application of green technologies through the formulation of strict environmental regulations and incentive policies.

#### **5.1.2 Market demand:**

With the improvement of consumers' environmental awareness, the demand for green products and services is gradually increasing. Companies are developing green products to meet market demand and enhance their brand image. For example, some home appliance enterprises have launched energy-saving and low-carbon home appliance products, which have been warmly welcomed by the market.

### **5.1.3 Technological innovation:**

The development of Green Economy cannot be separated from technological innovation. With technological breakthroughs in new energy, energy conservation and environmental protection, the development potential of the green economy will be further unleashed. For example, the utilization technology of clean energy such as solar energy and wind energy has been continuously improved, and the cost has been continuously reduced, providing strong support for the development of green economy.

## **5.2 Disadvantages (Weaknesses)**

### **5.2.1 Technical bottlenecks:**

Despite the continuous progress of green technology, there are still some technical bottlenecks. For example, the range and charging speed of new energy vehicles still need to be solved; the utilization of clean energy such as solar and wind energy. These technical bottlenecks limit the further development of the green economy.

### **5.2.2 High cost:**

Compared with traditional economic models, the investment cost of green economy is usually higher. Enterprises need to invest a lot of money in technology research and development and equipment renewal, which increases the operating pressure of enterprises. For example, the production cost of new energy vehicles is generally higher than that of traditional fuel vehicles, which limits the speed of their market promotion.

### **5.2.3 Imperfect market mechanism:**

At present, the market mechanism of green economy is not perfect. Problems such as insufficient policy support, unstable market demand and insufficient market competition have affected the development of green economy. For example, some green industries are facing risks caused by policy adjustments and market fluctuations, resulting in insufficient willingness to invest.

## **5.3 Opportunity (Opportunities)**

### **5.3.1 International cooperation:**

Global climate change and environmental issues have be-

come global issues that need a joint response by all countries. Strengthening international cooperation will bring more opportunities for the development of a green economy. For example, countries can work together to develop green technologies, promote green trade and strengthen green investment to jointly promote the development of the global green economy.

### **5.3.2 Market potential:**

With the improvement of consumers' environmental awareness and the continuous progress of green technology, the potential of the green market will be gradually released. Enterprises can seize the market opportunities by developing green products and expanding green markets to achieve rapid development.

### **5.3.3 Policy opportunities:**

To support the development of green economy, governments have introduced relevant policies and measures. Enterprises can seize the policy opportunities, actively apply for policy support, and participate in government .

## **5.4 Threaten (Threats)**

### **5.4.1 Cost pressure**

Raw material price fluctuations, rising labor costs and other factors may lead to the cost increase, posing a threat to the profitability and competitiveness of enterprises.

### **5.4.2 Food safety problems and fake and shoddy products**

Food safety problems and the emergence of fake and shoddy products may damage the brand image and reputation of CP Group and affect consumers' trust and purchase intention.

### **5.4.3 Uncertainty of policies and regulations**

Changes in policies and regulations may bring uncertainty to the operation of the enterprise and affect the strategic planning and market layout of the enterprise.

### **5.4.4 Changes in consumer demand**

Consumers' demand and preferences for snack food are constantly changing, and CP Group needs to understand and respond to these changes in time to meet the market demand.  
projects



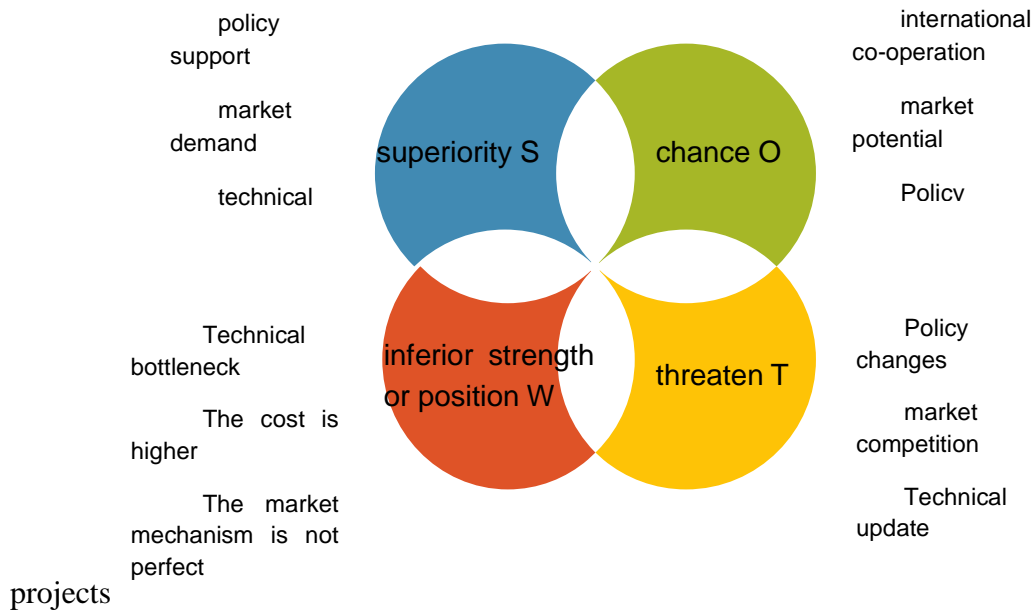


Figure 2 -The development of green economySWOT analysis

## 6. The research technique

### 6.1 questionnaire

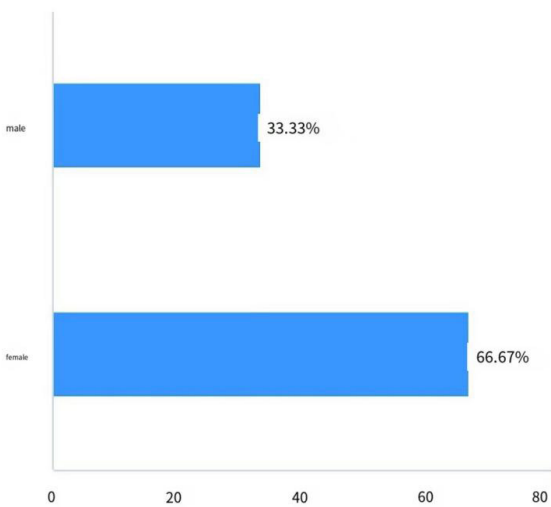


Figure 3 Research gender

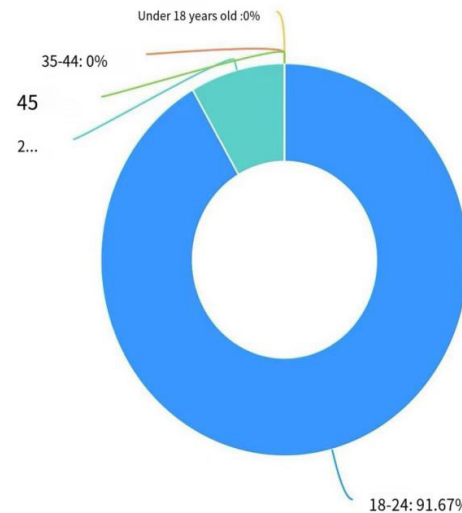
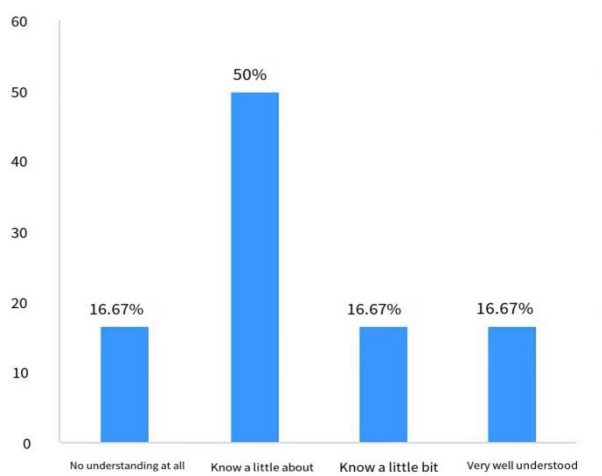


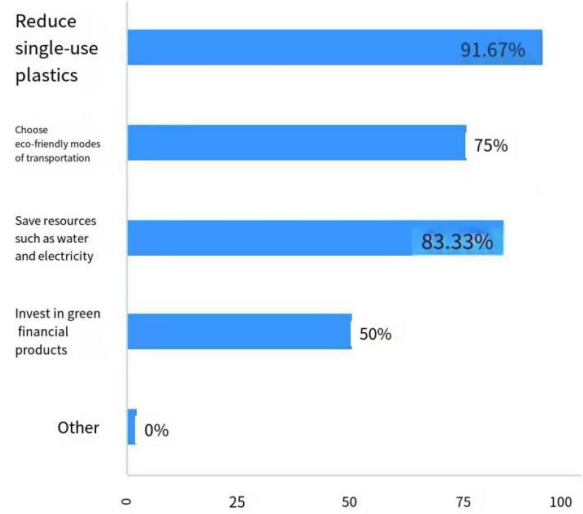
Figure 4: research Survey age

According to the basic information structure of Figure 3 and Figure 4, I mainly surveyed from 18-24 years old to carry out questionnaires.



**Figure 5 Understanding of the development of the green economy**

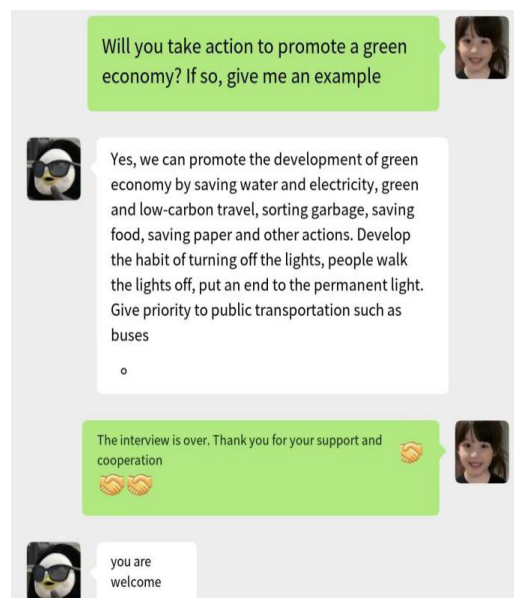
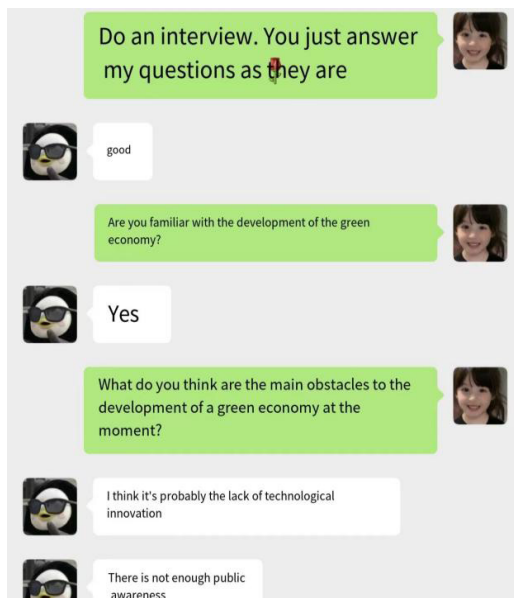
According to Figure 5, I have conducted a survey on the development of the green economy. Half of the people know a little about the development of the green economy, while a few people do not know or know very well.



**Figure 6 Action to promote green economic development**

According to Figure 6, people are willing to take actions to promote economic development, such as reducing the use of single-use plastics, saving resources such as water and electricity, choosing environmentally friendly transportation modes and other effective measures.

**6.2 Interview analysis**



**Figure 7 Interview analysis**

Through the interview and analysis, I learned that people have a good understanding of the development of green economy, and will also start from the small things around to promote the development of green economy, such as saving water and electricity, paper, low-carbon travel, garbage classification, etc.

**6.3 exponential smoothing**

The basic formula of the exponential smoothing method is:  $S_t = a Y_{t-1} + (1-a) S_{t-1}$  \*, where  $S_t$  represents the smoothing value of time  $t$ ;  $Y_{t-1}$  represents the actual value of time  $t-1$ ;  $S_{t-1}$  represents the smoothing value of time  $t-1$ ;  $a$  represents the smoothing constant, and the value

range is. (Liu Baohong. (2020)).Application examples of exponential smoothing method, exponential smoothing method is widely used in production prediction, short-and medium-term economic development trend prediction and

other fields. Exponential smoothing method is also used to handle data series characterized by relatively stable, fixed trends and slow and large fluctuations.Summary of the model-fit metrics

**Table 1 Exponential smoothing analysis**

number	Initial value S0	alpha price	Smooth type	RMS error RMSE	mean square error MSE	mean absolute error MAE	Mean absolute percent error of the MAPE
1	3	0.05	A smooth	1.185	1.727	1.581	0.42
2	3	0.05	Secondary smoothing	0.998	1.181	1.414	0.401
3	3	0.05	Three times smooth	0.988	1.043	1.253	0.383
4	3	0.1	A smooth	1.869	1.233	1.419	0.402
5	3	0.1	Secondary smoothing	1.403	1.174	1.108	0.366
6	3	0.1	Three times smooth	1.995	1.173	1.018	0.332
7	3	0.2	A smooth	1.437	1.194	1.129	0.368
8	3	0.2	Secondary smoothing	0.998	1.188	1.192	0.305
9	3	0.2	Three times smooth	0.993	1.122	1.141	0.251
10	3	0.3	A smooth	1.087	1.155	1.382	0.339
11	3	0.3	Secondary smoothing	0.861	1.139	1.202	0.258
12	3	0.3	Three times smooth	0.761	0.741	0.738	0.2
13	3	0.4	A smooth	1.307	1.265	1.475	0.314
14	3	0.4	Secondary smoothing	0.966	0.934	0.92	0.222
15	3	0.4	Three times smooth	0.772	0.596	0.643	0.185
16	3	0.5	A smooth	1.285	1.312	1.303	0.293
17	3	0.5	Secondary smoothing	0.816	0.665	0.725	0.197
18	3	0.5	Three times smooth	0.763	0.583	0.613	0.182
19	3	0.6	A smooth	1.109	1.185	1.261	0.275
20	3	0.6	Secondary smoothing	0.741	0.548	0.593	0.179
21	3	0.6	Three times smooth	0.692	0.627	0.589	0.181
22	3	0.7	A smooth	1.27	1.612	1.245	0.26
23	3	0.7	Secondary smoothing	0.711	0.506	0.505	0.166
24	3	0.7	Three times smooth	0.756	0.732	0.561	0.181
25	3	0.8	A smooth	1.159	1.343	1.148	0.248
26	3	0.8	Secondary smoothing	0.713	0.509	0.445	0.157
27	3	0.8	Three times smooth	0.958	0.918	0.6	0.198
28	3	0.9	A smooth	1.07	1.146	1.068	0.238

29	3	0.9	Secondary smoothing	0.74	0.548	0.404	0.151
30	3	0.9	Three times smooth	1.108	1.229	0.675	0.224
31	3	0.95	A smooth	1.033	1.067	1.033	0.233
32	3	0.95	Secondary smoothing	0.762	0.581	0.389	0.148
33	3	0.95	Three times smooth	1.206	1.455	0.712	0.237
Note: The blue data represents the best parameters automatically found by the model							

## 7. Proposals for the future of a green economy

Under the dual pressure of global warming and environmental deterioration, the green economy is no longer an option.

First, policy guidance is the key. The government should formulate more clear and powerful green economic policies, and guide and encourage enterprises to achieve green production through tax incentives and subsidies. At the same time, more restrictions and penalties should be imposed on industries with high pollution and high energy consumption to ensure that green development has become the consensus of all sectors of society. Second, technological innovation is the driving force. It is necessary to continue to invest in green technology research and development and innovation, such as clean energy, waste disposal, energy conservation and emission reduction. These technologies can not only reduce our carbon footprint, but also bring new economic growth points for enterprises, achieving a win-win situation for both the economy and the environment. Moreover, universal education is the foundation. The realization of green economy needs the participation of the whole society, so it is very important to improve the public's awareness of environmental protection. Schools, the media and communities should all shoulder the responsibility of environmental education, so that everyone can understand the impact of their actions on the environment and are willing to change it. Finally, international cooperation is the direction. Environmental issues have no national boundaries, and countries around the world need to work together to tackle them together. By sharing experience, technology transfer and financial support, we can promote the development of the green economy faster and take responsibility for the future of the planet.

### 8.Criticism

#### 8.1 Have I met my research objectives?

I made a comprehensive analysis of the development

forecast of green economy and came to a conclusion. So, I believe that I have achieved my research objectives.

#### 8.2 Limitations of the study

The limitations of green economy outlook forecast research are mainly reflected in insufficient data and lag; the uncertainty of policy and market; the change of market demand and consumer preference can also affect the development of green economy; the unpredictability of technological development and innovation; and the uncertainty of international environment and cooperation. There are other various influencing factors that are not considered to affect the study limitations.

#### 8.3 If you can do the project again, what aspect will be corrected

If I can do this project again, I will take into account the data collection, expand the scope of research, make the coverage wider, and deeply analyze the profound impact of green economy on people. In addition, I also want to prove the current situation of the development of green economy more convincing from the data and model, so as to obtain more comprehensive and reliable data to support the research conclusion.

## References

- [1] Li Zhihong. Analysis of the path of high-quality economic development from the perspective of green development [J]. Modern Business Research, 2024, (04): 5-7.
- [2] Sun Chenglong. The institutional evolution and corresponding challenges of the International carbon trading mechanism of the Paris Agreement [J]. Special Economic Zone Economy, 2024, (02): 93-96.
- [3] Zeng Tian, Wu Zhilong. International green development research progress and its hot trends analysis [J]. Environment and Sustainable Development, 2020,45 (04): 5-15.
- [4] Xu Haihong. The international identification theory of China's green Development Plan [J]. Jinyang Academic Journal, 2019, (06): 28-33.



- [5] Li Na. Philosophical interpretation of the concept of green development [J]. *Ecological economy*, 2017,33 (02): 168-171. (Li,2017)
- [6] Zheng Defeng, Zang Zheng, Sun Caizhi. Summary of studies on green economy, green Development and green Transformation [J]. *Eco-economy*, 2015,31 (02): 64-68.
- [7] Sampene K A ,Li C ,Nsiah K T .Catalyzing renewable energy deployment in the Mercosur economies: A synthesis of human capital, technological innovation and green finance[J].*Energy Strategy Reviews*,2024,53101388-.
- [8] Zhang Jiarui, Zhang Weiwei, Teng Wanqi. Financial innovation drives the development of green Economy: Mechanism, practical experience and countermeasures [J]. *Learning and Exploration*, 2023, (06): 99-107.
- [9] Zhang Haoxiang, Xuan Xingkun. Low carbon economy and wealth management green finance to help sustainable development [J]. *Journal of Hangzhou Institute of Finance*, 2022, (06): 27-29.
- [10] Oosterveer P,Kamolsiripichaiporn S,Rasiah R. The 'Greening' of Industry and Development in Southeast Asia: Perspectives on Industrial Transformation and Environmental Regulation; Introduction [J]. *Environment, Development and Sustainability*,2006,8(2):217-227.
- [11] Xu Xueqiang, Zhang Junjun. Comprehensive evaluation of sustainable urban development in Guangzhou [J]. *Acta Geographica Sinica*.2001(1).
- [12] Zhang, H,Wang, Y. (2017). Green development in China: Policies, strategies, and challenges. [J]*Journal of Cleaner Production*,161,1213-1220.
- [13] Ma Yuan, Gong Xinshu. Research on urban ecosystem security based on Sustainable development in Northwest China [J]. *Scientific Management Research*.2009(6).
- [14] Cai Bangcheng, Lu Genfa, Wang Cuiran: The Orientation and Reflection of Urban Sustainable Development Policy [J]. *Environmental Management, Sichuan Environment*.2006(2).
- [15] Feng Zhenzhen, Li LAN.Practice and reflection on setting urban green development indicators - A case study of Sino-Singapore Tianjin Eco-City indicator system [C].*Proceedings of the Annual Conference of Chinese Society of Environmental Sciences*.2010.
- [16] Yue Qi,Junqi Huang,Xiaofeng Peng. Does supply-demand law work for the ICBC stock price[J]. *Emerald Emerging Markets Case Studies*,2014,4(2).
- [17] Souhir Neifar,Khamoussi Halioui,Fouad Ben Abdelaziz. The motivations of earnings management and financial aggressiveness in American firms listed on the NASDAQ 100[J]. *Journal of Applied Accounting Research*,2016,17(4).
- [18] Edmund m, Kwaw yen.Resolving economic conflict between the united states and japan[m] massachusetts institute of technolog.1997:189-220.
- [19] Swanson r, Rogoff.It real the exchange rate-interest differential relation over the modern floating period[j] *journal of finance*, 1988,43:359-382.
- [20] Chan, karolyi.a intraday volatility in the stock index and stock index futures markets [j] *review of financial studies* 1991 (4) : 657-684.