

# ***Green Accounting in China: Challenges, Opportunities, and the Path Forward***

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**Abstract:** Green accounting is a new discipline that has emerged in order to deal with environmental governance, ensure that the economic benefits of enterprises are harmonized with environmental development, and implement the implementation of sustainable development strategies. In today's deteriorating ecological environment, the emergence of green accounting is particularly important. This paper describes the concept of green accounting and the necessity of green accounting for the current global ecology, discusses the possible problems of implementing green accounting according to China's national conditions and the development history of green accounting in countries around the world, and then gives the corresponding practicable solutions to the existing problems. Although the implementation of green accounting has not been widely popularized at this stage due to the imperfections of laws and regulations and the lack of consciousness of companies and individuals, it is expected to be vigorously implemented in the future as the economy develops and people's awareness of environmental protection increases.

**Keywords:** green accounting, sustainable development, environmental benefits

## **1. Introduction**

In recent years, China's economic development has been rapidly, which has greatly improved people's quality of life, however it has also brought about a non-negligible impact on the environment. In 2017, the Chinese Academy of Social Sciences announced that the scale of China's environmental pollution has ranked among the world's top, in which the atmospheric pollution, water pollution, and other special is particularly serious. To solve the increasingly serious environmental problems, Chinese government began to levy sewage charges on polluting enterprises.

In 2018, the green tax was adopted to replace the sewage charges, which became a brand-new type of tax and was protected by law [1]. In this case, the implementation of green accounting is even more urgent. Green accounting is centered on how the consumption of natural resources should be compensated and is different from traditional accounting, which is more suitable for the current situation of China's rapid economic development, truly reflects the impact of the state and enterprises on the environment and promotes the common development of the natural environment and economic benefits. This paper illustrates the significance of green accounting and the existing problems to prove the necessity of green accounting implementation and gives solutions to the possible problems.

## **2. Concept of Green Accounting**

The discipline of accounting encompasses numbers, calculations, and technology that enable it to influence people's thoughts and behaviors [2]. This reflects the importance of accounting to the company operator. Accounting is a type of economic management that uses money as the primary unit of measurement and focuses on determining, reporting and analyzing the performance and other outcomes of an organization and society as a whole [3]. Based on this, an emerging accounting profession, green accounting, has emerged. Green accounting is an emerging discipline that combines environmental services and products based on accounting theories and methods. Green accounting is based on laws and regulations, takes money as the unit of measurement, and reflects the environmental pollution and environmental protection costs in the production of enterprises through charts and text, so as to assess the impact of the environment on the profits of enterprises. Green simultaneously considers the costs and benefits due to environmental protection and the depletion of existing capital [4], compared with traditional accounting, green accounting is more diversified in the unit of measurement, integrating the economy, society, and the environment [4], and therefore it is more difficult to formulate the corresponding standards, so green accounting is uncertain in the content of accounting. Green accounting is also different from traditional accounting in the form of reporting, the report of green accounting is not only the earnings of economic activities, but also includes some information on non-economic activities, such as: the sustainable development strategy of the enterprise, the measures taken in environmental protection and resource conservation, and the achievements made. In terms of profitability methods, traditional accounting tends to follow the principle of profit maximization, but not green accounting, which focuses more on sustainable development strategies. Green accounting identifies and raises awareness of environment-related costs, which in turn helps to reduce and avoid such costs in the future [5]. Thus, green accounting not only makes a business profitable but also maximizes the conservation of natural resources and avoids unnecessary waste.

## **3. The Need to Implement Green Accounting**

### **3.1. Improvement of Environmental Problems**

Industrial economic development has brought people unprecedented disasters while bringing them great wealth. Some scientists predict that the oil on the earth can be used by human beings for less than a century. Although in order to solve this problem, the state has implemented new policies to encourage people to buy new energy vehicles and reduce the consumption of oil, the fundamental problem still lies in the irrational development and utilization of resources. Therefore, the problem of natural resources can only be effectively solved by rationally exploiting and utilizing resources, and by conserving and developing at the same time. The disadvantages brought by the rapid development of industrial economy not only exist in the level of unnecessary consumption of resources, but also bring serious environmental problems. The emergence of haze has become the biggest threat to people's health, major hospitals due to the increasing number of patients with upper respiratory tract infections, which leads to haze is mainly due to a large number of automobile emissions and secondary pollution produced by heavy industrial factories. Although there has been a great improvement in the last two years, the hazy weather still exists in winter. In addition, natural resources are decreasing, for example, in the northwest of China, due to excessive logging of trees, the land balance has been destroyed, resulting in a large amount of land desertification, which makes natural disasters continue to worsen, and dust storms occur frequently. In addition, desertification greatly reduces the availability of land resources, causing a serious decline in the productivity of the land, threatening the safety of rivers, and failing to bring economic benefits to the people in the decertified

areas. Therefore, desertification is not only a pure environmental problem, but also an economic and even social problem. Combating desertification is not only labor-intensive, but also costly. If people had a strong sense of protecting the environment before desertification, the probability of these situations would have been greatly reduced. It can be seen that the gradual deterioration of the ecological environment not only threatens the life and health of human beings, but also brings serious economic problems. Therefore, the implementation of green accounting is urgent.

### **3.2. Promoting Sustainable Development Strategies**

Sustainable development is a kind of development that meets the needs of the present generation without causing damage to the needs of future generations [6], a development strategy that avoids making resources unavailable for future generations to continue using due to excessive solicitation of the previous generation, and its essence is fairness, commonality, and continuity. In modernization, the number of populations is controlled, the natural environment is protected, and existing resources are conserved, so that population growth is in line with the development of social productivity, and economic activities are coordinated with the consumption of natural resources, so as to form a virtuous circle and benefit future generations. The strategy of sustainable development is beneficial in promoting the coherence of economic and environmental benefits, improving people's quality of life, ensuring the maximization of social benefits, and promoting the sustained and stable development of the national economy. Green accounting is a system that accounts for the costs and resource losses of countries and plays a role in addressing environmental costs in the process of financial operations [6]. Green accounting can provide company operator with information related to environmental issues, which is beneficial for decision makers to make environmentally friendly policy. Thus, it can be seen that green accounting and sustainable development are inseparable from each other, as both of them take into account both economic and social benefits to maximize the conservation of resources while developing the economy. The goal of sustainable development points out the development direction and the significance of the existence of green accounting, also provides sufficient conditions for it, meanwhile the development of green accounting is to turn the goal of sustainable development strategy from theory into reality.

In short, the goal of green accounting is to maintain the sustainable development of society. The production process of enterprises cannot be separated from raw materials, and most of the raw materials are from natural resources, when enterprises overuse natural resources without corresponding protection, it will also make the economic benefits of enterprises affected and slow down the development of enterprises. In the past, people often only calculate the profit and cost of the enterprise itself but ignore the cost of natural resources consumed by the enterprise production, lack of effective calculation and evaluation of the wasted natural resources, i.e., lack of protection of natural resources, which is contradictory to the concept of sustainable development. Nowadays, green accounting adopts the System of Environmental-Economic Accounting (SEEA), which focuses on the depletion of scarce natural resources and measures the cost of natural resource degradation in order to minimize the impact on the natural environment. Green accounting helps companies to analyze the linkages between existing projects and natural resources and helps to address policy issues related to environment and sustainable development [7]. Compared to traditional accounting, the environmental concept of green accounting is more in line with the goal of sustainable development, it also solves the environmental issues that are hard to reach by traditional accounting, ensuring that the business can be developed for a long time.

### 3.3. Accelerating Enterprise Internationalization

Green accounting firstly originated in western countries, aiming at solving environmental problems. Nowadays, some multinational corporations realize the importance of saving resources and protecting the environment, so transfer some highly polluting and energy-consuming production processes to other countries to ensure that their own resources and environment are not polluted. At the same time, they can also obtain the corresponding economic benefits. Although this kind of behavior is not worth advocating, the clear recognition of the importance of environmental protection in western countries is what we should learn from. To keep up with the developed countries, China should begin to emphasize environmental protection and resource conservation. In terms of import and export, the western countries for food packaging requirements are very strict, not only the requirements of rigorous packaging, beautiful appearance, packaging materials also have strict regulations, and even food packaging non-food contact surface ink material content has a clear indicator and specify the ultimate purpose of these indicators is to protect the environment. It can be seen that to broaden the international market, Chinese companies need to achieve certain results in terms of environmental protection.

The core of enterprise green accounting is to strengthen the enterprise awareness of the protection of the natural environment. In the past, many highly polluting and energy-consuming projects were the main way to make rapid economic development, which brought considerable economic benefits but hindered the sustainable development of enterprises. In the long run, enterprises simply pursue the speed of economic growth and the economic benefits it brings, which is not in line with the concept of sustainable development. Juniata et al.'s research shows that reducing ecological pressure and pollution can promote the development of enterprises towards internationalization [8]. Therefore, enterprises should choose to adopt green accounting, take into account the cost of natural resources and the environment in production, strengthen the investment in environmental protection, further account for the cost of natural resources and environmental benefits, and establish a good image of the enterprise in order to enable enterprises to maintain a relative advantage in the competition, and gradually move towards internationalization.

## 4. Subsection Problems Facing the Implementation of Green Accounting

### 4.1. Incomplete Guidelines

China has become more mature in the theory of green accounting, but there has been no breakthrough in its implementation. According to information, most countries in the world do not have very successful cases of green accounting, but many countries have already turned green accounting from theory into reality. For example, as early as 1992, the South Korean government has adopted the market-oriented mechanism of "polluter pays" [9], which has greatly aroused people's awareness of saving environmental costs due to its tough approach. On the basis of increasingly sophisticated theoretical support, the Korean government promoted the 7th Five-Year Plan and the strategy for the development of the environmental protection industry, which resulted in an increase in the sanitary waste disposal rate from 27% to 90%. In order to support the environmental protection industry, the government fully supports the research of environmental protection, and puts forward the KORSEEA framework, the main objective of the assessment and accounting of the cost of the natural environment, which promotes the vigorous development of the environmental protection business [9], and also gradually integrates the concept of environmental protection and economic development together. It can be seen in South Korea, the concept of environmental protection is not only deeply rooted in people's minds, but also implemented in action.

In many European countries, a set of "satellite account" has been used to assess the degradation of natural resources and the environment caused by human activities [10]. In Japan and Canada, associations have been set up to address corporate environmental issues, and guidelines and penalties have been developed. On the contrary, in China, although there are laws on environmental protection such as the Green Tax Law, there is still a lack of legal provisions on green accounting in the accounting law, and there is no organization dedicated to corporate environmental issues and a lack of strong incentives and penalties. According to a typical case of environmental resources released by the Supreme People's Court of the People's Republic of China in 2020, an insulation material company was sentenced to a fine of 700,000 yuan for using prohibited materials in its production process, causing serious pollution of the atmosphere, however the company's illegal proceeds amounted to at least 1,460,000 yuan. At the level of concrete implementation, China does not have an advantage, which is also a difficult problem for green accounting to operate in China. Even if developed countries have more perfect laws, the implementation of green accounting has not been widely popularized, not to mention that China has not yet introduced the relevant laws and regulations at this stage. In addition, even if the promulgation of perfect laws and regulations, if the law enforcement process cannot be strictly complied with, it will also make the original effective laws greatly discounted, and the development of the penalties should be targeted to avoid the destruction of the environment in some enterprises to get the benefits higher than the penalties received by the enterprise. This shows that the development of green accounting is tortuous and long.

#### **4.2. Lack of Conscious Compliance by Enterprises**

One of the differences between green accounting and traditional accounting is that green accounting does not follow the principle of profit maximization, which leads to the lack of environmental awareness of enterprises are not willing to adopt green accounting, coupled with the fact that China's legislation on green accounting lags behind, and there are fewer complementary policies [11], so the widespread implementation of green accounting relies on the conscientiousness of enterprises. Since green accounting does not bring the greatest economic benefits plus the research results in the combination of green accounting and environmental protection are not significant, some enterprises may appear perfunctory in the development of green accounting. Only by adopting effective legal means can enterprises implement green accounting.

#### **4.3. Lack of Professionals**

Green accounting requires not only professional accounting knowledge, but also an understanding of environmental science. Although China has stepped into the ranks of economic powerhouse, the professionalism and level of accounting personnel generally cannot keep pace with the pace of economic development. There are many small branches under the whole accounting industry, and green accounting, as an emerging branch, requires practitioners to understand accounting, environmental protection and other aspects of knowledge. Nowadays, in the discipline settings of universities and in the training courses of professional accountants, accounting and environment are two completely different disciplines [3], and there is no intersection. Furthermore, due to the lack of relevant laws and regulations as a basis, the training of green accounting personnel is very limited, resulting in few talents who can engage in green accounting work, which is even more unfavorable to the development of green accounting.

#### **4.4. Lack of Unified Standards**

Green accounting is different from traditional accounting, its measurement method and traditional accounting have essential differences. The measurement unit of traditional accounting is generally



currency, while green accounting does not take currency as the only measurement standard, it also needs to consider environmental costs and other issues, and the lack of scientific quantitative standards for the measurement of environmental costs as well as practical indicators, making the need to disclose the environmental costs and economic benefits of the lack of practical methods, how to formulate a set of reasonable and feasible program, is the urgent need to solve the problem. How to formulate a set of reasonable and feasible programs is an urgent problem to be solved.

## **5. Measures to Implement Green Accounting**

### **5.1. Improve the Legal Construction**

Ruling country by law is the guideline for a country to be able to operate normally. From the country to individuals, abiding by the law is the most basic requirement, and people's behaviors should be based on the law, which is enough to reflect the importance of the law. Some enterprises usually do not report their environmental impacts truthfully for their own interests. Therefore, to ensure the effective implementation of green accounting, the government and relevant departments should establish reasonable laws and regulations, simultaneously specify scientific and operable ways and means of calculating environmental benefits, as well as formulate unified standards for easy mastery and application.

Additionally, it is necessary to establish professional organizations as soon as possible, increase the research on the theory of green accounting, and shorten the gap with other countries in the world, so that green accounting can play a role in saving resources and realize the goal of sustainable development. Next, Chinese government should provide suggestions for improving relevant laws and regulations, and study feasible solutions for green accounting. The law should require enterprises to disclose the measures and achievements they have made in protecting the environment, to ensure that enterprises implement green accounting and prevent the occurrence of evasive behaviors, so as to ensure the status of green accounting, and to turn green accounting from theory into reality through effective means. When formulating relevant policies, rewards and penalties should also be clearly defined to stimulate the enthusiasm of enterprises to implement green accounting, to make clear the importance of protecting the environment, and to avoid the insufficiency of penalties, which makes some enterprises choose to fill up the penalties for violating the law with the proceeds gained from consuming a lot of natural resources. At the same time, the results of rewards and penalties should be included in accounting and financial statements to objectively reflect the authenticity and legitimacy of the enterprise. Through the corresponding regulations and institutions to strengthen the supervision of the implementation of green accounting, to win the trust of the public, can realize the unified macro-control of the country. Thus, only by improving the corresponding legal provisions on green accounting can we guarantee the effective implementation of green accounting.

### **5.2. Cultivating Professional Talents**

As mentioned before, green accounting not only requires accountants to master accounting, but also to understand environmental science, ecological economics and other disciplines, which requires comprehensive talents. Therefore, we should start from cultivating the concept of green accounting, increase the discipline of green accounting in colleges and universities, and incorporate green accounting into the training content in the later training of accountants, to enhance the practical ability of green accounting and cultivate more professional talents. At the same time, it is also necessary to train the in-service accountants of enterprises on green accounting standards and operation methods, encourage them to find out the problems and solve the problems in the process of practice, thus, to accumulate experience for the future generations, so that the national policy on green accounting can be effectively implemented, thus promoting the implementation and development of green accounting.

### 5.3. Playing the Role of the Accountancy Community

Accountants' groups play a leading role in the accounting field. Their exemplary role is indispensable if green accounting is to be vigorously promoted. Therefore, a top-to-bottom reform of enterprises to implement green accounting should be carried out by accountants' organizations, and the idea of green accounting should be fully publicized, and they should take the lead in practicing it and playing a leading role. The importance of green accounting is demonstrated to people through financial reports and other forms to promote the reform of green accounting implementation by major enterprises.

## 6. Conclusion

This paper illustrates the importance of implementing green accounting in China by describing the concept of green accounting and its importance, from the perspectives of being able to improve environmental problems, promote sustainable development and accelerate the internationalization of enterprises, also learns effective management methods and laws and regulations from countries that have already implemented green accounting. Meanwhile, it also puts forward the problems faced by the implementation of green accounting in China, such as the insufficient improvement of the standard, the lack of self-consciousness of enterprises, and the cultivation of professional talents. In response to the above problems, the article clearly defines the laws and regulations of green accounting, starts from the campus to cultivate professionals, and plays the guiding role of accounting organizations. The paper points out the problems and solutions for the future development of green accounting in China and promotes the development of the standard in a better and more practical direction. In addition, there is room for improvement, such as a lack of in-depth research and analysis of industry-specific examples of green accounting implementation.

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