

*Original Research Article*

# Green Tax Accounting Entries Will Promote More Chinese Green Companies

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**The collection of green tax could promote the construction of ecological civilization, as it establishes a green system to encourage companies to reduce the emission and protect the environment. In 2018, China begins to carry out its green tax reform. According to the law, it is estimated that the scale of green tax collection could reach 50 billion yuan (7.88 billion dollars) this year. This paper aims to analyze the different effects of this reform on polluting companies and green companies. From an accounting perspective, the focus of this paper is to propose new accounting entries and make the product price include the tax. This would help the companies to find the source of pollution, emit less pollutant, and develop its environmental technology; implementing these accounting entries will accelerate the construction of an ecological civilization.**

**Keywords:** Green tax, Accounting entry, Environmental protection, Ecological construction.

## INTRODUCTION

According to the report published by the Chinese Academy of Social Sciences, the scale of environmental pollution in China ranks the top around the world, especially its water pollution, air pollution, and solid waste pollution (see, The 2017 China Environmental Bulletin, 2017). Most of pollution comes from business. In the past, the Chinese government collected sewage charges from polluting companies. In 2018, the green tax replaced the sewage charge and became China's eighteenth tax category. Green taxes are collected by Ministry of finance instead of Ministry of Environmental Protection (the administration of previous sewage charge). Taxes are mandatory, which means company would get a penalty when evading taxation. As legal rigidity and collection management greatly strengthen, data fraud will gradually decrease, and the amount of pollutants declared by enterprises will be more reliable (see, Long Feng, 2017). The green tax would promote the sustainable development of production and consumption, cause the tax make the prices of energy products reflect their environmental costs and rationalize the prices of scarce resources (see, Nie Shuqiang and Zhang yanhui, 2011).

Based on the tax, companies, especially polluting companies would take a range of measures to reduce the cost, save energy and reduce emission; polluting companies would take a range of measures to promote sustainable development. The constitutive ability of accounting to produce effects, influencing people's minds and behavior, has been widely acknowledged in accounting literature (see, Charlotta Bay, 2018). Proper accounting entries could promote polluting companies to improve their technology and accelerate the transformation and development. In order to

Based on the purpose and effects of green taxes, this paper conceives an accounting entry for green tax. Under the entry, the polluting company manager could make effective plans with proper accounting information.

## THE EFFECTS OF GREEN TAX ON POLLUTING COMPANY

When we investigate green tax, we have to learn the effects of the tax. Generally, the green tax increases the burdens of polluting companies, but also rewards the cleaning companies. In the end, it has a positive impact in the whole industry.

### ***In the short term: The operating costs increase***

Chinese green tax reform is based on the previous sewage charges. According to the green tax standard released by 31 provinces in China, Nearly half of the provinces and cities have raised their tax standards. Compared with the previous sewage charges, 12 provinces in 31 provinces have raised the tax rate to varying degrees, and 19 provinces have shifted their tax rates. As the tax rate rises, most polluting companies would bear more tax until they reduce the emission.

Under sewage charge reform, polluting companies negotiated or did not pay their charge. Nowadays these problems could be resolved through the green tax reform, as those taxpayers must pay taxes according to law, otherwise they will be subject to legal sanctions. Therefore, polluting companies must abide by the law and pay the tax correctly. To a certain extent, that increases the actual operating costs of these enterprises.

### ***In the long term: face the threats of bankruptcy***

In some provinces, some polluting companies who could not improve their technology in a short-term must bear the high tax burden. In order to reach the previous profits, companies raise the price of their products and transfer the high tax to customers. Some companies would lower the quality of products to cut the costs. When the price rises, the customers could abandon these products and choose their alternatives because globalization acceleration brings many good value products. When the quality deteriorates, the products could no longer meet the national standard, and the government would close down the factories. Some may even take some illegal measures.

For example, Weiqiao Co. who ranked 36th in the top 500 Chinese companies, once violated regulations and established 5 illegal electrolytic aluminum projects with an infringement capacity of 2.68 million tons and a total project capacity of 2.85 million tons. In the end, Weiqiao was ordered to make corrections. It shut down 2.68 million tons of production capacity. And then Hongqiao, a subsidiary of Weiqiao, announced that it had made a provision for impairment losses of RMB 3.166 billion, which was a 233.4 times increase over the same period of last year.

### ***Tax cuts will reduce some of the company's budget***

The new green tax reform has positive effects on green companies. Compared with the sewage charges, the green tax regulates greater tax cut. Tax cut would help green companies enjoy more tax benefits, which means they bear lower green tax burdens. According to the green tax law, it regulates that "When the concentration of taxable atmospheric pollutants or water pollutants emitted by taxpayers is less than 30% of the national and local pollutant emission standards, the taxpayers could enjoy a 75% reduction of tax. If the taxpayer shall reduce the concentration of taxable atmospheric pollutants or water pollutants below 50% of the national standards, the tax could cut 50%."

However, the previous sewage charge stipulated one charge cut situation. When the pollutant discharge concentration of an enterprise is lower than the national or local pollutant emission limit of more than 50%, half could reduce the sewage charge. Additionally, the green tax law also stipulates tax exemption for agricultural, mobile sources of pollution, up-to-standard urban sewage, domestic garbage, and solid waste. From the comparison, the maximum green tax

cut off is 75%. Those green companies would enjoy greater tax benefits, which will encourage enterprises advance the technology actively and reduce pollutant emissions. Take Liaoning province as an example, according to a survey done by the government, about 60% of the 65 companies are expected to enjoy different levels of tax cuts.

### **THE ACCOUNTING ENTRIES PROPOSAL**

One of the functions of this accounting entry is to provide information for decision-makers. Providing valuable accounting information would help managers get the proper perspective of the situation and take the appropriated measures. We still confirm that the ultimate aim of green tax is to promote energy conservation and reduce the emission of polluting companies. The main taxpayers of green tax are polluting companies, who have the strong initiative to reduce the tax paid. Therefore, we should set a proper accounting rule to make the companies understand the sources of pollution thoroughly and help them change pollution to meet the final goal of green tax.

Based on decision-usefulness of accounting information, we propose the green tax accounting entries as follows. The accounting entry is in accordance with the principle of "the tax should be included in the products variable production cost". Under the principal, we propose that the taxes and fees should add to products' costs. Therefore, the management could identify the source of pollution and eliminate highly polluting products.

Manufacturing products is a complicated process due to this fact we put forward several types of entries according to the source of pollution identified, which is similar with the conception of "Variety method" in cost accounting. In our accounting entry, "Tax Payable-green tax" should be the secondary account under "Tax Payable". We establish three detailed subjects "Air Pollution" "Water Pollution" and "Solid Waste" according to taxable object under the "Tax Payable-green tax" account. For noise fee, we create "Noise Fee" specialized to record that. The accounting entry is as followed:

#### ***The source of pollution could be identified***

For the enterprise's clear pollution subject, which means the pollution caused by the products could be measurable correctly, the relevant tax should be directly included in the relevant costs of the pollution subject. At this case, the accountant just calculates the green tax based on the relevant tax rate algorithm and add it to the account "Cost of manufacture". Therefore, the general accounting entry should be:

<b>1. When tax liability occurs</b> Dr: Cost of production Cr: Tax Payable-Green tax	<b>2. When paying taxes</b> Dr: Tax Payable-Green tax Cr: Cash
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The matter could be recorded under tertiary subjects "Air Pollution" "Water Pollution" and "Solid Waste". These entries will allow for companies to track what pollution is causing the largest loss of revenue. The tracking of the waste output through tax dollars will create red flags pointing to where the improvements should be mad. Take an example: ABC company is producing A and B products, and the pollution emitted by the two products is identified. So green tax should add the cost of A and B respectively:

<b>1. A product</b> Dr: Cost of production- A product Cr: Tax Payable-Green tax(Air pollution) Tax Payable-Green tax(Water pollution) Tax Payable-Green tax(Solid waste)	<b>2. B product</b> Dr: Cost of production- B product Cr: Tax Payable-Green tax(Air pollution) Tax Payable-Green tax(Water pollution) Tax Payable-Green tax(Solid waste)
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**The source of pollution could not be identified**

For some companies, they may collect the sewage, for example: air pollution, water pollution and solid waste, produced by every product together and deal with all of them. At this case, it is hard to identify every source of pollution and calculate every item. Therefore, we put the pollution under the account "Manufacturing overhead" firstly. At the end of every month, the tax is expected to allocate in every product 'costs'. The accounting entry should be:

<b>1. When tax liability occurs</b> Dr: Cost of production Cr: Tax Payable-Green tax(Air pollution) Tax Payable-Green tax(Water pollution) Tax Payable-Green tax(Solid waste)	<b>2. When allocating the fee</b> Dr: Cost of manufacture- A product Cost of manufacture- B product Cr: Cost of production
<b>3. When paying taxes</b> Dr: Tax Payable-Green tax Cr: Cash	<b>4. At the end of the period</b> Dr: Profit for the current year Cr: Cost of production

The allocation could be determined by allocation criteria, including the amount, the cost, and revenue and so on. For example, ABC company are producing A and B products. The company collects the wastewater together and allocates them underweight criteria. In the month, the company produced 2 tons A and 3 tons B. A products bear 2/5 burdens of the green tax, and B is 3/5.

**Noise**

When creating the taxable entries for air pollution, water pollution and solid waste, the tax can be based on weight products produced. When noise is concerned, weight is not the measurable product but instead decibels are, so only once the decibels created pass a certain limit will they be taxed. When the information is collected by the factory to measure decibels only the most noisy machinery can be detected, what this means is that even though other equipment is creating sound levels above the limit only the noisiest will be taxed. It's difficult to allocate noise tax on every product like doing in solids, liquids and gasses. "Noise fee" is used for recording the noise and identify the fee as fixed charge. The accounting entry is:

<b>1. When tax liability occurs</b> Dr: Noise fee Cr: Tax Payable-Green tax(Noise)	<b>2. When paying taxes</b> Dr: Tax Payable-Green tax(Noise) Cr: Cash
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The green tax law also stipulates the situation when multiple noise levels' distances are not exceeded one boundary, the amount of tax payable is calculated based on the highest level of sound exceeding the standard; when there are more than two noise levels exceeding 100 meters along the boundary, all of the noise levels would be taxed. Recording in "Noise Fee" could solve the complicated situation.

**Special case**

When the pollution is not caused by manufacturing products. In some cases, the pollution is from daily life. It could be recorded based on the people. When manufacturing workers produced the pollution. Since the lives of manufacturing workers are closely related to production, this tax is transferred to the production cost of products through the accounting account "Employee pay payable":

<b>1. When tax liability occurs</b> Dr: Employee pay payable Cr: Tax Payable-Green tax	<b>2. When paying wages</b> Dr: Cost of production Cr: Employee pay payable
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When the pollution is from general staff, we collect the fee to "Administrative expenses":

<b>1. When tax liability occurs</b> Dr: Employee pay payable Cr: Tax Payable-Green tax	<b>2. When paying wages</b> Dr: Administrative expenses Cr: Employee pay payable
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**THE ASSESSMENT**

We use benefits and drawbacks model to assess the accounting entries for companies, government and environment.

**Company**

Overall, the new green tax accounting entries help companies know profitable green products and increase the awareness of social responsibility and environmental protection. Some green companies seize the opportunity to have price competitive advantage

**Benefits**

For companies, the direct advantage is that the accounting entries promote the company to improve its technology and reduce its emissions. The company managers would check the accounting information and invest in their technology. The investment advanced eco-friendly technology can greatly reduce energy consumption, improve the utilization of raw material resources, and thus achieve the purpose of reducing costs. Each company involved needs to strictly abide by the concept of 'green production' to improve the company's independent innovation and scientific and technological strength.

In addition, the accounting entries let the cost include the tax. Because the price is directly related to the interests of companies and plays a role in restraining or stimulating consumption, those highly polluting products with high price would die out. The accounting entries help the company adjust resource configuration and rationalize the entire products price. Under the accounting entry, green companies do not only enjoy the tax cut but also they demonstrate their price competitiveness and dominate the market easily.

**Drawbacks**

However, the accounting entries also pose threats to some companies, especially polluting companies. The

most prominent feature is the burdens of companies increase a lot because of the higher tax rate and strict levy. Faced with the financial pressure of increasing investment in science and technology, these polluting companies would lose its previous competitive advantage with the increasingly high price, resulting in a reduction of retained earnings gradually. What is worse is that some companies compare the technology investment and green tax, they find the costs of technology upgrade exceed than the tax. Under the result of comparisons, some companies refuse to change the pollution actively.

The accounting entries may also have a negative impact on domestic products. The invasion of green foreign products would show their high cost performance when domestic products increase their prices. Therefore, many customers may abandon the local products.

### **Government**

The new green tax accounting entries help the government eliminate backward production capacity to promote the ecological construction.

### **Benefits**

The new green tax accounting entries could let products demonstrate their fair prices as the costs reflect its pollution costs. Through the price mechanism, the market could eliminate inferior and polluting companies and reserve the superior and green companies automatically. It would help the government adjust the industrial structure and promote the development of green industry. That would also create a good environment for public and increase the support of people.

As companies take initiative to increase their investment in technology and equipment, the whole country's technological level would reach a greater height. It is more likely to show its core competitiveness on a global stage. Complete green taxation and accounting entry systems display the country's positive attitude to struggle with global environmental issues and set a good example for other countries.

In the long term, it may bring other positive effects, for instance, it will attracts people from all over the world to visit China, which may lead to prosperous tourism.

### **Drawbacks**

In the short term, because some companies' financial burdens increase a lot, they would complain the practice and lose confidence to the government, and then influence government support. The accounting entries may lead to greater differences in the companies with different levels of science and technology. These differences may affect different

regional differences and increase the gap between developed and undeveloped area. In order to deal with the disadvantages brought by regional differences, some government would carry out "local protection" incentive to protect lagging local production, which is not conducive to adopt the new technologies.

### **Environment**

The accounting entries takes the cost of pollution into the cost of products, making the company make plans to reduce pollution and protect the environment. The price with pollution costs affect company's profits. The managers could rationalize recourse according to product' profitability, which promote the utilization efficiency of resources. Companies should follow sustainable development under the accounting entries. In the end, the standard of living improves and the environment becomes better.

However, the profits of some highly polluting companies are affected by large pollution costs. The process of investing in technology will cost a lot of money. Compared with the investment and cost, some company's willingness to invest in reducing pollution reduction will be reduced when they believe technology investment costs more. In this way, pollution control of the environment may be delayed.

### **CONCLUSION**

This paper introduces the new green tax reform, and analyzes the impact on companies. From the accounting perspective, we create the accounting entries for the new green tax. We propose the cost of production needs to include the tax. With the accounting entries, the companies reflect on themselves and take positive actions to reduce the cost and seek more profits. Meanwhile, the entire industry would change its industry structure and eliminate the highly polluting companies. Therefore, they could meet the ultimate purpose of green tax: protect and improve the environment, reduce pollutant emissions, and promote the construction of ecological civilization. Furthermore, an increasingly number of generations will get benefits from the practice.

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