

Increasing Environmental Protection Investment is an Important Measure to Prompt Enterprises to Reduce Pollutants Emission

Chuanlian Song

College of Economics & Management

Changchun University of Science and Technology, Changchun 130022, China

E-mail: chuanliansong@163.com

Received: March 4, 2011

Accepted: March 14, 2011

doi:10.5539/ijef.v3n4p245

Abstract

The article discusses current “environmental impact assessment system” and “three simultaneous” system in China. In the opinion of author, current systems cannot prompt enterprises to reduce pollutants emission fundamentally, and thus put forward controlling corporate pollution reduction should not hinder economic development, and keeping economic sustainable increase is the premise of promoting pollution reduction in enterprises. Through empirical analysis of pollution investment data in 31 provinces, autonomous regions and municipalities of China, the author finds that 60%-100% of environmental investment in each district is from non-governmental investment, which is not conducive to prompt enterprises to reduce pollutants emission or economic sustainable development. To keep economic sustainable development, environmental investment must be increased. Because of the public characteristic of environmental cost, increasing environmental protection investment is an important measure to prompt enterprises to reduce pollutants emission.

Keywords: environmental impact assessment system, Three simultaneous, Environmental investment in China’s enterprise, Investment analysis, Sustainable development

1. Introduction

Reducing pollutants emission in enterprises cannot be an armchair strategist or an empty slogan, but should take practical measures. The control and treatment of pollutants emission in enterprises need the effects of enterprises and social supervision, as well as the role of the government. Through investigation it is found that enterprises control and deal with pollution passively, the reason for which is that it’s difficult to finance environmental investment. The nature of enterprises driven by profit decides they need material rewards and investment from the government when controlling pollution. But the public usually just care for the environmental problems which have large influence on them, together with their dispersion in reality, and the existence of the problems such as the motivation that they need social recognition, make the public cannot better supervise corporate environmental problems. To motivate the public to form the supervision forces for pollution and arouse their enthusiasm also needs corresponding incentive measures. Therefore, increasing environmental investment is an important way to promote pollutants emission reduction in all levels of government currently.

2. The evaluation for current “environmental impact assessment system” and “three simultaneous” system in China

In order to control the pollution of a project that may happen, current systems in China are mainly “environmental impact assessment system” and “three simultaneous” system.

“Environmental impact assessment system” refers to a legal system that a region carries out construction projects that may affect the environment, prior to its activities the government or related departments carry out the potential environmental impact survey, forecasting and evaluation, and countermeasures for prevention of environmental pollution and destruction are proposed and appropriate solutions are formulated.

Generally, through project environmental impact assessment system, it can provide basis for reasonable location of construction projects and prevent difficultly eliminate damage brought by unreasonable layout; through project environmental impact assessment system, it can investigate the situations of surrounding environment, predict the scope, degree and tendency that construction projects influence environment and propose targeted environmental protection measures; environmental impact assessment system also provide scientific basis for the environmental management of construction projects. Environmental impact assessment system is seen as a predictive environmental policy and causes more and more concerns internationally. But the viewpoint in the article is that,

excessively strict implementation of environmental impact assessment system inevitably avoids more environmental problems, but too strict limits will influence economic development.

"Three simultaneous" system refers to the measures of preventing and controlling pollution in construction projects, which must be designed, constructed and put into operation simultaneously with the principal part of the project. The measures of preventing and controlling pollution must be inspected and passed by environmental authorities that examine and approve original environmental impact report originally, and then the construction project is put into operation or use.

"Three simultaneous" system applies to new, reconstruction and expansion projects (including small-scale construction project) and technological transformation projects, as well as other construction projects and natural development projects which are possible to cause pollution and damage to environment in China, which are supplementary and complementary with environmental impact assessment system, are two talismans to prevent new pollution and damage and belong to preventive cost control system.

Any project through confirmation of environmental impact assessment system that can develop and construct, when constructing, must follow the stimulation of "three simultaneous" system, implement environmental protection measures, and prevent producing new environmental problems after construction projects are put into use. In the process of projects construction, environmental pollution and ecological destruction should also be prevented. The key to implement environmental protection measures in the main chains in construction projects such as design, construction, and completion and acceptance, is to ensure that the investment, equipments and materials of environmental protection and the principal part of the project are arranged simultaneously so as to the requirements of environmental protection are implemented in every stage of infrastructure procedures. "Three simultaneous" system defines the duties of construction units, administrative departments and environmental protection department respectively, conducive to specific management, and supervision and law enforcement.

In conclusion, the article has evaluation on environmental impact assessment as follows:

Firstly, "environmental impact assessment system" and "three simultaneous" system are conducive to the control of high-pollution projects, which plays a role in limiting the pollution may brought by new, reconstruction and expansion projects which have tremendous influence on environment.

Secondly, the control of pollution through the two systems is mainly for whether projects will be new, rebuilt or expand, but has weak effects on the pollution control after project is finished. In terms of time, the two systems cannot maintain the consistency of pollution controlling effects.

Thirdly, "environmental impact assessment system" and "three simultaneous" system raise the threshold of an industry. When preventing pollution, they also influence the initiative of investors to invest.

Fourthly, "three simultaneous" system accounts for a great deal of fund in enterprises, not conducive to subsequent technological reformation and development in enterprises.

3. Controlling pollution should take economic increase as premise

If a nation wants to become prosperous, and a country, a district wants to develop, it's necessary to develop productivity. Falling behind would be beaten is a truth that every Chinese should remember. Through analysis above, the authors think, in the process of the implementation of "environmental impact assessment system" and "three simultaneous" system, overemphasis on the investment of enterprises will influence investment initiative and corporate fund allocation and long-term development. From current development stage of China it can be seen, insufficient investment from place to place is still an outstanding contradiction of economic development. The viewpoint of the article is that controlling pollution should not hinder economic development.

How to deal with the contradiction between economic benefit and social benefit is the key to the problem. Because environmental benefit is a kind of public benefit, theoretically, the society should take more responsibilities for the protection and improvement of this kind of benefit. Because of the nature of enterprises driven by profit and the dispersion of the public, the initiative that enterprises and the public control pollution largely relies on the incentive, protection and maintenance of the government. Particularly in China or a developing country, it has not reached the degree that the public and enterprises firstly consider their own interests after social benefit. From the investment of purchase in market it can be seen, more customers buy cheap goods, while few people consider the pollution behind the goods and whether the production enterprises fulfill their social responsibilities.

To keep economic increase and control pollution, as well as sustain economic development, the government should solve corporate real difficulties. For example, increase the investment in environmental protection, do well in the construction of environmental infrastructure, build industrial parks, implement more incentives in the enterprises

which control pollution positively, solve the problem of environmental cost in the operation of corporate pollution equipment. In order to strengthen supervision, the government should also bring the power of the public supervision into play, which needs the investment of the government.

4. Analysis on the financial source of current pollution investment projects in China

Now that increasing investment in environmental protection is able to keep economic sustainable development, how much of the financial source of current pollution investment projects is from the government in China? Through analysis of China Statistical Yearbook in 2006, 2007 and 2008 in the article it can be found that the fund of current pollution investment projects depend more on self-funding, specific to see table 1, table 2, table 3, table 4, table 5.

Through empirical analysis above it can be found that, the number of the provinces whose proportion of non-governmental investment in environmental protection in 2005 and 2006 is over 90% is 19 and 22 respectively, and both numbers whose proportion is over 80% is are 28, specific to see table 5. Therefore, that it's difficult to finance environmental protection is the main reason for enterprises to control pollution passively currently.

5. Conclusions

Enterprises and individuals are both customers and users of environmental resource, and destroyers of them. Increasing investment in environmental protection will cut their profitable space while the public are not willing to pay for corporate environmental cost. This shows the government should play their role in managing and controlling public resources, among which the foremost way is to increase investment in environmental protection.

Through analysis above the article suggests that Chinese government should increase investment in environmental protection in order to maintain economic sustainable growth. Otherwise, what's called pollution control is just an empty slogan.

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Table 1. The financial source and their proportion of current pollution investment projects in 31 provinces, autonomous regions and municipalities of China in 2005

	The sum of financial source of pollution investment projects in 2005 (Million Yuan)	budgetary funds		Special fund for environmental protection		Non-government fund	
		Total fund(Million Yuan)	proportion	Total fund (Million Yuan)	proportion	Total fund (Million Yuan)	proportion
Beijing	10.89	0.3	2.75%	1.1	10.10%	9.48	87.05%
Tianjin	18.63	0.04	0.21%	0.32	1.72%	18.26	98.01%
Hebei	25.15	0.11	0.44%	3.08	12.25%	21.95	87.28%
Shanxi	19.79	0.49	2.48%	2.22	11.22%	17.08	86.31%
Inner Mongolia	2.57		0.00%	0.21	8.17%	2.36	91.83%
Liaoning	36.95	0.9	2.44%	0.9	2.44%	35.15	95.13%
Jilin	5.15	0.17	3.30%	0.32	6.21%	4.66	90.49%
Heilongjiang	4.56	1.06	23.25%	0.49	10.75%	3.01	66.01%
Shanghai	8.75	0.09	1.03%	0.15	1.71%	8.52	97.37%
Jiangsu	38.95		0.00%	1.5	3.85%	37.44	96.12%
Zhejiang	19.95	1.75	8.77%	0.45	2.26%	17.75	88.97%
Anhui	4.54	0.28	6.17%	0.56	12.33%	3.7	81.50%
Fujian	34.54	0.01	0.03%	0.29	0.84%	34.24	99.13%
Jiangxi	7.23	0.05	0.69%	0.05	0.69%	7.13	98.62%
Shandong	60.51	0.24	0.40%	0.94	1.55%	59.32	98.03%
Henan	20.68	0.5	2.42%	0.79	3.82%	19.39	93.76%
Hubei	14.81	0.76	5.13%	0.74	5.00%	13.31	89.87%
Hunan	14.12	0.26	1.84%	1.47	10.41%	12.4	87.82%
Guangdong	37.04	0.01	0.03%	0.79	2.13%	36.24	97.84%
Guangxi	10.37	0.03	0.29%	0.95	9.16%	9.39	90.55%
Hainan	0.38		0.00%	0.06	15.79%	0.32	84.21%
Chongqing	3.91	0.15	3.84%	0.79	20.20%	2.97	75.96%
Sichuan	20.04	0.1	0.50%	0.7	3.49%	19.25	96.06%
Guizhou	5.93	0.06	1.01%	0.2	3.37%	5.67	95.62%
Yunnan	6.75	0.02	0.30%	0.25	3.70%	6.48	96.00%
Xizang	0						
Shaanxi	12.69	0.08	0.63%	0.29	2.29%	12.32	97.08%
Gansu	6.66	0.28	4.20%	0.7	10.51%	5.69	85.44%
Qinghai	0.47		0.00%		0.00%	0.47	100.00%
Ningxia	1.77		0.00%	0.01	0.56%	1.76	99.44%
Xinjiang	4.4	0.03	0.68%	0.27	6.14%	4.09	92.95%

Table 2. The proportion of non-governmental investment in environmental protection in total pollution investment in 30 provinces, autonomous regions and municipalities of China except Xizang in 2005

Qinghai	Ningxia	Fujian	Jiangxi	Shandong	Tianjin	Guangdong	Shanghai	Shaanxi	Jiangsu
100.00%	99.44%	99.13%	98.62%	98.03%	98.01%	97.84%	97.37%	97.08%	96.12%

Continue

Sichuan	Yunnan	Guizhou	Liaoning	Henan	Xinjiang	Inner Mongolia	Guangxi	Jilin	Hubei
96.06%	96.00%	95.62%	95.13%	93.76%	92.95%	91.83%	90.55%	90.49%	89.87%

Continue

Zhejiang	Hunan	Hebei	Beijing	Shanxi	Gansu	Henan	Anhui	Chongqing	Heilongjiang
88.97%	87.82%	87.28%	87.05%	86.31%	85.44%	84.21%	81.50%	75.96%	66.01%

Table 3. The financial source and their proportion of current pollution investment projects in 31 provinces, autonomous regions and municipalities of China in 2006

	The sum of financial source of pollution investment projects in 2006 (Million Yuan)	Pollution fee subsidy		Other subsidies from government		Non-government fund	
		Total fund (Million Yuan)	proportion	Total fund (Million Yuan)	proportion	Total fund(Million Yuan)	proportion
Beijing	10.13	0.3	2.96%	2.04	20.14%	7.81	77.10%
Tianjin	14.95	0.16	1.07%	0.48	3.21%	14.31	95.72%
Hebei	19.09	1.04	5.45%	0.82	4.30%	17.21	90.15%
Shanxi	36.76	3.05	8.30%	0.95	2.58%	32.75	89.09%
Inner Mongolia	17.72	0.27	1.52%	0.03	0.17%	17.42	98.31%
Liaoning	52.05	0.65	1.25%	1.13	2.17%	50.28	96.60%
Jilin	3.98	0.017	0.43%	0.06	1.51%	3.9	97.99%
Heilongjiang	5.82	0.054	0.93%	0.1	1.72%	5.67	97.42%
Shanghai	5.93	0	0.00%	0.01	0.17%	5.91	99.66%
Jiangsu	28.01	0.98	3.50%	0.24	0.86%	26.79	95.64%
Zhejiang	25.04	0.53	2.12%	0.01	0.04%	24.43	97.56%
Anhui	5.46	0.28	5.13%	0.39	7.14%	4.79	87.73%
Fujian	19.6	0.2	1.02%	0.15	0.77%	19.26	98.27%
Jiangxi	6.86	0.28	4.08%	0.05	0.73%	6.53	95.19%
Shandong	59.66	0.77	1.29%	1.13	1.89%	57.76	96.82%
Henan	24.73	0.51	2.06%	1.23	4.97%	22.99	92.96%
Hubei	14.89	0.29	1.95%	0.9	6.04%	13.69	91.94%
Hunan	17.33	0.87	5.02%	1.17	6.75%	15.29	88.23%
Guangdong	31.37	0.21	0.67%	1.04	3.32%	30.11	95.98%
Guangxi	8.66	0.33	3.81%	0.05	0.58%	8.29	95.73%
Hainan	2.14	0.01	0.47%	0	0.00%	2.13	99.53%
Chongqing	3.67	0.15	4.09%	0.43	11.72%	3.1	84.47%
Sichuan	20.3	0.79	3.89%	0.55	2.71%	18.96	93.40%
Guizhou	10.08	1.73	17.16%	0.04	0.40%	8.31	82.44%
Yunnan	9.41	0.14	1.49%	0.19	2.02%	9.09	96.60%
Xizang	0.01		0.00%	0.01	100.00%	0	0.00%
Shaanxi	7.37	0.15	2.04%	0.07	0.95%	7.15	97.01%
Gansu	13.65	0.39	2.86%	1.89	13.85%	11.37	83.30%
Qinghai	0.78	0	0.00%	0.13	16.67%	0.65	83.33%
Ningxia	3.99	0.05	1.25%	0.01	0.25%	3.93	98.50%
Xinjiang	4.52	0.08	1.77%	0.13	2.88%	4.31	95.35%

Table 4. The proportion of non-governmental investment in environmental protection in total pollution investment in 30 provinces, autonomous regions and municipalities of China except Xizang in 2006

Shanghai	Hainan	Ningxia	Inner Mongolia	Fujian	Jilin	Zhejiang	Heilongjiang	Shaanxi	Shandong
99.66%	99.53%	98.50%	98.31%	98.27%	97.99%	97.56%	97.42%	97.01%	96.82%
continue									
Liaoning	Yunnan	Guangdong	Guangxi	Tianjin	Jiangsu	Xinjiang	Jiangxi	Sichuan	Henan
96.60%	96.60%	95.98%	95.73%	95.72%	95.64%	95.35%	95.19%	93.40%	92.96%
continue									
Hubei	Hebei	Shanxi	Hunan	Anhui	Chongqing	Qinghai	Guizhou	Beijing	Heilongjiang
91.94%	90.15%	89.09%	88.23%	87.73%	84.47%	83.33%	82.44%	77.10%	66.01%

Table 5. The statistical table of the proportion of non-governmental investment in environmental protection in total pollution investment in 2005 and 2006

	90%-100%		80%-90%		70%-80%		60%-70%	
2005	19	63.33%	9	30%	1	3.33%	1	3.33%
2006	22	73.33%	6	20%	1	3.33%	1	3.33%



Figure 1. Schematic diagram of the relationship between environmental impact assessment system and "Three simultaneous" system and the time for sewage charges of the project