

# **Developing Environmental Pollution Liability Insurance: the Countermeasures**

## **—A Case Study of Baoding, Hebei Province, China**

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**Abstract:** Environmental liability insurance is an economic policy carried out to solve environmental problems through modern insurance system. Since 1960's, the environmental liability insurance has been put into practice in many western developed countries, however no big progress has been made in China until recent years. In April, 2011, the environmental liability insurance program was launched in Baoding which has been selected to be the only pilot city in Hebei province. On November 15<sup>th</sup>, 2011, Baoding Branch of PICC Property and Casualty Company issued environmental pollution liability insurance policies to 15 enterprises in Baoding, which is a milestone for the environmental liability insurance development in Hebei province. By the end of 2011, 52 enterprises purchased environmental liability insurance. The experience accumulated in the course has great significance for extending this policy to other places in Hebei province. This study focuses on some hot issues rising when launching environmental pollution liability insurance in Baoding city, which include the role of the regulator, the attitude of the potential polluter, the preferred implementation mode and the risk evaluation standard. On base of the analysis and discussion, some suggestions are put forward on promoting environmental pollution liability insurance in Hebei province or even in China.

**Key words:** environmental pollution liability insurance; legal system; coverage; pricing

## **I . Introduction**

Accidental environmental contamination has become a serious problem recent years in China. In 2011, liable parties paid CNY1.683 billion as compensation for the damage to the environment caused by Penglai 19-3-oil-field oil spill incident. Before this notorious accident, in 2010, the oil spill incident in Dalian Xingang and the contamination to Ting River also caused huge damage to the

environment and the inhabitant.

Known as green insurance, environmental pollution liability insurance is a category of insurance that covers insured's environmental liability risks. Among many economic policies dealing with environmental pollution problems, environmental pollution liability insurance is deemed to be an effective method in relieving environmental problems through modern insurance system. It should be involved in pollution control owing to its ability to price environmental risk, encourage precautionary measures and generate funds for environmental cleanup (Richardson, 2002).

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Since 1960's, the environmental pollution liability insurance has been put into practice in many western developed countries. In China, environmental pollution liability insurance was first introduced in the city of Dalian in 1991 and then in some other cities such as Changchun and Shenyang. However it developed rather slowly. From 1991 to 1994, only 15 firms purchased environmental pollution liability insurance in Dalian and in 1992, only one firm purchased such product in Changchun.

With increasing awareness of environmental issues and stronger government enforcement, the situation has improved in recent years. In 2007, China Environmental Protection Administration and the Insurance Regulatory Commission jointly issued "Environmental Pollution Liability Insurance Guidance" and proposed to establish environmental pollution liability insurance system during the "Eleventh Five-Year" period and extend it nationwide by 2015, which showed obviously the government's determination to promote environmental pollution liability insurance in China.

In 2009, Hebei Province issued Reducing Contaminant Discharge Regulations, which explicitly provided that environmental pollution liability insurance should be propelled among enterprises facing serious environmental pollution risks. As the first and sole pilot city, Baoding launched the project of developing environmental pollution liability insurance. In April, 2011, Baoding Environmental Protection Agency issued a notice on piloting environmental pollution liability insurance in Baoding and called for bids. Six insurance companies were chosen to compose the co-insurance body and by the end of 2011, 53 enterprises processing poisonous chemicals, discharging hazardous waste or related to heavy metals purchased environmental pollution liability insurance. Some helpful experience can be drawn from

the practice of Baoding, however what can not be ignored is the problems exposed and remained during the process of developing environmental pollution liability insurance.

## II . Method

This study used in-depth interview as the major method. Four parties have been involved in the project of implementing environmental pollution liability insurance in Baoding: environmental protection department of the government (regulator), insurer (product supplier), enterprises (product demander) and insurance brokerage company (intermediary). The interviews, conducted in May 2012, involved 6 interviewees. These interviewees are from the four parties involved in the developing environmental pollution liability insurance project in Baoding. They are numbered from 1 to 6. No.1 represents the government, Baoding Environmental Protection Agency. No.2 is from Baoding branch of an insurance company which provides environmental pollution liability insurance product. No.3 is from the insurance brokerage company which is involved in this project. No.4, 5 and 6 from three enterprises exposed to environmental liability risks. All of these interviewees have taken part in the project directly.

Topics discussed during interviews include:

- 1) Attitude of the insured to the environmental pollution liability insurance
- 2) Implementation mode
- 3) Risk evaluation

These topics are actually related to each other.

Before interviewing people from enterprises, relevant information were collected, which include the size, sources of risk and risk management level of the enterprises.

### **III.Findings**

#### **A. Regulator's Necessary Role in Developing Environmental Pollution Liability Insurance**

When talking about the decisive factor affecting the decision of purchasing such insurance product, all of the interviewees mentioned the intervention of the regulator.

It was very difficult to talk the enterprises at risk to purchase insurance, however it would be definitely impossible without the regulator's intervention. (No.2 and No.3)

Officials from Baoding Environmental Protection Agency said purchasing insurance can make subsequent inspection easier... (No.6)

It is important for us to keep a good relationship with the regulator... (No.4 & No.5)

Regulator's important role in developing environmental pollution liability insurance is not only reflected by persuading potential polluters to purchase environmental pollution liability insurance, but also by improving it.

We have asked the insurance company to improve the premium calculation method and suggested them provide more risk management service. We think the insurance company should pay more attention to its social management function. (No.1)

#### **B. Little Interest in Purchasing Environmental Pollution Liability Insurance**

Interviewees from enterprises showed little interest in purchasing environmental pollution liability insurance, although they are aware of the environmental pollution liability risk to some extent, owing to the underestimate of the risk and unsatisfactory insurance product.

##### **1) Underestimate of the liability risk**

Although all of the interviewees are aware about the potential pollution risk to some

extent, when it comes to the reality, they just shrug it off.

I know there would be a big loss if pollution accidents happened, but do you think it will really happen? I didn't see any accident for decades... (No.5)

They think the accidents won't happen. Actually, one serious accident did happen to a chemical factory when we tried to persuade it to purchase environmental pollution liability insurance. The boss hesitated too long time... It paid more than 2 million to the victim. If it had been covered by insurance... (No.1 & No.3)

What should be noticed is that not only small and medium size enterprises underestimate their risks, but big size enterprise also has this problem. Moreover, no interviewee from these enterprises mentioned anything about the famous underdeterrence problem caused by insolvency. It seems that they don't worry the potential pollution liability at all, so there is obviously no need to think about the possibility to go into insolvency because of pollution liability. It indicates that in China, potential polluters do not care too much about the environmental pollution liability risk not because they think the liability is too much for them to take, but because they didn't think the risk is serious at all.

##### **2) Unsatisfactory product**

Almost all the interviewees (except No. 2) mentioned the unsatisfactory product.

The most serious environmental pollution risk for a city like ours is in the middle of delivery. However this risk has been exempted from the environmental pollution liability insurance. (No.1)

I think the most important risk our company concern about is the liability coming from daily contaminant discharge. We have paid a lot for this. But I was told such loss won't be covered by insurance. (No.4)

It is obvious that a lot of complaints are about the limited coverage of environmental

pollution liability insurance. In China nowadays, only a few insurance company provide relevant products in the area of environmental pollution liability which only cover accidental events caused in the boundaries of the insured's site. Risks during transportation are still uncovered.

Besides coverage, there are also complains about premium rate.

The premium rate is too high. Our company only makes a little profit. This is a big burden on us. (No.6)

I don't think we should pay so much for this. Why they charge us according to the size. Big size doesn't necessarily mean high risk... (No.4)

I don't know why we pay more than chemical factories... Obviously they face higher risks... (No. 4)

It seems strange that the risk adjustment coefficient for heavy metal industry is higher than that for chemical industry. (No.1 & No.3)

Basically speaking, premium rate should be set according to the loss probability. It is still very difficult for the insurer to get adequate information about it. Furthermore, even if the premium rate has been set at an appropriate level as a whole, the exposures differentiate from firm to firm. Compared to those facing serious problems, enterprises with low-level risks would not like to purchase such an insurance product if risk control level was not taken into consideration when setting the specific premium rate.

### C. Compulsory Insurance Preferred

Environmental pollution liability insurance nowadays is still voluntary insurance. However the interviewee from government expressed his strong desire for implementing it by force.

Our work would be much easier if it was a compulsory insurance. (No.1)

This opinion was agreed by interviewees from insurance company and the brokerage

company.

### D. Risk Evaluation Standard

Every interviewee expressed his concern about risk evaluation. Some opinions have been mentioned in 3.2. Insurance company explained as following:

We know more work should be done about risk evaluation. There is almost no ready standard can be used. It will cost us too much to set the risk evaluation standard by ourselves. Besides, we are in lack of technicians in this area... (No.2)

## IV.Discussion and Suggestion

The studies reported in this paper were limited in scope and used small purposive sampling. However, some conclusions can be drawn and on base of it some suggestions can be made.

### A. Setting Risk Evaluation Standard

Risk evaluation is the basis for premium rates differentiation, which is important for avoid adverse selection. Considering the current situation, it is unrealistic to rely solely on the insurance company. This is a new and highly technical field and the insurance company is lack of motivation since the prospect of its development is still uncertain. If the result was like that in the nineties of last century, from the insurance company's standpoint, it would not be deserved to do it. Moreover, there is possibility of "free riders". The appropriate approach to solve this problem is government's taking the leading role, convening relevant experts and insurance companies to set the standard. Experience from some other cities such as Dalian and Chongqing can be learnt from.

### B. Implementation mode selection

Although compulsory mode will make the implementation easier, we must be clear that

compulsory mode has both advantages and disadvantages. The advantages are increased expected utility, information problems and insolvency (Faure, 2002). However some conditions should be met before implementing compulsory environmental pollution liability insurance. Faure mentioned three: information problems, externalities and insolvency of the potential injurer which may lead to underdeterrence. Shavell (2000) argued that the proper justification for required liability insurance is whether it will improve incentives to reduce risk. Furthermore, if cost and probability of risk has been underestimated by potential injurers, compulsory insurance should be implemented (Faure, 2006). Zhang Lei (2007) deemed that the conditions for implementing insurance by force are huge loss and insufficient capacity for compensation. However, all the conditions for implementing compulsory insurance should be verified in practice.

### C. Improving Incentives for Pollution control

Although the main purpose of insurance is for loss compensation, its function of providing risk reduction incentives should not be ignored. The major approach an insurance company can resort to is the premium rate differentiation which depends heavily on the risk evaluation techniques. That is another reason that setting risk evaluation standard should be put at the first place.

### D. Enhancing Coordination and Cooperation

Coordination and cooperation is crucial for developing environmental pollution liability insurance in China. For example, environmental pollution liability risk rising from hazardous chemicals in delivery, which accounts for large proportion of environmental pollution losses, is not covered by current environmental pollution liability insurance

product, because traditionally it is under supervision of traffic management department other than environment protection department.

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