
Institutionalising cleaner production in China: the cleaner production promotion law

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Abstract: During the 1990s, cleaner production was introduced in China, in the beginning especially via development aid projects. From 1992 to 1997 the focus was strongly on the introduction of cleaner production methodology, the training of personnel and the implementation of demonstration projects at the enterprise level. After 1997, the emphasis shifted to cleaner production policy-making, culminating in the Cleaner Production Promotion Law in 2002. This paper analyses the making of this unique law and provides a first assessment of the strengths, weaknesses and particularities of the first law on cleaner production.

Keywords: cleaner production; environmental regulation; People's Republic of China.

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1 Introduction: cleaner production via law-making

China began to establish an environmental regulatory system for industrial environmental management and natural resource conservation from 1979 onwards. Following the promulgation of the State Environmental Protection Law (in draft version) in 1979 (revised in 1989), China started to systematically develop an environmental regulatory system. In 1984 environmental protection was defined as a national basic policy and key principles for environmental protection in China were proposed, which include 'prevention over control', 'the polluter-pays-principle' (already introduced in the 1979 environmental law), and 'strengthening environmental management'.¹ Subsequently, a national regulatory framework was formulated, composed of a series of environmental laws (on all the major environmental segments, starting with marine protection and water in 1982 and 1984), executive regulations, standards and measures.²

After the 1992 UN summit China devoted itself to a sustainable development strategy including a preventive approach. In China's Agenda 21 (published in 1994), cleaner production³ was put forward more strongly and subsequently introduced into China. During the 1990's, the cleaner production concept was put into practice in China, in the beginning especially, via development aid projects (Shi, 2003). The advancement of cleaner production practices in China can be distinguished into two phases. The first phase from 1992 to 1997, focused on the introduction of cleaner production methodology, the training of personnel and the implementation of demonstration projects at the enterprise level. While significant experience was gathered in that period, it became also clear that the Chinese cleaner production program faced several weaknesses and was declining in terms of scale and impact (Zhang, 2003). According to Shi (2003, pp.68–74) these weaknesses related to:

- lack of a clear definition of the western concept of cleaner production, together with cultural misunderstandings
- incompatibility with existing environmental policies (preferring end-of-pipe treatments) and strong divergence of institutional efforts
- lack of leadership within the industrial community and the industrial departments in advancing cleaner production, as only SEPA and EPBs triggered the idea
- lack of related integrative policies and concepts, such as life cycle analyses, design for the environment, industrial ecology
- especially towards SMEs there was too strong a focus on sticks and regulative policies and too little attention on supportive and encouraging measures
- limited experience in China with corporate environmental management, which is crucial for institutionalising cleaner production in firms.

During this first phase it became increasingly clear that only with appropriate policies and enabling measures in place, further implementation and institutionalisation of cleaner production is possible, beyond the demonstration projects installed with development aid money. So the second phase since 1997 focuses strongly on cleaner production policy studies and policy-making, on cleaner production at the level of the government, culminating in the 2002 Law on the promotion of cleaner production (Zhang and Chen, 2001; ADB, 2001).⁴ The National People's Congress of China began

the cleaner production law-making in 1998 and it took them nearly four years to adopt it rather smoothly in June 2002 as we will see below. From the first of January 2003, the Cleaner Production Promotion Law came into effect, launching a new and third phase in Chinese cleaner production activities.

By 2003 a total of 24 provinces, autonomous regions and municipalities have launched pilot projects on cleaner production. Through cleaner production auditing and technological innovation, enterprises have achieved both favourable economic and environmental records. On average, the polluting emissions to water and air were reduced by over 20% (<http://chinacp.com>). These records and successes should not surprise us, as cleaner production has been experimented and introduced in all developed and most of the industrialising countries, often via special supportive programs, technology development assistance and specific organisations. Most countries report equal environmental successes in cleaner production practices and projects. What is surprising, however, is that it is only in China that policy-makers choose – be it after strong debates – to advance and stimulate cleaner production in industry via a specific legal instrument. All other countries have either set up soft policy instruments for cleaner production promotion (subsidy schemes, technological support programs, or voluntary audit schemes), used indirect instruments such as company environmental reporting obligations, or used legal instruments in existing environmental laws to indirectly push for cleaner production. In this paper we will analyse the backgrounds behind the legalistic push towards cleaner production, the law-making process, the choices made and the specific content of the Cleaner Production Promotion Law. In doing so, we aim to shed light on the rationale behind a legal instrument for cleaner production promotion in China. Information for this study comes from archive research at the NPC's Environmental Protection and Resources Conservation Committee, interviews with officials and experts involved in the policy making trajectory on cleaner production and literature study.

2 The debate on a special cleaner production law

Some current environmental policies, principles and measures, such as permits, and discharge fees, have not been stipulated in the cleaner production law. Not unlike some of the cleaner production protagonists in western countries, some Chinese experts involved in the law making process suggested that these conventional measures on pollution control were barriers for cleaner production application. These cleaner production protagonists argued that in the 1990s conventional environmental protection measures in China lacked stimulating mechanisms for enterprises to conduct further pollution reduction; that most conventional measures limited the creativity, knowledge and technical capabilities of enterprises in pollution control; and that these conventional environmental ideas have become only a burden on enterprises, by hindering profit making. As such environmental protection and pollution control was too often stalemated using economic excuses. Cleaner production, with its promise of win-win, needed to stay away from these types of conventional measures.

But in analysing the existing environmental laws before the cleaner production law entered into force, one can identify cleaner production ideas and measures in several of these laws (see Appendix 1). Though these 'conventional' environmental laws were not designed for cleaner production, in their implementation they did promote cleaner

production in some regions or on some issues (such as energy saving, pollution reduction, toxic prevention). Consequently, it should not be too surprising that some experts and governmental organisations (such as the Supreme Court) questioned the necessity of a special cleaner production law to advance cleaner production implementation, as the legal possibilities were already there in other environmental laws. But a major revision of the existing environmental laws to include cleaner production was believed to be more costly, less effective, more time consuming and more difficult. Many of the experiences and problems of implementing the 'cleaner production' measures of conventional environmental laws have been an important reference and input for designing the new cleaner production law.

The other alternative put forward for a special cleaner production law was national policy. Such a national policy would have the advantage, according to some scholars, of having a larger flexibility, which was always considered essential for cleaner production. The counter-argument related to the weaknesses of national policies, especially relevant in a situation where most existing environmental laws pushed towards add-on technologies. In addition, strict governmental responsibilities were seen as an essential precondition for successful cleaner production policies, and a legal instrument could define these responsibilities (Du et al., 2001).

Compared with the cleaner production stipulations in these conventional environmental laws, we can notice some remarkable differences and innovations in the cleaner production law.

- The cleaner production law for the first time makes it clear what cleaner production is. This is very important, not in the least for enterprises that did not know what it was but constantly claimed to be doing it.
- Conventional environmental laws have only few encouraging articles and lack awarding stipulations. Enterprises conducting cleaner production were hardly affected by these laws. The new cleaner production law has specific articles on incentives, legal liabilities and awards.
- The conventional environmental laws lack detailed regulation on cleaner production implementation. The so-called 'administrative units', 'comprehensive units', 'local governments', and especially 'relevant units' stipulated in those laws are often not clear. What is more, their responsibilities on implementation and supervision of their work have no legal status and were frequently adjusted. The cleaner production law included these lessons and made clear responsibilities for every relevant governmental department and for governments at all levels. Moreover, their cleaner production responsibilities were legalised. It is the first time that an environmental law so clearly stipulates the different responsibilities of implementation organs.

3 The law-making process on cleaner production

In the People's Republic of China, the National People's Congress (NPC) is the highest legislative body. It enacts and amends basic laws concerning criminal offenses, civil affairs, state organs, and other matters. The Environmental Protection and Resources Conservation Committee (EPRCC) of the National People's Congress is one of its nine special committees, which form permanent organs representing the NPC. When the NPC

is in session, the main work of these committees consist of studying, examining and drawing up motions related to the law making activities of the NPC. When the NPC is not in session, these committees work under the direction of the NPC Standing Committee. The tasks of the EPRCC concentrate on drafting environment and natural resources legislation, amending environment and natural resources laws and supervising the implementation of these laws and amendments. The EPRCC has about 20 members who are all NPC delegates with a serving term of five years.

The standard law making process in China can be divided into two steps: the submitting of a legal proposal and the adoption of law. The right to submit a proposal for law is regulated by law and given to the State Council, to the Special committees of the NPC, to more than 15 members of the Standing Committee of NPC, or to more than 30 members of the NPC. When a proposal is adopted by the NPC, the following procedures will ensue. It starts with the installation of a drafting committee and a working committee. Subsequently the relevant department of the State Council will be entrusted with making the first draft of the law. After that, the drafting committee and the working committee carry out research and investigation, often resulting in a revision of the draft. Subsequently, the revised draft is submitted to the plenary conference of the special committee for further revision and approval. Then the approved draft is sent to the State Council and to local and regional People's Congresses for discussion, opinions and comments, often leading to further revisions. That version is finally submitted to the plenary session of the special committee, which decides on the final draft law that will be submitted to the Standing Committee. Normally the draft law adoption process goes through three readings by the Standing Committee.

The drafting committee for this law on cleaner production was organised in 1998. But in fact, law-making on cleaner production commenced earlier in Taiyuan Municipality, where in 1997 efforts were started to formulate local regulations for cleaner production, with the support of SETC, SEPA and UNEP.⁵ In October 1999 a local law was adopted by the 19th session of the 10th People's Congress of Taiyuan Municipality, and in November 1999 it was approved by the Shanxi Provincial People's Congress.⁶ The national law-making process profited much from the experiences and discussions in this local law-making process (and also from the 'Instructions to Speed up CP' from Jiangsu Province; Zhang and Chen, 2001). Discussions on the legal vs. the voluntary character, on the definition of cleaner production and on the tasks and responsibilities of different state agencies played already a major role in the Taiyuan cleaner production law. Jiangsu province, with its well-developed market economy, especially focused on the use of economic instruments and incentives to promote cleaner production.

On the national level, four phases can be distinguished in the law-making process on cleaner production. In the first phase (May 1998–August 1999) the drafting committee of the EPRCC⁷ entrusted the State Economic and Trade Commission (SETC), and surprisingly not the State Environmental Protection Agency (SEPA),⁸ with inception of research into cleaner production regulation and with the drafting of the cleaner production law. The initial investigations by SETC were focused on the definition and meaning of cleaner production, the relations of a new cleaner production law with other existing laws, the questions related to designing cleaner production encouragement and punishment measures in the law, and the question regarding the executive body of the law. SETC tried to follow new ideas on state-market relations in developing the law, known as 'government guide, market push, enterprise conduct, the public supervise'.

The inception of the research was followed by a second phase (August 1999–August 2000) of further research and data collection. The Environmental Protection and Resources Conservation Committee of the National People's Congress collected, translated, and published materials of foreign cleaner production policies and regulations. In addition, wide and intensive study and research was carried out in preparing the legislation, with emphasis on the current situation in China, the existing main problems in cleaner production stimulation and implementation, the main constraints in cleaner production research and promotion, the efficiency of cleaner production policies in China and abroad, and on feasible administrative systems applied in China and abroad. Four seminars were organised, attended by administrative departments of all sectors, research organisations, scientific and technological agencies, experts on environmental protection and resource conservation and legal experts. In addition various study tours were organised.⁹

Based on these investigations and meetings, the framework and outline of the Cleaner Production Promotion Law was developed. This rather thorough preparation solved or closed a number of key problems and debates in the drafting of the law:

- the main problems were defined on which the cleaner production legislation needed to focus
- the scope of the cleaner production law was defined
- the relation between the existing laws and the new cleaner production regulations was clarified
- applicable cleaner production encouragement policies were defined
- the responsibilities of different administrative departments in cleaner production promotion were finalised.

The third phase consisted of drafting processes and discussions and started with the formulation of a proposal version by SETC on the basis of the studies that had been done. This report was distributed widely for commenting and opinions at various governmental agencies (such as SEPA, State Development and Planning Commission, Ministry of Science and Technology, Finance Ministry) and in seminars for experts. This resulted in the first draft of cleaner production law in May 2001, three years after the start of the process. Further research and discussions especially on the legal aspects of the law contributed to the development of a second and a third draft in June 2001. The third draft was submitted to the plenary session of the EPRCC and amended into the fourth draft. This so-called open-soliciting draft was distributed widely for comments and ideas to 49 departments of the State Council, all provinces, autonomous regions, municipalities, universities, research institutes and well-known experts. The feedback received from these bodies¹⁰ and the parallel research on local cleaner production legislation formed the basis for improvements made by the committee. The fifth draft was submitted for approval to the plenary session of EPRCC. In December 2001, the members of the EPRCC completed discussions and amendments and the final draft came into being, to be submitted to the Standing Committee of NPC for adoption.

The last step consisted of the review by the NPC. According to the arrangement of the Standing Committee, the NPC asked for opinions on all aspects and also discussed the final draft with the Legal Committee and Legal Affairs Committee. On 29th June 2002, the Cleaner Production Promotion Law was adopted by the Standing Committee in the

28th session of the 9th National People's Congress of China. For the law, that conference was only its second reading, and this can be interpreted as being on a very fast last track as compared to other environmental laws.

Several reasons contributed to this rather smooth adoption of the law by the NPC.

- The nature of the law made it possible. The Cleaner Production Promotion law is based on incentives rather than on punishments and obligations as will be detailed below. Instead of direct government interventions in (industrial) production processes, the law stresses the importance of guidance, incentives and support to implement cleaner production in enterprises. The emphasis on 'win-win' approaches was in line with such a legal strategy.
- After ten years of raising awareness, experimenting and propaganda, the relevant State and private organisations started to realise and accept the importance of cleaner production. Some major policy studies on cleaner production (cf. above) gave significant inputs in the law-making process and structured the most important policy departments in a common line of thinking.
- China's accession to the WTO in 2001 made cleaner production more important for Chinese industry. To become competitive in the global market, international standards on products and production processes were increasingly perceived as highly relevant.
- Last but not least, cleaner production, especially in the framing of this Chinese law, was not really touching on any serious interests of sectors or governmental departments.

4 The contents of the cleaner production promotion law

The final law consists of 42 articles divided over 6 Sections. In this section we will review the contents of the law, including some of the discussions that took place in the process of formulating the law.

4.1 Definition and scope of the law

During the law-making process, a fierce debate took place on the definition and use of the concept of cleaner production. While initially the UNEP definition (as quoted in Note 3) was used, finally, a much more practical and—according to some—feasible definition was decided upon, to be found back in Article 2 of the Law:

“Cleaner production as used in this Law means the continuous application of measures for design improvement, utilisation of clean energy and raw materials, the implementation of advanced processes, technologies and equipment, improvement of management and comprehensive utilisation of resources to reduce pollution at source, enhance the rates of resource utilisation efficiency, reduce or avoid pollution generation and discharge in the course of production, provision of services and product use, so as to decrease harm to the health of human beings and the environment.”

One major change that came out of the round of open comments on the fourth draft was a change in the name of the law. While initially the law was indicated with the Cleaner

Production law, following comments of SETC the name was changed in the Cleaner Production Promotion law. With that, the emphasis of the law on support, encouragement and voluntary actions by enterprises, instead of regulatory actions by governments, became clear.¹¹ It was not by accident that SETC, and not SEPA, came with this turn to a promotional, supportive and encouraging law, rather than a regulatory law. Other, less powerful, actors (such as the Congress of Jinan city) have commented on too large an emphasis on voluntary and encouraging measures, questioning the effectiveness of such measures.

After ten years of experimenting and implementation in China, the concept of cleaner production has broken the boundaries of conventional industry and is being considered usable in agriculture and service sectors. The scope of application used in the law relates back to the definition of UNEP, including not only industry but also agriculture and service sectors. Article 3 of the Cleaner Production Promotion Law reads:

“Within the territory of the People’s Republic of China, any units or individuals engaged in activities related to production or provision of services and their corresponding management agencies must organise and implement systems for cleaner production in accordance with the provisions therefore contained in this law.”

For implementation, the current law only provides detailed regulations of cleaner production promotion and application for industrial sectors, while only some general guidelines for cleaner production application in agriculture (article 22) and service sectors (article 23) are given.¹² With this design, the law not only satisfies current urgent needs of cleaner promotion in the field of industrial production, but also provides legal room for future cleaner production promotion in other fields.

However, no article relates to issues of individual consumption of citizens in daily life, leaving the consumption of products outside the scope of the law.¹³ Article 6 does specify that

“the nation is committed to encouraging social groups and citizens to participate in the dissemination of public awareness with respect to cleaner production through education, popularisation, implementation and supervision.”

This article and the related article 15 on the education and dissemination of cleaner production were specifically introduced after suggestions during the round of opinion soliciting. Some departments claimed that cleaner production activities should include social organisations and the media, as they have a role in cleaner production propaganda and raising awareness at the grassroots level.

4.2 The stipulations for the government

Although the Cleaner Production Promotion Law departs from a strict regulatory style, State organisations have been given a central role in it. It is especially Section 2 that clearly stipulates the detailed requirements and tasks of the government and the relevant administrative departments. These tasks include formulating pro-cleaner production policies, formulating cleaner production promotion plans, developing a regional recycling economy, providing technical information and technical assistance to the enterprises, organising technical studies and technical demonstrations, and organising cleaner production education and propaganda.¹⁴ The aims of these stipulations are that State

organisations and administrative departments at all levels take measures to provide support and services for the enterprises who voluntarily initiate cleaner production. With that the State should create a good external environment for enterprises to start introducing cleaner production. As cleaner production is not simply pollution control, it cannot be achieved by relying on the management and supervision of only one department, as is usually the case in most of the environmental laws. Because of this and the fact that administrative fragmentation has always been an obstacle of legal implementation in China, the Cleaner Production Promotion law stresses the need for intimate cooperation among the relevant departments. Various departments need to be involved actively in the implementation, by their guidance, encouragement, support and regulation towards producers and managers, from different perspectives and in different phases of the production process. Besides, the law is also rather clear in defining the different tasks and responsibilities of the various administrative departments within the State, trying to prevent bureaucratic controversies.

But the law leaves no uncertainty regarding the leading department in Cleaner Production Promotion law implementation. Article 5 of the law stipulates:

“The State department for economic and trade, subject to the authority of the State Council shall bear the responsibility for undertaking the work of organising and co-ordinating the promotion of cleaner production throughout the nation. The relevant administrative departments responsible for environmental protection, planning, science and technology, agriculture, construction, water conservation and quality and technical supervision under the State Council shall assume the responsibility for promoting cleaner production in accordance with and pursuant to their respective functions and responsibilities.”

The State Economic and Trade Commission and economic and trade commissions at the county level and above should do so by:

- formulating plans for promoting cleaner production
- organising and supporting the development of information systems and technical advisory service systems for promoting cleaner production
- promulgating directories of cleaner production technologies, processes, equipment and products on a regular basis
- formulating and publishing directories of obsolete technologies, processes, equipment and products to be phased out within set timeframes
- designating a list of products subject to a mandatory material labelling scheme
- formulating a list and implementing regulations for a compulsory recycling of products and packaging materials
- formulating cleaner production auditing methods, in cooperation with SEPA, and reviewing the cleaner production audit reports of polluting enterprises
- establishing voluntary agreements with enterprises concerning additional resource conservation and pollution beyond compliance.

While the SETC was given some tasks in other environmental laws,¹⁵ also with respect to pollution prevention and recycling, the Cleaner Production Promotion law for the first

time, gave SETC such a leading role and responsibilities in the field of environmental policy.

The State Environmental Protection Administration, and the environmental protection bureaux at the county level and above, also play a major role within the Cleaner Production Promotion law, although they are not the main coordinating agency. Their roles are stipulated as:

- organising and supporting the development of information systems and technical advisory service systems for promoting cleaner production
- reinforcing the supervision on the implementation of cleaner production in enterprises, and making public (via the media) the list of enterprises which cannot satisfy the pollutant emission standards or mass-based pollutant discharge limits
- ensuring that environmental impact assessments incorporate alternatives of cleaner production, and audit reports are made of polluting enterprises
- establishing voluntary agreements with enterprises concerning additional resource conservation and pollution reduction beyond compliance.

Moreover, it is noteworthy to mention that the law legalises the delinking of SEPA and EPBs on the one hand from the affiliated business in charge of, among others, environmental impact assessments, environmental technology and ISO 14001 implementation, and environmental equipment manufacturing on the other hand. This not only reduces the direct intervention of EPBs in the enterprises' internal environmental protection decisions, but also levels the playing field for all enterprises involved in environmental industry.

Next to these two main institutions a number of other governmental organisations are mentioned in the law. For the State Development Planning Commission, the responsibilities are more restricted, including assistance in the formulation of cleaner production promotion plans and supporting the development of information dissemination and technical service capacities. The Ministry of Science and Technology, and the Science and Technology bureaux at the county level and above have responsibilities regarding organising and supporting the development of information systems and technical advisory service systems for promoting cleaner production, regarding directing of supportive research, development, demonstration and diffusion of cleaner production technology, as well as regarding research and development of environmentally sound products. The Ministry of Agriculture and agricultural bureaux at the county level and above, should take a leading role in organising and supporting the development of information systems and technical advisory service systems for promoting cleaner production in agriculture, and organising the formulation of cleaner production guidelines and technical manuals. State Administration of Quality, Technology Supervision and Quarantine, and quality and technology supervision bureaux at the county level or above are given the task to formulate technical codes for labelling the material contents of large-scale mechanical and electric equipment, mobile transportation vehicles, and any other products designated by the SETC. They also play a major role in inspection and enforcement of the compulsory material labelling scheme as stipulated in Article 21 of the law. They inspect and enforce the illegal activities associated with production and purchase of toxic and dangerous construction and decorative materials. Taxation authorities are important in deduction or exemption of the

value-added tax for products made out of waste or raw materials recovered from wastes (cf. article 35). The Ministry of Education and their equivalents at lower levels are requested to incorporate cleaner production technology and management into the curricula of higher education, vocational education and technical training systems.

Various government departments may approve, when needed, the establishment of various labelling schemes for energy-efficient, water saving and recycling products and work out respective qualification procedures and standards. Equally, the organisation of publicity and training activities on cleaner production is distributed among various governmental departments in order to raise the awareness of government workers, industrial managers and the public on cleaner production.

4.3 The stipulations for producers

Section 3 outlines the requirements and tasks given to producers. The requirements can be divided into three main categories: general regulations guiding the implementation of cleaner production, mandatory regulation and voluntary regulation.

The guidance regulations (cf. Box 1) entail no legal responsibilities or specific implementation rules, but put forward the kind of processes and measures through which cleaner production can be enhanced in companies.

Box 1 Examples of guideline regulations

Environmental impact assessments for new construction, renovation and expansion projects should review cleaner production options. (Article 18)

Enterprises should use toxics-free/harmless or less toxic/less harmful raw materials; adopt high efficiency, less polluting technologies and equipment; reuse or recycle wastes, wastewater, and waste heat; and adopt pollution prevention and control technology to meet environmental regulation. (Article 19)

Design of products and packaging should take the life-cycle impacts on human health and the environment into account and give preference to less toxic, degradable and recyclable options. Enterprises should adopt rational packaging practices to reduce packaging wastes. (Article 20)

Agricultural producers should scientifically use fertilisers, pesticides, films and feedstock additives to efficiently produce high-quality agro-products and to recycle agro-wastes. (Article 22)

Service facilities should apply energy/water efficient equipment and consumables. (Article 23)

The construction sector should apply green design, materials and equipment. (Article 24)

Exploration and extraction of mineral resources should adopt environmentally sound technologies and processes. (Article 25)

Enterprises should reuse/recycle residues and waste heat by themselves or transfer it to other enterprises and individuals that can recycle them. (Article 26)

Voluntary regulations (see Box 2) aim to encourage enterprises to initiate cleaner production voluntarily, improve the images of the enterprises and their products, through which they can get awards and enjoy favourable policies.

Box 2 Examples of voluntary regulations

Establishment of voluntary agreements to further conserve resources and reduce pollution beyond discharge threshold standards with economic and trade commissions or environmental protection bureaux. These governmental agencies shall publish the company accomplishments under the voluntary agreements. (Article 29)

Participation in accredited environmental management system certifications. (Article 30)

Mandatory regulations are essential duties for the producers, which include compulsory reuse of some products and compulsory labelling of some products or packages. Some heavily polluting enterprises are required to go through environmental auditing and regularly report on pollution emissions (see Box 3). Guidance regulations list the largest percentage of the papers, while mandatory requirements take only limited space. Subsequently the draft highlights the characteristics of a 'promotion law', and reduces the idea of 'administrative enforcement'. Obviously promotion is considered to be more effective in leading producers to apply cleaner production and 'regulate' their activities in more environmentally sound paths.

Box 3 Examples of mandatory regulation

Large electric and mechanical equipment, mobile transport equipment and other products designated by SETC are subject to a mandatory material labelling scheme. (Article 21)

Toxic and dangerous wastes are banned for use as fertiliser and land reclamation (Article 22)

Toxic and hazardous construction and decoration materials are banned. (Article 24)

Designated products and packaging are subject to a mandatory recycling scheme. SETC will formulate the compulsory recycling directory, as well as the methods for recycling (Article 27)

Enterprises using toxic or hazardous materials are subject to mandatory cleaner production auditing. (Article 28)

Certain polluting enterprises shall disclose information on pollution release. (Article 29)

4.4 Inducement and legal liabilities

The Cleaner Production Promotion law has two separate chapters on measures, distinguishing encouragement (Section 4) from legal liabilities (Section 5).

Encouragement measures

Section 4 stipulates measures to encourage enterprises to include cleaner production in their daily routines, such as awards, subsidies, favourable loans, and tax reductions, and government procurement. The origin and considerations for these measures are related to the problems that businesses have met in cleaner production implementation in China, such as financial constraints, difficulties of starting cleaner production projects and lack of motivation. Five articles in Section 4 specify the following measures, encouraging cleaner production implementation:

- The State will establish awards for cleaner production.¹⁶ The People's governments at various levels reward the institutions and individuals that accomplish substantial progress in cleaner production (Article 32).
- Cleaner production research, demonstration projects and training programs, key projects of cleaner production technology upgrading and projects falling into voluntary agreements on pollution reduction are eligible for financial support through technology advancement funds that are allocated by the respective governments (Article 33).¹⁷
- An appropriate portion of the small and medium-sized enterprise development fund (established under the Law on Small and Medium-sized Enterprises) should be allocated to support implementation of cleaner production by small and medium-sized enterprises (Article 34); SMEs who install cleaner production or conduct a cleaner production audit may apply for low-interest or non-interest loans from this foundation.¹⁸
- Enterprises that make products or recover raw materials out of wastes are eligible for reduction or exemption of value-added tax in accordance with relevant government regulation (Article 35).
- The cost for enterprise cleaner production training and auditing can be accounted for as production costs (Article 36).

Legal liabilities

Section 5 stipulates the legal liabilities for non-compliance. Due to the promotional character of this law, it should not be too surprising that there are few articles on legal liabilities. But the fact that there are indeed enforcement articles, distinguishes this Cleaner Production Promotion law from any promotional policy that is standard in western countries. There are five articles of non-compliance liabilities in the Cleaner Production Promotion law:

- Quality and Technology Supervision Bureaux at the county level or above may impose a fine of up to RMB 50,000 (±€ 6,250) on any enterprise that refuses to fully fulfil the obligation associated with mandatory material labelling (following Article 21) within a pre-set deadline (Article 37).
- Any entity that produces and sells construction and decoration materials containing toxic or hazardous substances exceeding the relevant national standards will be charged with administrative, civil or criminal penalties in accordance with the Law on Production Quality and other applicable civil and criminal laws (Article 38).
- Economic and Trade Commissions at the county level or above may impose a fine of up to RMB 100,000 (±€ 12,500) on any entity that refuses to fully fulfil the compulsory product and packaging material recycling obligations within a pre-set deadline (Article 39).
- Environmental Protection Bureaux at the county level or above may impose a fine of up to RMB 100,000 (±€ 12,500) on any enterprise that refuses to fully fulfil mandatory cleaner production auditing obligations within a pre-set deadline (Article 40).

- Environmental protection Bureaux at the county level or above may impose a fine of up to RMB 100,000 (\pm € 12,500) on any entity that fails to fulfil pollution release information disclosure obligations in accordance with relevant requirements (Article 41).

The penalty fees are comparable to those used in other environmental laws in China. Usually the liability fees are within the range of 30,000–100,000 RMB for violating enterprises. A fine above RMB 50,000 can be considered large and influential for most medium and small sized enterprise, and many penalties are well under RMB 50,000 if the violations are not very serious. For large scale enterprises (and especially those with foreign capital) fines up to RMB 100,000 do not have any serious impact on enterprise behaviour. A few interviews with leading managers of large enterprises in the chemical and petrochemical sector indeed confirm this (Liu, 2003). During the legislative process, arguments were raised to increase the levies and penalty fees to make the economic incentives stronger, but without much effect (Du et al., 2001).

5 Concluding remarks

With its high level of industrial and economic development, China is confronted with serious environmental problems and cleaner production was introduced into China as part of an answer to that. After more than ten years of propaganda, experimenting and project implementation, cleaner production gradually became accepted in government, party and industrial circles. This acceptance contributed to and enabled a rather smooth law-making process to institutionalise cleaner production in the policy and legal system. But the smooth law-making process was equally facilitated by some specific substantial characteristics of the law: a promotional law broadly formulated in a flexible manner with little new and challenging legal and administrative obligations for environmental polluters. This substantive nature of the cleaner production promotion law reduced interests of the sectoral ministries to block the law. While the Cleaner Production Promotion law is unique in that there is no other country that has a cleaner production law, the nature of the law very much resembles the stimulating cleaner production policies which we find in most of the industrialising and industrialised countries around the world. In that sense, China is no exception to the common belief that cleaner production can only be achieved within industries, and governments just have to set an enabling environment to promote, stimulate and facilitate the switch from curative and end-of-pipe practices to more preventive cleaner production. From an international perspective, the form rather than the substance of Chinese cleaner production policy draws attention.

While perhaps not that innovative within the international field of cleaner production policy-making, for Chinese environmental policy the cleaner production law differs on a number of points from other environmental laws. The possibilities of tax differentiations, the promotional rather than the regulatory nature, the prominent position of SETC in the legal process and the law *vis-à-vis* SEPA, and the detailed elaborations on departmental tasks and responsibilities are quite uncommon in Chinese environmental law. It partly reflects the nature of the problem at stake (the introduction of cleaner production in industrial and other enterprises), but is also partly related to changes in the ideas on the Chinese legal and administrative system. Increasing insight into the limitations of a

hierarchical state that governs the farthest corners of society and economy via top-down command-and-control regulation has formed this law. New ideas on governance that now so strongly dominate state debates and new policies in western industrialised countries have not remained unnoticed by Chinese policy-makers and legal experts. Equally, experiences of administrative fragmentation and departmental power struggles contributed to significant attention to division and coordination of tasks among departments.

Finally, this law also shows the growing attention of China to the outside world. International experts and Official Development Assistance funds were not only at the foundation of experiments and projects with cleaner production in the 1990s; also the making of the law at the turn of the millennium has been heavily influenced by experiences in other countries. It is becoming standard in Chinese law and policy-making to begin any new initiative with a thorough study and assessment of foreign experiences and regulations. Finally, as Shi (2003) argued, the process of becoming a member of the World Trade Organisation has strongly pushed cleaner production as it will challenge China's rather obsolete and dirty industrial system to ecologically modernise in a short term. Making a cleaner production promotion law is just one of the instruments that the government uses to accelerate the environmental restructuring of industries so that they will be able to compete in a world market that increasingly includes environmental requirements.

The fact that the Cleaner Production Promotion law is part of a much more comprehensive process of greening China's industrial and economic structure makes it difficult to make an ex ante evaluation of its effectiveness and impact. The voluntary nature of many papers, the fact that many responsibilities are with SETC, the limited financial arrangements, and the not too stringent obligations might make one rather skeptic regarding the direct contribution of this law to the greening of China's economy. Many other Chinese environmental laws are more demanding, and the questioning of the necessity of this new law may seem rational. But the mere existence of this law sends out a strong signal to the business community, to the international community and to the different state and party organs. Moreover, several initiatives by SETC and local governments are in the making to further detail the law and give it more regulatory possibilities. The environmental modernisation of China's economy will continue and this Cleaner Production Promotion Law is not more than one of the instruments for that.

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Notes

¹Notwithstanding the early introduction of the prevention principle in Chinese environmental law, the practice of environmental management has been strongly focused on pollution control via end-of-pipe measures and a command-and-control approach, rather than prevention, throughout the years. Only marginally environmental practices have touched upon more preventive ideas, i.e., industrial wastewater and solid waste recycling and reuse.

²At the national level China now has some 20 environmental laws adopted by the National People's Congress, some 140 executive regulations issued by the State Council, and a series of sectoral regulations and environmental standards by the State Environmental Protection Agency (SEPA).

³According to UNEP cleaner production is 'the continuous application of an integrated preventive environmental strategy applied to processes, products and services, to increase overall efficiency and reduce risks to humans and the environment'.

⁴Four major policy-studies on CP have been carried out to feed the CP law-making process: a case study project by the China Council on International Cooperation on Environment and Development on Taiyuan City (see below); a set of policy studies funded by the Canadian International Development Agency, a study by the Sian Development Bank in the context of their Technical Assistance Cluster Project for the Promotion of Clean Technologies, and a CP project in the EU-China Liaoning Integrated Environmental Programme (Zhang and Chen, 2001; ADB 2001). The integral official English version of this law can be found at <http://www.chinacp.com>.

⁵Taiyuan was the first so-called demonstration city for cleaner production, later to be followed by nine others (Beijing, Shanghai, Tianjing, Chongqing, Jinan, Shenyang, Kunming, Lanzhou and Fuyang), as well as five industrial sectors. The Cleaner Production Demonstration Plan outlines the objectives and activities for these cities and sectors.

⁶During this law-making process 15 seminars were held, over 600 experts were consulted and 17 drafts were formulated and discussed. The law finally has five chapters and 39 articles (Liu, 2003).

⁷Mr. Li Meng is the vice chairman of the 9th EPRCC was appointed as the chair of the drafting committee, completed with four additional members also coming from the EPRCC.

⁸No doubt the better access of SETC to the industrial community played a role in giving this State commission—rather than SEPA—a leading role, not only in the drafting process but also in the implementation of the law. Most directories, lists, implementation regulations and methods in the final law have been formulated by SETC. Quite a few people in the consultation process argued for SEPA being the leading organisation in implementing the Cleaner Production promotion Law.

⁹In this phase the drafting committee of EPRCC conducted study tours to Taiyuan Municipality, to France and to Canada. In addition surveys were made on Beijing Yanshan Petrochemical Corporation, on cleaner production applications in Beijing Municipality, and on experiences in Anhui, Jiangsu, Shandong and Yunnan provinces.

¹⁰By 15th August 2001 the EPRCC had received 67 reactions to their fourth draft. Some reactions were only or mainly positive, such as those of the Ministry of Foreign Affairs, the Congress of Tibet Autonomous region, the Congresses of Hainan and of Jianxi Province. Many others had detailed suggestions or comments, of which several made it into the law. Even at this stage of the law-making process some comments were rather frank in questioning the law as a whole. The Ministry of Agriculture doubted the necessity of this law, while the Congress of Zhejiang province thought the conditions were not ripe for such a law. The Supreme Court indicated that the provisions could be included in existing environmental laws.

- ¹¹At least in Japan, similar promotion laws in the field of environment are known, e.g., the Effective Resource Utilisation promotion Law. In Denmark a new section (No. 10) was included in 1991 in the Environmental Protection Act, regulating the use of binding voluntary agreements.
- ¹²Especially the Ministry of Agriculture was not too happy with this new law. Compared to industrial production, the papers on agriculture (and also those on the service sector) are rather general, and need to be detailed further to have any impact on current production practices. But the law does provide the legal basis to do so.
- ¹³The Congress of Shanghai Municipality commented that papers relating to green consumerism and recycling economy should be added, but this suggestion did not make it into the final version of the law.
- ¹⁴As Shi (2003, pp.74–75) notes, the Law regularly uses ‘should’ in stead of stronger terms like ‘must’ or ‘have to’. This is typically a consequence of the fact that this law tries to combine moral ethics with legal obligations. Such a law has to be followed by implementation regulations to specify the various obligations.
- ¹⁵For instance, in the Resources and Energy Saving Law, the Environmental Protection Law, the Air Pollution Prevention Law and the Solid Waste Pollution Prevention Law.
- ¹⁶The idea of a special Cleaner Production Prize, as suggested by some of the Standing Committee members, did not make it in the final draft.
- ¹⁷Initially, the idea was to have special funds established by all governments above county level to stimulate cleaner production. Several departments suggested that financial support could be paid out of the existing special funds, and they managed in that way to limit additional claims on their budget.
- ¹⁸The law especially made financial stipulations for SMEs, who meet special difficulties in getting commercial loans, stongly influencing their cleaner production implementation. This paper was seriously discussed in the law-making process, especially regarding where the money should come from and who could decide on it. It was the Law Affair’s Committee who succeeded in getting the paper passed in this form.

Appendix 1: Cleaner production in other (environmental) laws in China

- 1 Some stipulations encourage scientific and technological innovation in the general articles of various environmental and natural resources laws.
- 2 The Resources and Energy Saving Law stipulates the broad responsibilities of the government and the energy saving requirements for enterprises. Specifically, the relevant regulations are:
 - Government organises and implements big energy saving scientific research projects and pilot projects to encourage the adoption of advanced energy saving designs, technologies, equipment and raw materials.
 - Those new construction investment projects, which have not reached the rational energy consumption standards or do not comply with the energy saving principles, will not be ratified.
 - Energy using units should launch education, propaganda and training on energy saving; apply the energy saving standards; and eliminate the old high energy intensive products, technologies and materials.

- The legal liabilities are: governments above county level can give commands to stop high energy intensive industrial projects; they can install a timeframe for improvement or even stop the enterprises that consume energy exceeding the standards; and they can charge fees on enterprises which produce obsolete products or equipment forbidden by State.
- 3 In Environmental Protection Law of PR China, the cleaner production relevant stipulations are:
- Pollution generation units should include environmental protection in their work agenda, adopt effective measures preventing the generation of waste gas, waste water, waste slug, suspended particles, odour, radioactive materials, noise etc. that will cause environmental pollution and damages.
 - Newly constructed enterprises or industries should adopt the equipment and designs of high energy utilisation rate and low pollutants generation, and adopt economic and rational waste comprehensive utilisation technologies.
 - The pollution prevention and control equipment of construction projects must be designed, built and put in use simultaneously with the main project (three simultaneous).
- 4 Scientific and Technological Innovation Application Law has stipulations on promotion of application of scientific and technological innovation on resources and energy saving, and on environmental protection.
- 5 Air Pollution Prevention and Control Law has the following cleaner production stipulations:
- Governments at all levels should award the units that fulfill remarkable achievement in air pollution prevention and control, and protection and improvement of air environment.
 - The State encourages and supports the scientific research on air pollution prevention and control, and spreads the advanced and suitable air pollution prevention and control technologies.
 - Enterprises should preferably adopt cleaner production designs of high energy utilisation rate, low pollution discharge to reduce generation of air pollutants. For some obsolete designs and equipment, the State will make time frames of eliminating them. The State Council will publish the directories of the forbidden designs and equipments that will cause serious air pollution.
 - The State Council and governments of all levels should adopt measures to improve the urban resources structure and spread widely the production and application of clean resources.
 - The State adopts the economic and technological policies and measures that are in favour of clean utilisation of coal; encourages and supports the development and spreading of clean coal technologies.
 - The flaming gas generated from industrial production should be recovered and utilised.

- 6 Solid Waste Pollution Prevention and Control Law regulates the solid waste prevention, the use of toxic and harmful materials and the pollutant discharge limitations. The articles contain the following stipulations:
 - The State encourages and supports resource comprehensive utilisation, and recovery and rational utilisation of solid wastes.
 - Packaging of products should be easy to recover and treat.
 - The State should organise and spread the advanced production designs and equipment preventing industrial solid waste pollution.
 - The State publishes the directories of obsolete designs and equipment that generates seriously polluting industrial solid wastes.
- 7 Water Pollution Prevention and Control Law has three stipulations on cleaner production:
 - The State Council and governments of all levels should rectify the enterprises causing heavy water pollution and force them to technological innovation: adopt comprehensive prevention and control measures and reduce the discharge amount of waste water and wastes.
 - Enterprises should adopt clean production designs with high resources utilisation efficiency, low pollutant discharge, and strengthened management.
 - The State forbids establishing SMEs of paper, textile, paints, leather, petrochemical and pesticide industries without water pollution prevention and control measures.
- 8 Marine Environmental Protection Law also has two stipulations on cleaner production:
 - The State should strengthen the scientific and technological research on preventing and controlling marine environmental protection; it should eliminate obsolete designs and equipment
 - It is forbidden to establish industrial projects of paper, chemical, textile, leather, breweries, and other projects that may cause heavy pollution to the marine environment.