

# Analysis of the Emerging China Green Era and Its Influence on Small and Medium-Sized Enterprises Development: Review and Perspectives

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## Abstract

Small and Medium-sized Enterprises (SMEs) play a vital role in China's economy as generators of employment, revenue and innovation. With the unprecedented economic development of China, the increase of small and medium-sized enterprises (SMEs) number has resulted in a massive resources and energy consumption that produces significant generation of waste by-products. The purpose of this study is to demonstrate that China is facing an emerging green era. The raise of Chinese environmentalism is strongly correlated with the economic development of middle class, which involves not only environmental activists, but also social stakeholders and the media. Responding to the country's pollution and the increasing public pressure, the government has started to enforce its environmental laws with the 12th Five-Year Program. New environmental regulations and standards are issued every day, and the number of environmental inspection is increasing to insure firms' compliance. The study also reveals that government legislation and financial support are mandatory to support improvement of SMEs environmental performances. Similarly, stakeholders have started to play an increasing role in firms' adoption of greener strategies and practices into their management systems. Customers demand for green products, non-governmental organizations campaigns and pollution scandal revealed by the media are starting to pressure SMEs to be greener. However, Chinese SMEs are still facing numerous challenges that limit their efforts in implementing environmental management system: difficulties to comply with the changing government legislation, inequity in allocation of government subsidies, lack of managers engagement to reduce firms environmental impact, lack of technological absorptive capacity, lack of financial resources, lack of knowledge regarding environmental management and channel to connect with universities or others institutions.

**Keywords:** emerging green era, government, stakeholders, Chinese SMEs, environmental performances

## 1. Introduction

China, second largest economy, has impressed the world with its extraordinary economic growth rate averaging 10 percent over the past 30 years. The country also leads the world in energy consumption, carbon emissions and release of major air and water pollutants in the environment due to the widespread industrialization and urbanization combined with an increasing use of resources. The rapid economic development of China has resulted in numerous economic challenges that the government needs to reduce environmental damage and social conflicts. China's over population, huge industries investments, and private firms' investments have made the environment extremely hazardous to the health and well-being of the country (Lin, 2007).

Small and medium-sized enterprises (SMEs) play a vital role in China's economy as generators of employment, revenue and innovation. Companies are regarded as SMEs if they are owned by private entrepreneurs, employ 300 to 2,000 people, have annual sales of 30 to 300 million RMB and own assets worth 40 to 400 million RMB (Zhong & Zhang, 2010). In 2009, China's registered SMEs exceeded 43 million in number and accounted for 58.5 percent of the country's gross domestic product, half of its tax revenues and 68 percent of its exports, created about 80 percent of the country's jobs according to the China Association of SME (Xinhua, 2012a). SMEs are a vibrant force for the sustained development of the Chinese economy. However, most of Chinese

SMEs are often unaware of their environmental impact or the environmental legislation affecting them (UNIDO, 2011a). China's current environment degradation is rapidly increasing and similarly followed by growing awareness and interests of the public. The past years has witnessed an increasing number of major pollution incidents resulting from the displeasure of the public against industrial environmental abuses, and from the spread of environmental movement through micro-blogging sites where the Chinese middle-class is more engaged on environmental issues than ever (Moore, 2009).

Responding to the urge of the environmental hazards, the Chinese government has taken another step towards the reform of its financial industry with the approval of its "12th Five-Year Plan (FYP) for the Development and Reform of the Financial Industry". The 12th FYP's main guidelines stimulate the government's effort on "inclusive growth", which means make sure that the benefits of the economic development are spread to a greater proportion of Chinese citizens. The plan's main themes are rebalancing the economy, ameliorating social inequality and protecting the environment (Hu & Liang, 2011). With the government objective to become an "innovation-oriented society", massive investment has been done in terms of research and development to develop Chinese technological capacities and knowledge transfer. This initiative comes with the government program aiming to move from "Made in China to Create in China", and pursuing a less energy intensive development path with energy consumption growth lower than economic growth to the greatest extent possible (Sharma, 2010). This would make China's fast growth more sustainable with lessened adverse domestic and global environmental impacts.

However, such plan can only be achieved if Chinese SMEs are massively participating to the government program. As with their larger counterparts, Chinese SMEs exert considerable pressure on the environment, not individually, but collectively. SMEs are voracious consumers of resources and energy and the result is a significant generation of waste by-products. There are a number of problems that deprive SMEs from achieving their full potential: they use obsolete technology; lack of finance; lack of access to export markets; lack of market information; are resistant to change; and, the decision-making is done by the owners of these companies. These problems contribute to the environmental degradation of China. The aim of this article is to provide a deeper understanding of the development of environmental awareness among the Chinese middle-class and the impact of the green trend among the different stakeholders on Chinese SMEs environmental performances. First, through the analysis of 100 research articles and media news regarding recent environmental movements, anti-pollution protests and pollution scandals, we provide an overview of the reasons and aspects of the emerging green era in China. Secondly, we highlight the impact of government policies and others stakeholders on Chinese SMEs economic and environmental performances. Finally, we provide insights into the problems that Chinese SMEs face in improving their environmental management.

## **2. Methodology**

The present study is a review of the emergence of environmental ideology among the rising Chinese middle class and the government. Based on an extensive literature review of about 100 journals and media reports, the data collected are essentially secondary data and constitute a baseline for our further analysis of the influence of the emerging green era on Chinese SMEs.

To demonstrate the emergence of a green era in China, the present paper follows a three-step methodological approach:

First, it relates the environmental degradation caused by the fast-growing economy and the subsequent reactions from both government and environment-friendly category of consumers.

Second, these reactions have pushed the Chinese government to implement strategies and reforms in order to induce SMEs to adopt environment-friendly practices. The strategies are essentially a set of laws and incentives.

Finally, the new measures have considerable influences on the Chinese SMEs. Managers and employees face challenges working in the new environment where the pressure of customers and media is becoming considerable.

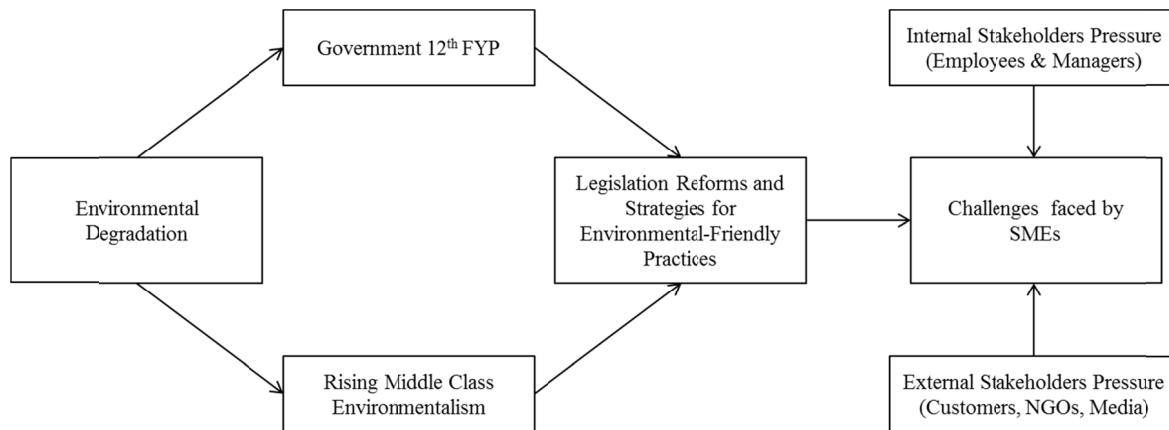


Figure 1. Research design

### 3. Emerging Green Era in China

#### 3.1 Environmental Degradation

“Natural resources are shrinking, degenerating and drying up. Ecological and environmental decay has become a bottleneck and a serious obstacle to our economic and social development. If our homeland is destroyed and we lose our health, then what good does development do?” said the Environment Minister Zhou Sheng Xian on March 2011. These words are reflecting the gravity of the pollution threat resulting from China impressive quick development, and the awareness of the Chinese government to take actions to solve this problem (Hook, 2011).

Over the past twenty years, the Chinese government has created, and continues to expand, comprehensive environmental protection laws. However, even if the environmental laws and protocols are abundant, they suffer from a lack of proper adherence and enforcement. These are mainly due to: unachieved legislative objectives; superficial laws enforcement; excessive time duration between noncompliance and enforcement; inadequate available punishment for noncompliance; low compensation for injured parties; and some environmental crimes receive administrative retributions instead of criminal punishments (Wang, 2006). With superficial enforcement, minimal compensation to pollution victims, and misplaced administrative oversight, there is little reason for polluters to comply with the existing laws.

The collective impact of the millions of SMEs in China on the environment is huge. Chinese SMEs directly affect people’s surrounding environment and social structures, and take an important part in rural and urban pollution. Even if the government has already settled numerous laws to reduce enterprises pollution effects on the environment, still countless of them are not following or are unaware of those regulations, and still pollute without any qualm or consideration regarding the local surrounding population.

An example of SMEs environmental miss-behavior in China can be reflected by the important media coverage of pollution exposure in the textile industry during 2012. In April 2012, the internet newspaper Huff Post Business published an article regarding the Chinese polluted river due to chemicals used in dyeing and printing released into water supplies from 49 textile suppliers of Zara, H&M, Ann Taylor, Guess, Target, Disney and Uniqlo, among other big brands. Greenpeace (2012a) released a report in November 2012 which exposes hazardous chemicals in clothes sold by Zara, and other leading fashion brands. The worldwide environmental organization revealed that among 141 samples of garments sold in 29 countries and regions by 20 global fast fashion brands, two thirds contained NPEs, four samples had high levels of toxic phthalates, and traces of cancer-causing amines from the use of azo dyes were detected in two products from Zara.

Juliana Chan (2012) argued that “China’s economic growth will continue to be energy-intensive and highly polluting for the foreseeable future”. The continuous environmental disregards and violation from Chinese SMEs only amplifies the degradation of the Chinese brittle ecosystem. Decades of rapid industrialization have changed the landscape; entire mountains have been mined, and the mightiest rivers in the country have been dammed. The air has been filled with soot and other industrial pollutants, and the waters have been nearly fished out. Pollutants and shortages affect the food supply for the population. Air quality affects the quality of life. The resulting hazards are currently transforming the country into a deeper “risk society”.

### 3.2 Raising Middle-Class Environmental Awareness

With the economic boom of the country, millions of Chinese have risen from poverty, creating a new emerging Chinese middle-class (Carlson, 2012). In China, a household which earns between \$10,000 and \$60,000 a year is generally considered to be part of the middle-class. That amounts to 350 million households (14 percent of the population), a figure that continues to surge and may grow to 700 to 800 million, which is 50 percent to 60 percent of China's entire population (Luhby, 2012). As Chinese people become increasingly richer and able to afford a better lifestyle, more people start to be more assertive about the state of their environment, the quality of their healthcare and schools, the transparency of their government.

Chinese middle-class has started a grassroots environmental movement that has now gained the attention of government officials. They understand well that the quality of the environment directly impacts the quality of their life as well as the quality of life of every Chinese. The environmental protesters are calling for more sustainable development, cleaner air and water, and a variety of reforms that are designed to improve quality of life (Moore, 2009).

During these recent years, the Chinese middle-class stepped up their environmental protection efforts displayed by anti-pollution protests and complaints against environment-concerned projects (Liu, 2013). In May 2006, China Daily reported that roughly 50,000 environmental disputes took place during the previous year. The State Environment Protection Administration (SEPA) claimed to have an annual increase of 30 percent of environmental complaints, with more than 90 percent requiring SEPA's help to get rid of those problems (Li, 2006). In December 2012, the same newspaper released that, according to official data, more than 300,000 environmental complaints were lodged across the country during the 11th Five-Year Plan (2006-2010) through "letters and visits" channels opened by various Party and government departments. However, numerous public litigations against environmental damage and appeals for environmental protection remained held up due to lack of judicial support. Only about 1,000 environment-involved cases (1 percent of overall environmental disputes) went through administrative reviews and court proceedings. And the local environmental courts have put much fewer public litigation cases on trial (Dong, 2012). The Chinese courts fail to solve environmental disputes due to several reasons. First, disputing parties often choose informal negotiations to solve their differences. The third parties often facilitate conflict resolution by means of mediation and conciliation. Second, even when environmental disputes refer to the courts, judges evaluation of the cases are not only based on the environmental law, but also by relying on the official policy, the views of local governments, and their own sense of justice and fairness in contractual dealings. Third, pollution victims often have difficulty to provide evidences of the damage claimed, for instance, if samples of polluted air or water were not collected at the time when the polluting discharge occurred. Forth, local governments sometimes protect polluting enterprises due to their economic benefits. Fifth, China does not have enough judges trained in environmental law (OCED, 2006).

When local environmental courts and laws fail to solve direct environmental pollution on local population, many Chinese citizens resort to anti-pollution protest, calls "mass incidents" by governments, to claim their rights and confront the local government and enterprises for their environmental abuses (Watts, 2009). In December 2012, the Legal Daily has issued a summary of their "2012 Mass Incident Research Report", quantifying and analyzing "mass incidents" in China. According to the report, during the year 2012, 51.1 percent of the protesters were residents of cities and towns, and accounted 11.1 percent of students (Goldkorn, 2013). The results show the involvement of Chinese middle-class since main participants of environmental movements are typically led by intellectuals and accomplished professionals, and often heavily composed of well-educated young people (Göbel & Ong, 2012).

Better access to mobile phones and the Internet has enabled protesters to share information and coordinate movements more effectively. According to the report of the Legal Daily, social network such as Weibo (13.3 percent), forums (4.4 percent), instant messaging (4.4 percent) are tools used by protesters to change the nature of "mass incidents". The development of the Internet based technologies are more and more methods of organizing people which have never been met before into an interest group that encourages a "mass incident" to break out (Goldkorn, 2013). The report show how intellectuals are using new technologies to spur on the kind of civic movements that are usually disapproved by officials, despite government attempts to control the Internet (Gilbert, 2012). However, words of mouths and cellphone text messages (95.6 percent) remain the main methods of communication to spread information and organize anti-pollution protests.

According to Yang Chaofei, vice-chairman of the Chinese Society for Environmental Sciences the number of environmental "mass incidents" has grown an average 29 per cent annually, from 1996 to 2011 (Kennedy, 2012). Responding to the threat of "mass incidents" in order to preserve "social stability", the Chinese government had

taken measures to increase environmental fees, to increase reliance on renewable energy, and to tolerate environmental protests and non-governmental organizations (NGOs) (Mol & Carter, 2006). Protests about environmental issues were more tolerated in China than those concerning many other causes because the central government is interested in conservation of the environment and the protesters tend to blame the local [rather than national] officials (Bardsley, 2011). Middle-class activism represents a protest movement rather than a political force in the broader sense. It attempts to reform the government, not replace it. The public holds the key to effective implementation of environmental regulations. Effective legislation will help ensure that the Chinese population will protect their environment and natural resources, and continue to help China grow and prosper. However, the government stopped releasing most protest statistics several years ago after the annual number of “mass incidents” surpassed 100,000. The latest figure most often cited is from Tsinghua University sociology professor Sun Liping, who estimated that there were 180,000 protests and riots in 2010 (Kennedy, 2012).

### *3.3 Government 12th Five Year Program*

With the approval of the 12th FYP, the Chinese government has taken a new path into environmental reform. It is a true green development plan, which represents a true symbol of China’s entry into a green development era. It is an important event that marks the adoption of a global green revolution and implementation of a concrete plan of action by the government to respond to the climate change and heavy pollution of the country (Hu & Liang, 2011). The plan will explicitly say that, faced with ever-stronger environmental and resource constraints, China must increase its sense of urgency and establish concepts of green and low-carbon development. With a focus on energy-saving and emission-reduction, it must introduce incentives and disincentives to help promote resources conservation and green production and consumption. Compare to the 11th FYP, the 12th FYP demonstrates a much more robust ambition to make the difficult transition towards a more sustainable model while meeting public expectations of improved living standards and employment (Hilton, 2011).

The green development strategy has 6 supporting pillars, each with its own section in the plan: actively responding to climate change; strengthening conservation and management of resources; developing the “circular economy”; enhancing environmental protection; promoting ecological protection and restoration; and strengthening systems for water management and disaster prevention and alleviation (Boyd & Copsey, 2011).

Green development targets are also more apparent in the new FYP. Population goals aside, the number of resource and environmental targets accounts for 33.3 percent of the total, up from 27.2 percent in the 11th FYP. For the first time, this FYP aims to reform resource pricing and establish a system of payment for environmental services. It requires stronger assessment of responsibility for energy-saving and emission-reduction targets, appropriate control of total energy consumption and the application of green development in all economic activity. It also puts forward an “ecological security” strategy. In areas where development is limited or banned, ecological protection will be rigorously enforced and green buffer zones will be used to shield vulnerable land. There will also be funding for specific ecological restoration projects, so that our children and grandchildren will be able to enjoy a beautiful China (Hu & Liang, 2011).

## **4. Influence of Chinese Emerging Green Era on SMEs Businesses**

As the Environment Minister Zhou Shengxian stated, the impressive economic boom of China has resulted to massive environmental hazard in the country. The low cost necessity has driven many private enterprises to use hazardous chemicals or material in their production process (Greenpeace, 2012b), or dispose illegally chemicals or others pollutant into the environment (Greenpeace, 2012c). However, the emergence of green era in China has leads to transformation in the way private companies are doing their business activities. In this article, we are going to review three major factors that drive Chinese SMEs to improve their environmental performances: legislation, financial incentive and stakeholder pressures.

### *4.1 Legislation*

The government plays a major role in influencing SMEs to improve their environmental performances (Smallbone & Welter, 2001; Weng & Lin, 2011; McElwee, 2011). Governments can oblige firms to use pollution control technology and reduce their environmental impact (Darnall et al., 2009; Zhi & Tang, 2012). In order to regulate the environmental practice of SMEs, the Chinese government has created a framework of legislation and standards. Since 1989, 24 laws addressing pollution control and natural resource conservation have been promulgated by the National People Congress (NPC). Between 2000 and 2004, the environmental legislation has expanded with the promulgation of new environmental laws, such as the Law on Environmental Impact Assessment, the Law on Cleaner Production Promotion, the Environmental Protection Law, and the Air, Water and Waste Management Laws. Broadly speaking, these laws impose obligations to make products in a

cleaner, more efficient way, by using less hazardous raw materials, energy and water, and producing fewer toxic wastes (McElwee, 2011).

Since 2008, the Chinese government has clearly emphasized on the necessity to improve mechanisms for resource and environment price formation in order to meet the 11th FYP objectives. With the 12th FYP (2011-2015), the Chinese government has called for transformation and innovation. These measures show that the government has adjusted the developmental strategy for SMEs from “quantity” to “quality” (Boyd & Copsey, 2011). The Chinese government has reinforced the importance of building rules around the price of its resources and also recognized that reform should be deepened. After the government policy announcement, the prices of raw materials and fuel has increased, which combined with the increases in the exchange rate had deeply affected Chinese SMEs business activities, mainly those export-oriented firms. Since most of SMEs in China depend on the low price of their resources to attract foreign business contracts, the government policies is resulting to negative impact on firms’ activities. Many Chinese SMEs are struggling with market competition. In order to survive, many Chinese SMEs have to lower prices, which not only reduce profits but also cause a vicious cycle of competition and a disorderly market environment (Ye et al., 2012).

Furthermore, the 12th FYP paves the way to a low-carbon economy whose objectives are to improve energy efficiency, reduce overall energy consumption and emissions as well as promote green and environmentally sound technologies (Hua, 2012). In order to reach the goal of reducing 16 percent cut in energy intensity (energy consumed per unit of GDP), and 17 percent cut in carbon intensity (carbon emitted per unit of GDP), the government has called for energy savings, and has issued many energy-related regulations. Many SMEs are in industries which require high energy consumption and produce heavy pollution. They have often neglected the issues of environment protection and energy saving because of limited funds and small size. Thus, these SMEs have been under serious pressure since the policies of energy-saving started (Fan, 2011). In their research on the challenges face by SMEs in China, Ye et al. (2012) survey showed that among the sample, 10.4 percent of participants considered the government as a challenge for their business growth. As the government called for electricity cut in order to achieve the objectives of the FYP, many businesses had to buy electric generators, or to shut down because of the insufficient electricity.

However, the enforcement of environmental policies doesn’t provide only negative impact for SMEs. The implementation of supportive policies has boosted the development of a large number of green SMEs. During the period from 2008 to 2010, the average growth rates of total assets, revenue, and pre-tax profit of the enterprises reviewed were 204 percent, 315 percent, and 94 percent, respectively (Ge et al., 2012). Although, green SMEs remain at an early-stage of growth phase, their high growth rates are significant since it indicates that the green sector is expanding, and provide huge opportunities for companies, organizations, and people interested in the Chinese green sectors.

The Chinese government has also increased the number of environmental inspection agencies and environmental inspectors, and redefined responsibility of environmental protection from local Environmental Protection Bureaus (EPBs) to local government leaders (Liu et al., 2012). In 2011, the national environmental monitoring system performed surveillance and monitoring of environmental quality, pollution sources and environmental emergency response, gathering more than 200 million monitoring data and providing up to-date information on national environmental quality. By the end of 2011, there had been 2,587 environmental monitoring institutions nationwide including one environmental monitoring station at national level, 36 provincial monitoring stations, 339 stations at prefecture level and 2,211 at county level. A total of 54,698 people worked for environmental monitoring (Ministry of Environmental Protection, 2011). The reinforcement of environmental inspection agencies is a government actions to ensure a better surveillance of the compliance of environmental regulations by Chinese and foreign SMEs.

However, even if actions have been undertaken by local government to reduce energy consumption and emissions to reach the objectives of the 12th FYP, in the reality, many senior local government officials are lowering standards for environmental protection and protect high revenue-earning business, even if they are heavy polluters (Guo & Zheng, 2012). Since local government officials results are assessed on the basis of employment rates, financial and taxation indicators, they are more prone to promote economic development to further their careers (OCED, 2006). Local government usually has a close relationship with polluting enterprises in a form of “alignment of interests”, in order to create GDP and increase rental income (Guo & Zheng, 2012). Real applications of environmental policies remain limited in China. Even in case of pollution problems from “key protected firms”, the local environmental protection administration departments are powerless due to their dependence to the jurisdiction of the local governments and are obliged to abide by their decisions for all matters related to environmental protection (Bao, 2012).

#### 4.2 Financial Incentives

Over the past decades, a growing literature stream focuses on understanding the factors that push adoption of green innovations for SMEs. Regarding the fact that most SMEs suffer from the lack of financial and technical resources, many authors agreed that governmental support is essential for SMEs in developing environmental practices (Lee, 2008; Weng & Lin, 2011; Moorthy et al., 2012). Government financial subsidies and legislation pressures are the main driver to encourage and guide Chinese SMEs to improve their environmental performances.

According to a report released by China International Cooperation Association of SMEs, most of Chinese SMEs face difficulties with the slowing domestic and overseas market demands, and the rising costs of raw materials and labor which affect their profit margins (Xinhua, 2012b). Furthermore, over the past year, it has been difficult for Chinese SMEs to obtain bank loans due to the government's tightened monetary policies (Siow, 2012). Lack of financial resources combined with market uncertainty and absence of evidence of environmental practices benefits are factors that influence Chinese SMEs to be less willing to invest in new environmental technologies.

Acknowledging the crucial role played by SMEs, both central and local governments recently agreed to provide special funds for the development of new strategic industries and industry investment, expand the size of governmental startup investment in rising industries, give play to the financing function of capital markets at different levels, guide social capital to be invested in innovative startups, and implemented corresponding tax relief policies to promote their development. The government has also launched a venture capital fund of US\$2.3 billion to support SME start-ups (Siow, 2012), and a new round of subsidies for energy efficient home appliances, allocating US\$4.2 billion to promote sales of "green" products (Wang, 2012).

Even so, the size of these subsidies is quite huge since no other country has injected such a large amount of money to boost the sale of energy-saving products; many challenges remain for an efficient utilization of this financial support to promote environmental incentives for Chinese SMEs.

Table 1. Challenges of the support of government subsidies on Chinese firms

	Subsidies Eligibility Thresholds	Subsidies Challenges for Firms
<b>Big Enterprises</b>	<ul style="list-style-type: none"> <li>• Sufficient resources and infrastructures</li> <li>• Easy access to government subsidies (Note 1)</li> </ul>	<ul style="list-style-type: none"> <li>• Not Incentive enough as subsidies average less than 10 percent of the appliance cost (Note 2)</li> <li>• High cost of energy-saving products</li> </ul>
<b>SOE</b>	<ul style="list-style-type: none"> <li>• Existence of "alignment of interest" between local government and SOEs (Note 3)</li> <li>• Easy access to government subsidies</li> </ul>	<ul style="list-style-type: none"> <li>• Subsidies support for product cost reduction</li> <li>• More favorable competitive position compare to other firms (Note 4)</li> </ul>
<b>SMEs</b>	<ul style="list-style-type: none"> <li>• Insufficient resources and infrastructures</li> <li>• Difficulties to access to government subsidies (Note 5)</li> </ul>	<ul style="list-style-type: none"> <li>• Competitive disadvantage compare to other bigger firms (Note 6)</li> </ul>

#### 4.3 Stakeholders Pressure

Many researches have proven that stakeholders pressure have a direct influence on SMEs environmental management (Lock & Baudains, 2009; Darnall et al., 2009; Weng & Lin, 2011; Moorthy et al., 2012; Paes, 2012; Qi et al., 2012). Stakeholders can be separated into two categories, internal and external. Internal stakeholders include the owner-manager, and staff the business. External stakeholders include government, agencies, environmental management organizations, financial institutions, customers, suppliers, social community and the media.

##### 4.3.1 Internal Stakeholders

Internal stakeholders' commitment plays an important role in the adoption of environmental actions that will improve the environmental performance of companies operations, products and services (Darnall et al., 2009; Moorthy et al., 2012), and promote green innovations. More firms understand that protecting the environment improves companies' operational conditions and benefits their long term development. The following Table 2 summarizes the impact and challenges of internal stakeholders on Chinese SMEs environmental performances.

Table 2. Impact and challenges of internal stakeholders on Chinese SMEs environmental performances

	<b>Employees</b>	<b>Managers</b>
<b>Impact on Firm Environmental Performances</b>	<ul style="list-style-type: none"> <li>• Strong correlation between engagement and socially and environmentally responsible organizations (Note 7)</li> <li>• High motivation and willing to work harder when existence of green corporate culture (Note 8)</li> <li>• High employees' innovative capacity influence firms propensity to adopt new technologies, and successfully implement an advanced environmental strategy (Note 9)</li> </ul>	<ul style="list-style-type: none"> <li>• Recognition of the importance of social and environmental corporate social responsibility and adoption of sustainable development strategy for firm long-term improvement and development (Note 10)</li> <li>• Legislation requirement to undertake social responsibility throughout their business according to the article 5 of the Chinese company law (Note 11)</li> <li>• Implementation of philanthropy programs or individual "good deeds" to promote firm environmental image (Note 12)</li> </ul>
<b>Challenges Face by Chinese SMEs</b>	<ul style="list-style-type: none"> <li>• Lowest level of Chinese employees engagement worldwide due to lack of career opportunities, desire for change, and fleeing undesirable work (Note 13)</li> <li>• High turnover of Chinese SMEs resulting to risk of employees' departure for better benefits, and career advancement as soon as the opportunity appear (Note 14)</li> <li>• Lack of employees' technical skills due to low capacities of SMEs to attract, hire, and retain talented workers (Note 15)</li> </ul>	<ul style="list-style-type: none"> <li>• Less than half of Chinese SMEs have an assigned department and personnel responsible for the coordination or management of sustainable development strategy (Note 16)</li> <li>• Too much focus on reputational management instead of operational social and environmental management (Note 17)</li> <li>• Lack of Chinese CSR responses on social and environmental challenges and opportunities</li> </ul>
<b>Recommend-ations</b>	<ul style="list-style-type: none"> <li>• Vital role of top-level managers support and leadership to improve employer-employees relation, and to ensure an organization-wide understanding and commitment to environmental issues (Note 18)</li> <li>• Necessity of extensive specialized training for employees with competent learning capabilities to increase their absorptive capacity in order to improve their innovative and learning capabilities (Note 19)</li> </ul>	<ul style="list-style-type: none"> <li>• Vital role of managers' commitment to become environmental leaders within the organization and adopt new environmental programs and improve firm environmental performance over time (Note 20)</li> <li>• Necessity of executive and managers' strong managerial capabilities to maximize the benefit of corporate sustainability by allowing the company to reduce cost, recognize opportunities, access new markets, increase sales and revenues, and promote research and development (Note 21)</li> </ul>

#### 4.3.2 External Stakeholders

**Customers:** customers' environmental pressure represents the second most important external influence for companies to improve their environmental performances (WWF, 2010). With the increasing displeasure with environmental impacts of industrial operations, customers have started to pressure firms to improve their



environmental performance (Darnall et al., 2009; Weng & Lin, 2011; Moorthy et al., 2012; Paes, 2012; Qi et al., 2012). Over the past decade, environmental demands of domestic stakeholders have become more sophisticated and organized due to the unacceptably high rate of product scandals (Watts, 2007; Lee, 2011), environmental spills and accidents (China Daily, 2011; Watts, 2011), food contamination incidents (BBC, 2010), and industrial fatalities (Kaye, 2010). With the booming of middle-class and development of internet, Chinese people have started to raise their voice and claim their rights against enterprises and local government abuses. Led by intellectuals and accomplished professionals, environmentalists have started to mobilize public opinion to oppose firms pollution. Public protests, strikes, and calls for engagement are actions use by the public to generate pressure on local government and enterprises for more sustainable developments, cleaner air and water management, and a variety of reforms that are designed to improve quality of life (Moore, 2009). The threat of the pollution on the public life and health has pushed thousands of people to protest on the street (Liu, 2013). The public outcry has been able to stop local authorities from continuing or allowing environmentally damaging projects.

Chinese consumer appetite for green products has also increased significantly during the past years. As middle-class consumers are disposing of higher income, many are starting to recognize the environmental and health hazards related with conventional industrial food and waste management techniques. Consequently, consumers demand for safer products have increase which obliges SMEs to implement greener production processes and environmental management. In 2009, a Cohn and Wolfe, Landor Associates, and Penn, Schoen & Berland Associates survey on green brands showed that 73 percent of Chinese people planned to spend more on green products or services, and 92 percent said that it is somewhat or very important for a company to be green. The same survey in 2010 showed that 82 percent of consumers planned to spend more on green products in the coming year, and 97 percent said that it is somewhat or very important for a company to be green. Those results showed how Chinese consumers are increasingly consuming green products (9 percent rise) and want to buy from environmentally responsible companies (5 percent rise). Similarly, a 2012 Greendex survey on green consumers showed 63.7 percent of Chinese consumers are most likely to consume locally grown food frequently (1.8 percent rise compare to 2010), and 56.8 percent are likely to buy green goods (2.5 percent increase compare to 2010). Although Chinese consumers have started to consume more environmentally friendly products, minorities of consumers say that environmentally friendly product premiums are generally worth it to them. Most efficient energy-saving products and premium organic food are generally highly expensive and still likely unaffordable by the majority of people in China. The level of income highly influences green consumption behavior (Junaedi, 2012). High income and better educated consumers have higher willingness to buy eco-friendly products offered in higher prices.

Chinese consumers are also learning how to wield their purchasing power to punish and pressure companies that are not seen as meeting expectations on environmental protection, product safety, and community investment and to reward those seen as doing well on these issues (Zadek et al., 2012). According to Cohn & Wolfe, Landor Associates, and Penn, Schoen & Berland Associates survey, Chinese consumers tend to choose to buy products from environmentally responsible companies. Firms that respond actively to these consumers' environmental concern have the ability to position themselves as premium in the market. Green market in China is expanding offering huge opportunities for firms by differentiating their products and customers' loyalty, and thus gaining a competitive advantage (Qi et al., 2012).

Finally, studies have proved that foreign customers play also an important role in influencing Chinese SMEs to improve their environmental performances (Jun et al., 2010; Earnhart et al., 2011; Qi et al., 2012). As Chinese SMEs account for 68 percent of the country total exports, many firms are export-oriented to developed countries and are required to meet the environmental standards of importing countries. Chinese suppliers that are unable to meet the environmental performance standards of green supply chain companies may not be able to continue to do business with such firms (Jun et al., 2010). For example, due to the recent pollution scandal of the Chinese textile industry exposing hazardous chemicals in clothes sold by Zara, and other leading fashion brands, two big fashion industry G-Star and Levi's already announced their commitment to eliminate all uses of hazardous chemicals from its supply chain and products by 2020, and provide a public disclosure of discharges of hazardous chemicals from their largest Chinese suppliers (Smit, 2013). Foreign customer pressure improves environmental management practices, and information disclosure schemes offer some promise for improved performance (Earnhart et al., 2011).

**Social Stakeholders:** many studies showed that among external stakeholders influencing SMEs, social stakeholders have a direct influence on corporate reputation, risk management, costs and revenues (Nelson, 2007; Darnall et al., 2009; Gunter & Rosen, 2010; Paes, 2012). By disclosing information on firms' products and

environmental performances, environmental non-governmental organization (NGOs) have a potential impact on influencing the views and choices of consumers, employees, investors, regulators, students, and the general public (Darnall et al., 2009). NGOs play an important role in changing societal expectations of business (Nelson, 2007). Over the past decade, thousands of government-organized NGOs, so called because they are sponsored by government agencies, about 3500 active environmental organization have cropped up in China (Grant, 2011). Furthermore, China economic development and its environmental impacts have attracted attention across the globe. Many international environmental NGOs, such as WWF, Ecologia, Pacific Environment, and Friends of Earth, have set up projects or opened offices in China. Even the radical Greenpeace has set an office in Beijing. The following Table 3 provides an overview of the influence of social stakeholders before and after the booming environmental era in China.

Table 3. Influence of NGOs before and after the emerging environmentalism in China

	NGOs BEFORE Emerging Green Era	NGOs AFTER Emerging Green Era
<b>Range of Actions</b>	<ul style="list-style-type: none"> <li>• Interdiction to work against the government due to several laws (Note 22)</li> <li>• Requirement of collaborate with the government (Note 23)</li> <li>• Focus on providing support and guidance for pollution victims and community recycling campaigns (Note 24)</li> <li>• Rise environmental awareness through public education and employees training (Note 25)</li> <li>• Tend to preserve good relationship with the government by avoiding controversial environmental issues (Note 26)</li> </ul>	<ul style="list-style-type: none"> <li>• Support communities to fight against polluters</li> <li>• Creation of the Green Choice Alliance in 2007 (Note 27)</li> <li>• More active on reporting the environmental performance of companies by publishing lists of companies in violation of environmental regulations (Note 28)</li> <li>• Conduct third-party audit for company which choose to clean up its environmental hazards (Note 29)</li> </ul>
<b>Influence on Firms</b>	<ul style="list-style-type: none"> <li>• Low influence to fight against firm environmental hazards (Note 30)</li> <li>• Low impact to improve firm environmental performances</li> </ul>	<ul style="list-style-type: none"> <li>• Power to persuade consumers to favor the products of companies that have demonstrated a stronger regard for the environment (Note 31)</li> <li>• Encourage transparency and pressuring local governments and industries to adhere to new national regulations (Note 32)</li> </ul>

**Mass Media:** media also play an important role in influencing environmental performance of SMEs. Media broadcasting is one of the primary source of information that promote public knowledge and awareness of the possible consequences of environmental degradation (Sampei & Usui, 2009; Vijfvinkel et al., 2011), and to learn about firms activities and environmental performances (Yang & Calhoun, 2007; Paes, 2012). By exposing wrongdoing and best practice in business, the media can help to prevent effectively socially irresponsible behaviors, or promote brand reputation of SMEs (Zhi & Tang, 2012).

**Social Media:** with the rapid development of Internet, social media has been increasingly used by public environmentalist and NGOs as a tool to organize environmental movement (Goldkorn, 2013), express their discontent, and promote environmental awareness by widely disseminate information about environmental issues (Yang & Calhoun, 2007; Calvert, 2012; Lyon & Montgomery, 2012; Lagerkvist, 2012; Hassid, 2012). Success in using social media to support environmental movements across the country is due to several factors. First, China environmentalism is led by “elite person” such as white collar professionals, intellectuals and students who possess the knowledge to use efficiently social media to promote their cause. Second, with 538 million of internet users by the end of June 2012, China is the world largest netizens population in the world (Xinhua, 2012c). As China’s online population is equivalent to the combined populations of the United States and Brazil, each of them is a potential activist for the environmental movements. Third, with the boom of mobile internet in China’s, the country accounts 356 million users getting online through mobile phones (Xinhua, 2012d). Since nowadays mobile phone is the most common communication tool available more or less everywhere, easy transportable and affordable, it allows environmentalists to be able to rapidly disseminate information, internet

users to be able to access information almost anytime and anywhere, and activist leaders to gather and organize efficiently huge amount of protesters. Forth, as pollution directly harm and threat the health of the public, Chinese peoples have reach a statement where environmental miss-behaviors are not anymore tolerate (Liu, 2013). The public displeasure with environmental impacts of industrial operations is the most important factor of motivation for people to join environmentalists in their movements against polluters.

Table 4. Mass media influence on firms before and after the emerging environmentalism in China

	<b>Mass Media BEFORE Emerging Green Era</b>	<b>Mass Media AFTER Emerging Green Era</b>
<b>Range of Actions</b>	<ul style="list-style-type: none"> <li>• Lack of reliability and trustworthiness of Chinese mass media due to tight control of information flow by the governments (Note 33)</li> <li>• Broadcast permission of news that only match the direction specified by the government (Note 34)</li> <li>• Censorship of any information considered as controversial or potentially dangerous for the power of the state (Note 35)</li> <li>• “Excessive positive” aspect of the mass media content (Note 36)</li> </ul>	<ul style="list-style-type: none"> <li>• Generation of intense media coverage from firms environmental incidents (Note 37)</li> <li>• Acceptation of the government to “loosen” up the constraint impose on press coverage of environmental issues</li> <li>• Government tolerance on the full range of expression of negative and positive comments about the state, its policies, and its leaders as long as those comments don’t threaten the power of the Chinese Communist Party (CCP), and eliminate any discussions about potential collective actions of the mass public (Note 37)</li> </ul>
<b>Influence on Firms</b>	<ul style="list-style-type: none"> <li>• Questionability of information reported on the news by the public who tend actually to find the truth on the opposite</li> <li>• Inability of exposing wrongdoing of polluting firms due to their “alignment of interest” with the local government</li> </ul>	<ul style="list-style-type: none"> <li>• Rising effort of many environmental journalists to raise public awareness by exposing officially firms and local government environmental miss-behavior</li> <li>• Increasing aggressiveness of local and national Chinese presses in revealing environmental pollution and rallying the public and NGOs to go after polluters.</li> </ul>

With the strict China political system, the internet has provided the Chinese intellectual class a relatively free space in which to express themselves (Calvert, 2012; Hassid, 2012). The ability to post and share all kinds of opinion on the web has generated a growing sense of right and freedoms among Chinese netizens. In a recent report on “mass incidents”, the Legal Daily stated that the microblog Sina Weibo was used as an organizational tool in 13.3 percent of “mass incidents” held in 2012 (Goldkorn, 2013). According to Calvert (2012) in her analysis of the Shifang protests in July 2012, social media such as the messenger service QQ, BBS-provider Baidu Tieba, and mass text messages were widely used by students to disseminate their message and gather together more residents to their cause, and thus days before the anti-pollution protest. The raising local public pressure combine with the national publicizing of the protest have played a crucial role in persuading the government to cancel construction. During the last years, collective actions of the mass public have played a major role to motivate local government, SOE and SMEs to take actions to stop pollution and improve their environmental engagements.

However, every stakeholder doesn’t consider the role of social media the same way. What many netizens would say is truth seeking, academics would call crowdsourcing behavior, the government media and party leaders insist on calling it a rumormongering (Lagerkvist, 2012). Threat of public collective actions on the CCP power has led the state to take several measures to induce intellectuals and environmental activists to censor themselves and control the internet (Lagerkvist, 2012). Measures implemented may range from passive actions like media censorship, warning and surveillance to aggressive actions such as threats, lawsuits and jail (Human Right Watch, 2011; Beiser, 2012). China’s total expenditure on “domestic security” reached 514 billion RMB in 2009 which is only slightly less than its military budget of 532 billion RMB (Klein, 2011).

Although, changes have been notice during the year 2012 when the government didn’t censored weibos during the Shifang protest allowing activists to disseminate their messages nationwide (Calvert, 2012). The central government action to allow netizens to express their opinions on internet was considered as an attempt to let the

protesters to blow off steam and potentially avoid both a more destabilizing conflict and animosity against the CCP. According to Hassid (2012), the state willingness to allow criticism has two facets: first, the central government is willing and able to use internet commentary to monitor and control the actions of otherwise unaccountable local officials, and second, the CCP's tight grip over the mainstream media seems to make officials more comfortable with having newspapers "guide" the internet than vice versa.

With the relative freedom of expression of the social media, environmental activists now dispose of a new "weapon" to expose firms' pollution and local government abuses. The growing numbers of mobile internet users and environmentalists in China have created a new environment where firms or government can no longer hide their environmental miss-behavior. Once leaked, information is shared so rapidly that small tidbits of gossip can blow up into front-page scandals overnight, damaging instantaneously firm's brand reputation and customer loyalty.

## **5. Challenges to Chinese SMEs Environmental Performances Improvement**

During the past years, the number of environmental hazards exposed by the media has largely increased. Many Chinese firms have been accused of discarding pollutant to the environment or using hazardous chemicals within their production process. Previous studies have showed that environmental problems are likely to generate regulatory penalties or legal liabilities, and are generally punished by the capital markets, in both developed and developing countries (Lanoie et al., 1998; Dasgupta et al., 2001; Karpoff et al., 2005; Capelle-Blancard et al., 2010). With the rapid development of information and telecommunication technologies, wrongdoings are in an instant communicated to the world via Internet and broadcasted by media. Unethical behavior can no longer hide in the dark waiting around for an investigation to ensue.

As traditional business models primarily emphasize the economic aspects of a company's activities (e.g. profitability and growth), the massive environmental degradation, rising environmentalism among Chinese public and enterprises environmental scandal are shifting consumers preferences to SMEs adopting a business model socially and environmentally responsible (Korkchi & Rombaut, 2006). Regarding the competitive advantage of implementing efficiency measures and improved environmental practices, the question remains why many Chinese SMEs are still reluctant to invest on environmental practices and technology?

Many studies have proved that Chinese SMEs are taking actions to improve their environmental performances, yet there are still many obstacles have yet to be dealt with.

### *5.1 Government Enforcement Policies*

During the recent years, the Chinese government has been facing an increasing pressure from a rising middle class and the international community. In order to respond to the country massive pollution and public pressure, the government has started to enforce the environmental laws, and new environmental regulations and standards are being issued every day (McElwee, 2011). As the government strengthened inspections against violations and introduced new enforcement tool, Chinese SMEs are facing difficulties to comply with all those requirements (Ye et al., 2012). The frequent changing laws and uncertainties about how laws and regulations will be interpreted and implemented are increasing the compliance burden of SMEs. Furthermore, the government policies regarding labor, currency, prices and resources have an important impact on SMEs business activities. The raising price of fuel and raw materials combined with appreciation of the RMB has increase SMEs operating cost and lower their profit.

### *5.2 Lack of Financial Resources*

SMEs often don't carry substantial assets or collateral and therefore have difficulty accessing conventional loans. Most of the time, banks are usually less willing to issue loans to SMEs due to the fact that they are considered to have a high rate of insolvency coming from SMEs lack of reliable information on technology, markets, and investment potential (Silburt, 2012). Because Chinese SMEs are limited in terms of financial resources, many of them can only rely on internal financing and are therefore much more dependent on private external sources, whether through joint ventures or third parties (Dudovskiy, 2012). The lack of resources often leads to SMEs being risk-averse and less willing to invest in new environmental technologies; partly because the payback period of these investments is often over several years. These include inadequate availability of working capital, banks insisting on collateral and third party guarantees, and a risk-averse banking system for small projects etc. Although the existence of favorable loans (such as soft or revolving loans) to improve resource efficiency have encouraged producers, especially SMEs, to adopt changes to make production more efficient, their eligibility thresholds remains too high and are impossible to meet for many private companies (Ye et al., 2012). According to Ge et al. (2012) in their study on green SMEs in China, only 4% of the companies that received bank loans are

a micro business, compared to 22% small businesses and 74% medium businesses. As to equity investment and government funds, half of companies that have received such support are also medium businesses. The main reasons of SMEs inequity to receive bank loans and government financial support are due to the existence of an information asymmetry between banks and borrowers, insufficient regulation of the financial system, and inappropriate government intervention in the financial system (Silburt, 2012). Furthermore, SMEs operating in green business tend to have difficulties to get banks loan since most of them have only little knowledge regarding energy efficiency and low-carbon technology, and have hesitations about the financial management of SMEs (Ge et al., 2012). In China, the energy efficiency industry is still an emerging industry and its value chain is not yet well understood, making the banks to have lack faith in the business model (Zhang et al., 2012).

### *5.3 Lack of Environmental Management System*

The gap between SMEs environmental concern and action on sustainability activities is partially explained by low awareness of the environmental impacts and risks associated with business operations (Young, 2010). Many Chinese SMEs are often unaware of their environmental impact or the environmental legislation affecting them. The main reason is because many of them are family enterprises based on traditional business models (Lee & Li, 2008). SMEs tend to have a short-term economic perspective, which often results in the perception that environmental management is peripheral to core business. Many SMEs lack of in-house expertise to identify and even properly implement environmental technologies. The principal challenge facing by Chinese SMEs is not their access to technology, but their absorptive capacity, including physical, human, and institutional capacity; and the extent to which their social and political environment is supportive of entrepreneurship, investment, and technological progress (UNIDO, 2011b). The labor costs have an important impact on human resources policies of Chinese SMEs. With the government law enforcement regarding the Labor Contract Law enacted in 2008, the labor costs for SMEs have increased dramatically (Ye et al., 2012). As Chinese employees with competent technical skills are more attracted to work in large companies or SOE for more pay, better benefits, and career advancement, SMEs suffering of lack of funds have difficulties to attract and retain skillful technician, and thus limit their absorptive capacity. Due to the rising labor costs and the low capacity to attract competent technician, Chinese SMEs are unlikely to have an environment division or a designated specialist responsible for environmental compliance and management in the company. It has been acknowledge that third party entities such as NGOs or professional environmental consulting firms might support SMEs in improving their environmental performances. However, in the reality, most Chinese managers have only little knowledge about the available channel to help them build connections with universities or other institutions (Ye et al., 2012). Most of them tend to focus more on immediate reputational pressures rather than developing a strategic response to social and environmental challenges and opportunities.

## **6. Conclusion**

China unprecedented economic development has both fascinated and worried the World's most advanced economies. The country has achieved a spectacular economic take off, multiplying its global weight seven times over the last thirty years to become the second largest power in terms of nominal GDP and the first in terms of exports. However, the Chinese pollution problem is so important that it has shattered all precedents. The cumulative impacts of millions Chinese SMEs pressure on the environment is considerable. Due to the fact that Chinese SMEs are operating near civil area, they directly affect people's immediate environment and social structures. Firms' activities take an important part in rural and urban pollution.

First, this literature demonstrates that environmentalism in China is not an isolated movement gathering small group of pollution victims but instead a growing movement that spread through internet and attract more and more supporters all over China. The public, led by a raising Chinese middle-class more educated and aware about their quality of life, are increasingly taking action to claim their consternation to the local government. Taking advantage of the development of Internet and information communication technology, environmental activists are spreading information to a larger group of persons, organizing anti-pollution protests, expressing their discontent and debating about environmental issues or about local government inactions. The government facing the increasing displeasure of the public has already taken actions with the 12th FYP. The adoption of this program represents a real global green revolution for the government which includes the implementation of a concrete plan of action to respond to the climate change and heavy pollution of the country.

Secondly, the study suggests that, with the emerging green era in China, government legislation and financial support, and stakeholders' pressures are the most significant influencers for Chinese SMEs to improve their environmental performances. Responding to the country massive pollution and public pressure, the Chinese government has started to enforce its environmental laws by issuing new environmental regulations and

standards, and increasing the number of environmental inspection agencies to insure firms' compliance of the environmental legislations. Government legislations play the most important role in standardizing the implementation environmental management and promoting the development of green SMEs. Besides, as Chinese SMEs are facing important lack of financial resources, the government has issued numerous financial subsidies to support SMEs to reduce their operating costs, invest in greener production system, and boost green innovations. Another important factor is the role that plays employees and managers, consumers, NGOs and the media in SMEs adoption of environmental management. Without strong and continuous green commitment of employees and managers, success in implementing environmental strategies and practices into firms' management systems are likely to fail. Furthermore, during the past years, consumers, NGOs and the media have applied an increasing pressure on SMEs to improve their environmental performances. All over the country, the number of mass incidents, environmental complaints, NGOs campaigns and pollution exposure by the media have considerably increase obliging an increasing numbers of large firms and SMEs to correct their environmental miss-behavior.

Although actions have been undertaken by the Chinese government and stakeholders to reduce firms' environmental impacts, many challenges remain for SMEs to truly implement greener strategies and production processes. Among those barriers:

- ✓ Difficulties to comply with the government legislation since the laws are frequently changing, and the way there are interpreted and implemented are uncertain.
- ✓ Inequity between the sizes of firms which receive the government subsidies as eligibility thresholds are often too high for micro and small companies.
- ✓ Insufficiency of government subsidies to induce manufacturers to produce more green products.
- ✓ Existence of "alignment of interest" which tend to favor SOE rather than the SMEs.
- ✓ Lack of financial resources since banks tend to have only little knowledge about green industry and set their eligibility standards for loans too high for SMEs.
- ✓ Lacks of managers' awareness regarding firms' environmental impacts since most SMEs tend to have short-term economic perspective.
- ✓ Lack of real environmental engagement since most managers tend to focus more on reputational pressures rather than developing a strategic response to social and environmental challenges and opportunities.
- ✓ Lack of knowledge about the available channel to help managers to build connections with universities or other institutions.
- ✓ Lack of talented labor to increase SMEs technological absorptive capacities.

We acknowledge that progresses have been made by the Chinese government and companies to reduce environmental degradation and promote sustainable development. Many SMEs are now thinking about improving their environmental performances. However, lots have still to be done before China will be able to adjust its economic structure and promote steady and rapid economic development. More researches in the field of environmental management are still needed to provide solutions for the sustainable development of Chinese SMEs.

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