

# Clean Facility's Pollution?

## The Emergence of Environmental PPP Policy, A Case Study of Beijing, China, 1989-2014

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*Abstract: While PPP policies, which were a crucial part of the marketization reform after 1979, have become an important environmental solution for the Chinese government, rare research pays attention to the policy formation processes of the PPP and their outcomes towards pollution prevention. Using the organizational-political economy perspective, my research traces the development of the PPP policies after 1989. I demonstrate that political economic crises, changes of the state structures, and neoliberal ideology provide opportunities and legitimacy for corporations to establish institutional cooperation with the state to shape environmental policies' establishment and implementation. This research will show how a pro-PPP and incineration group which consisted of officials, private corporations, and other social actors, emerged and influenced decision-making processes at central and local administrative levels. The group not only created the PPP policies which involved diverse institutional arrangements benefiting incineration corporations' interests, but also weakens enforcement of environmental regulations in local governments. As a result, in recent years, the number of incinerators has increased dramatically and they have produced serious pollution.*

### **Introduction**

In recent years, the ever-mounting problem of environmental pollution in China has urged the Chinese government to employ several solutions. One of the environmental policies was the "Public Private Partnerships" (PPP), which encouraged a collaboration between the

private sector and public sector to invest in the environmental field. As a policy to break the monopoly of the Chinese government on public utilities, the PPP policies were a crucial part of the marketization reform after 1979. Since the Chinese government announced initial PPP policies in the 1990s, an increasing number of PPP projects and a huge amount of PPP investment has poured into the environmental facilities, especially, after the National Development and Reform Commission (NDRC)'s announcement of the PPP policy in 2014. However, rare research pays attention to the policy formation process of the PPP and its outcomes towards pollution prevention.

This research accesses the policy formation process regarding the PPP. Because the central government policies have significant influences on local governments as well as how their pilot projects and implementation impact the central government (Ran 2013), this study employs two interrelated parts of the empirical analysis. First, it explores the Chinese central government's environmental policy changes. Second, it examines the city of Beijing's policy changes and practices. This research selected the city of Beijing, because it is the capital of China; it is not only the political center of China, representing the core operations of the central government and the local government, but it also has highest concentration of foreign investors, incineration corporations, and environmental groups. By focusing on the case of Beijing from a local level analysis, the study will examine the comprehensive interaction between diverse actors in the policy formation process. The objectives of this study are to examine the extent to which incineration corporations: 1) exercise power at central and Beijing administrative levels relating to changes in environmental policies, and 2) affect the increase of pollution.

## **Literature Review**

There are two major models that help explain the development of environmental policies in China. Draws upon state-centered theories (Orloff and Skocpol 1984; Evans et al.

1985), environmental authoritarianism suggest that because social actors possess conflicting interests and, thus, cannot generate common agendas, the state plays a crucial role in mediating social class conflicts and produces a general agenda to increase capital accumulation (Block 1977; Block 2007). Moreover, the state determines the transformation of environmental policies, especially in countries which experience a long-term authoritarian rule and have a solid, well-established bureaucratic system (Shearman and Smith 2007; Beeson 2010; Cao and Ward 2011; Gilley 2012; Eaton and Kostka 2014; Moore 2014).

In contrast, by incorporating the neo-liberalists' claim that self-regulating markets create incentives for corporations to distribute common goods efficiently, the industrial environmental management<sup>1</sup> stresses that public regulations do not offer an effective instrument to prevent pollution, but rather harm business initiatives and damage the long-term economic development and environmental protection (Jermier et al. 2006). Moreover, this model emphasizes that environmental degradation in developing countries can be resolved only after the implementation of neo-liberal reforms. Because the employing of neo-liberal reforms helps eliminate government regulations and enhances foreign investment, foreign corporations are inclined to import international environmental private standards, which efficiently improve the environment. (Fryxell and Lo 2002; Zhu, Sarkis and Geng 2005; Child, Lu and Tsai 2007; Zhu, Sarkis and Lai 2007; Zhu et al. 2008; Lan, Kakinaka and Huang 2011).

Environmental authoritarianism and the industrial environmental management model locate in a one extreme side of a theoretical spectrum which argues that the state or power social actors play a determined role in the decision-making processes of environmental

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<sup>1</sup> Scholars use different terms to describe this advocacy, such as industrial environmental management (Zhu, Sarkis and Geng 2005), new corporate environmentalism (Jermier et al. 2006), and non-mandatory approach (Khanna 2002).

policies. Therefore, they incorporate the fundamental weakness of state-centered theory and neo-liberalism. On the one hand, environmental authoritarianism ignores that capitalists who possess the means of production are capable of directly influencing the policy-making process. Not only do capitalists' investment behavior have "veto power" on the state's economic policies (Domhoff 1990), but also their social, economic, and political resources allow them to establish various ties with the state's departments and other social actors (Useem 1982; Mizruchi 1987; Mizruchi and Galaskiewicz 1993).

On the other hand, the industrial environmental management model's claim ignores how corporations engage in changes in political institutional arrangements which benefit their interests; moreover, as Polanyi demonstrates, a self-regulating market without the political systems' support does not exist. The emergence, maintenance, and sustainability of markets involve diverse policies and political institutions that are manifested in the state (Polanyi 1944).

### **An Alternative Formula: Organizational-political Economy Perspective**

In contrast to the above models, my research will employ the organizational-political economy perspective to clarify how the state and corporations achieve their influence relating to the policy formation processes. This perspective stresses that society-state relationships do not remain constant and, therefore, cannot be separated from each another (Prechel 2000; Prechel and Morris 2010; Prechel 2012). It does not totally reject the above models' arguments that the state and social actors are capable of shaping policies, but rather analyze the historical conditions which create incentives and opportunities for social actors to change and utilize state structures to influence state policies and redefine environmental regulations. In the modern society, the historical conditions that the state and corporations become more political active are political and economic crises (Prechel 1990).

Moreover, the changes in state structures create significant opportunities for class

segments to influence the policy formation processes (Prechel 1990; Prechel 2000; Woods and Morris 2006). This argument is consistent with political sociologists who suggest that there is a high correlation between the spread of capitalist markets and bureaucratic reforms. The operational function of markets creates the demands for a rational and efficient bureaucratic state (Weber 1968). In order to promote the market economy, the Chinese government employed numerous waves of administrative reforms. The core content of the reforms was to withdraw the government's intervention from economic issues and transform the responsibility of the administrative authority from one of intervention to that of micro control. Hence, the reforms attempt to reduce the size of the authorities and improve micro control's efficiency and rationality. With the decline in the size of the authorities, it is apparent that this reduction inhibits the state managers' ability to collect information and make rational decisions in the ever expanding market economy. In order to promote rational policies and maintain value neutrality in the decision-making processes, the authorities change their structure to access market information. This is accomplished by assimilating experts into the decision-making processes and outsourcing various surveys to policy research institutions (Zou 2004; Guo 2007; He 2008). Hence, the absorption of experts in bureaucratic structures or outsourcing surveys to policy research institutions offer numerous channels for powerful outsiders to access the decision-making processes, as well as providing a mechanism to maintain the government's legitimacy and authority.

The organizational-political economy perspective also draws from central themes within the modern political economy, including Polanyi's view that markets are politically, socially, and culturally constructed (Polanyi 2001[1944]). Markets are not self-regulating and are not capable of being separated from politics; however, they are created by a series of political processes employed by political elites and capitalists. Neo-liberalism offers an incentive and legitimacy for capitalists and their allies to redefine institutional arrangements

in which they are embedded. Moreover, after the financial crisis of 2008, neo-liberal ideology has been highly criticized. The organizational-political economy perspective suggests that when neoliberal ideology cannot offer sustainable capital accumulation agendas, the state, corporations, and other actors mobilize politically to reorganize new alternative political-economic arrangements in which they are embedded.

Several interrelated propositions are derived from the organizational-political economy perspective. First, as a country which attempted to abolish a planned economy and establish a market-oriented economy, China is more likely to introduce the Western MNCs and international institutions' resources. Unlike the former Eastern European communist bloc countries, which used shock therapy<sup>2</sup> after the collapse of communism in Eastern Europe after 1989, China's moderate reforms produced stable growth which, in turn, produced a significant number of domestic capitalists (Burawoy 1996; Buck et al. 2000). When several economic crises impacted capital accumulation in China, growing foreign and domestic enterprises would be able to define domestic institutional arrangements. Under this context, the Chinese environmental policies were fashioned by foreign and domestic incineration corporations.

Second, the ability to access state organizational structures determines social actors' access to the policy formation processes. Therefore, international institutions, state-owned enterprises (SOEs), private corporations, and environmental organizations attempt to use state structures to affect policies. When the Chinese government demands investment, technology,

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<sup>2</sup> Shock therapy refers to the economic and political reform suggested by international financial institutions and neoliberal economists in the former Eastern European communist countries after 1989 (Popov 2008). The reform included immediate trade liberalization, privatization, withdrawal of state subsidies, and price and currency controls. Shock therapy was widely criticized by scholars and politicians for producing economic repression, social chaos, and MNCs' comprehensive control on domestic economies (Gerber and Hout 1998).

and market experiences from international institutions and corporations, they are able to utilize the state structures to advocate more incinerator facilities and alter policies.

Third, neo-liberal ideology legitimated the Chinese incineration industry's political mobilization to change policies at the central and local level of governments. These policies include the privatization of public utilities and subsidies for incineration facilities. I also posit that after 2008, the global financial crisis, which emerged from the US and Europe, created serious doubt among the Chinese political elites and corporations. They divided into several factions and attempted to offer a new prevailing political and economic agenda.

## **The Case Study and Method**

This research uses the policy formation process of the PPP policies and Beijing's incineration practices as a case study for two reasons. First, China is a country which has transformed from a planned economy into a mixed economy – consisting of the state and market mechanism. The PPP which involves participation of the public and private sectors represents a sample of the developmental processes of the mixed economy. If the organizational-political economy perspective is able to explain this transition in China, it will offer insights relative to the policy formation process. Second, since the first incinerator was built in 1988 in Shenzhen, all most incineration projects adopted BOT<sup>3</sup>, especially in Beijing. To analyze the practices of the Beijing incineration industry is able to not only demonstrate the formation processes of the PPP policies, but also examine its environmental outcomes in

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<sup>3</sup> Based on the World Bank's definition, PPP is "a long-term contract between a private party and a government entity, for providing a public asset or service, in which the private party bears significant risk and management responsibility, and remuneration is linked to performance." PPP includes SC (Service Contract), MC (Management Contract), LBO (Lease-Build-Operate), DBT (Design-Build-Transfer), BT (Build-Transfer), BOOT (Build-Own-Operate-Transfer), BTO (Build-Transfer-Operate), TOT (Transfer-Operate-Transfer), BOT (Build-Operate-Transfer), and BOO (Build-Own-Operate).

order to test diverse theoretical frameworks' environmental improvement implications.

Because China had a unique context that material data is inconsistent and interviewees considering political sensitive provide misleading answers, this study employs the historical case method and interview method with a focus on how these two methods are able to supplement each other, so as to garner reliable data (Ragin 1987; Lange 2013).

The empirical data for this study are derived from document analysis and interviews. In the document analysis, this study focused on public statements and formal records. Public statements were collected from webpages, libraries, and databases, including environmental policies, governments and social organizations' announcements, and crucial actors' articles and speeches. Formal records include, but are not limited to, meeting minutes, official documents, and listed corporations' annual reports, public notices, and historical reports. Some records are retrieved through webpages and archival databases, such as planning permits related to construction engineering, the United Nations (UN) and the World Bank's online archives, and corporations' annual reports and public notices. Other records, such as meeting minutes and official documents, are seldom accessed in China. I requested these data from interviewees during the interview processes. Since the collection of documents from interviewees may produce bias, I examined records' integrity and reliability via document analysis and other interviews. In addition, I collected media reports and biographies of key persons, which not only offered a broader picture of historical contexts, but also allowed me to verify the interviewees' responses

The interviews primarily included officials, the incineration firms' CEOs and managers, academic professors, and environmental non-governmental organization (NGO) leaders. The interviews were conducted from May-July 2016 in Beijing, and the number of interviewees were 25. The corporation leaders and officials who are invited for the interview were sourced

from my previous colleagues<sup>4</sup>. The environmental NGO leaders were recruited through my personal relationships. In order to recruit key policymakers, I identified potential interviewees via document analysis and snowball sampling (Ostrander 1995; Farquharson 2005; Goldman and Swayze 2012), while snowball sampling technique was during the interview process. I ensured the diversity of each interviewee introduced by snowball sampling in order to avoid a similar interpretation of events. Each interview was reviewed for data related to these areas, so as to verify the content of the interviews and for the purpose of arranging follow-up interviews.

### **International Background: Before the Rio UNCED of 1992**

By the 1980s, the repeated economic crises and the global environmental degradation threatened not only international institutions' developmental agendas, but also MNCs' survival. In the 1980s, because the prices of raw materials declined, many developing countries which borrowed substantial amount of money from the World Bank could not repay the loans (Goldman 2007; Schaeffer 2009). This debt crisis resulted in the developing countries' monetary crises as well as a critique that international institutions created a lending trap for developing countries (Weaver 2008). After two decades of rapid economic growth following World War II, Western countries had experienced severe pollution in the late 1960s and 1970s and environmental problems began to spread to the global arena (Inglehart 1977; Bernstein 2001; Clapp and Dauvergne 2011). MNCs and international institutions' developmental strategies which prioritized economic growth faced a charge of causing further environmental degradation.

With the support from Western countries' administrations, environmental groups succeeded in passing crucial environmental regulations. These groups also attempted to extend their influence to international institutions, so as to define environmentally friendly

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<sup>4</sup> My previous colleagues are journalists in China and have networks with enterprises and the government.

developmental agendas. The major achievement of pro-environmental actions at an international level was to encourage the UN to hold the World Commission on Environment and Development (WCED) in 1983. The WCED finally released the “Brundtland report” entitled *Our Common Future*. The report mentioned the threat MNCs posed to the global environment while the weak bargaining power of developing countries led to the interlocking crises of the environment and economy (World Commission on Environment and Development 1987; Hecht 1999).

In response to the recurring economic crises and reinforced environmental regulations, corporations mobilized politically to redefine new capital accumulation agendas. Since neo-liberalism involved ideas that markets created incentives to address economic and environmental problems simultaneously, it became prevalent with many business leaders, economists, and politicians. At an international level, MNCs aligned with the UN’s pro-business officials to promote the neo-liberalist agenda in the UN, especially during the then upcoming UNCED in 1992.

In 1990, forty-eight world business leaders (including incineration companies) created the Business Council for Sustainable Development (BCSD) (Welford and Casagrande 1997). Organized by Dr. Stephan Schmidheiny, a Swiss industrialist, the BCSD stated that it “will provide advice and guidance to the UNCED secretariat on initiatives and activities undertaken by business and industry (Brundtland Bulletin 1990)” and promoted an idea “to recognize that market-based instruments belong in our portfolio of environmental and natural resource policies (Schmidheiny 1992).” The political coalition of the BCSD and the UN’s pro-business officials formed several institutional channels for business leaders to access the UNCED’s preparatory process. First, Maurice Strong<sup>5</sup>, the UNCED Secretary-General,

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<sup>5</sup> When Strong served in the UN, he also acted as a leader of Canadian oil and mineral companies (Bruno 1992b; Masood 2015). This background allowed him to establish close business ties with MNCs (Chatterjee and

appointed Schmidheiny as the principal adviser for the UNCED (Welford and Casagrande 1997). Second, the BCSD was allowed to participate in the consultative process of the UNCED, which represented the early stages of preparatory meeting (Ekins 1993; Chatterjee and Finger 1994). Third, the UNCED secretariat created mechanisms for business leaders to make donations for the UNCED's expenditures (Wurst 1992; Chatterjee and Finger 1994)<sup>6</sup>. Therefore, through these channels, the BCSD could access the initial agendas of the UNCED and exercise their huge resources to offer suggestions to the UNCED secretariat.

During the UNCED preparatory process, environmental groups actively participated and were aware of the BSCD's increasing influence on the UNCED (Greenpeace International 1992; Adams 2001). Environmental groups proposed that the international society should increase regulations on MNCs and criticized that the UNCED secretariat was too close to the MNCs (Fraser 1992b; Greenpeace International 1992). However, since these environmental groups had few resources and were only allowed to attend the discussion during the formal Preparatory Committees (Bruno 1992a), their efforts at the UNCED agreement were weak (Fraser 1992c).

As a result, the BSCD achieved an essential victory when the UNCED passed Agenda 21 in 1992. With this, the BSCD succeeded in reversing a political tendency that blamed

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Finger 1994).

<sup>6</sup> According to Wurst's estimation, almost a fifth the UNCED's spending, US\$16.9 million, was derived from corporations, including many heavy polluting MNCs (Wurst 1992). The UNCED secretariat not only authorized corporate donors to use the Earth Summit logo, but also allowed them to pay for specific events relating to the UNCED. Moreover, the UNCED's official newspaper, the Earth Summit Times, was paid for by corporations. The BCSD's public relations consultants, Burson-Marsteller, was appointed to assist with the UNCED's public relations. The Earth Summit Times reported a UN Staff member's observation that although corporations had donated to the UN events before, the scale of the UNCED's assistance was certainly unprecedented (Fraser 1992a; Gould 1992).

MNCs and international institutions for global degradation and economic problems.

Following neo-liberalism, Agenda 21 concluded that the goals of sustainable development can only be achieved when fulfilling the free trade system, privatization, MNCs' investment, and public-private partnership (United Nations 1993; Chatterjee and Finger 1994; Doyle 2010).

After all the countries signed Agenda 21 at the UNCED, the next step for the MNCs and international institutions was to impose this version of sustainable development on developing countries, which included China.

### **Political and Economic Crisis after the Tiananmen Square Protests**

The repression of the Tiananmen Square democracy protests of 1989 caused a set of political and economic shocks in China. In response to the political and economic crisis, political elites allying with other social actors divided into two groups to offer different political agendas. 1) A reformist coalition was composed of reformist intellectuals and officials, and international financial institutions. Reformists insisted that the economic disorder resulted from unfinished market reforms, which offered opportunities for corrupt officials and the wealthy to engage in rent-seeking behavior (Zhang 2010a). 2) A conservative leftist coalition consisted of anti-market-reform officials and intellectuals and argued that China should follow Mao's socialist road, whereas the reformist group emphasized the deepening of the reform (Han 1993; Ma 2012).

### **A Debate Issue: The Environmental Diplomacy Strategy**

The initiative for China's participation in the global environmental agendas was an outcome of the Tiananmen event. By the early 1990s, unlike other international economic and military collaborations, environmental issues 1) did not attach political sensitive conditions (for example, human rights and democracy) and 2) was an agenda where international institutions had to look to developing countries for participation, especially the upcoming UNCED. Therefore, after 1990, the Chinese government decided to employ an environmental

diplomacy strategy in order to break international isolations (Ministry of Foreign Affairs 1992)<sup>7</sup>. The Chinese government decided indicated the importance of participating in the UNCED and applying for environmental projects with the UNED, the UNEP, and the World Bank (Environmental Protection Committee 1990; World Bank 1992). The Chinese government negotiated with the World Bank to loosen the environmental loan limitations in 1990. The World Bank issued the first step, “strategy development assessment”, in their environmental lending process in 1990 and published the China Environmental Strategy Paper in 1992 (World Bank 1992).

Beneath the surface of strengthening cooperation in international affairs, reformists and conservative leftists put their agendas on the environmental diplomacy strategy’s implementation. Reformists attempted to utilize the international environmental participation as a window of opportunity to expand international collaborations, reimport foreign investment and technology, and deepen open-door and reform policies (Qu 1992)<sup>8</sup>. In contrast, conservative leftists expressed a viewpoint that international institutions and developed countries should not pass policies to damage China’s interests and sovereignty

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<sup>7</sup> Before the Tiananmen Protest, environmental diplomacy did not appear on the EPC’s annual Work Key Points, which was the most important annual guideline for Chinese environmental administrative practices. After the Repression, the 1990 Work Key Points had a section related to environmental diplomacy (Environmental Protection Committee 1990). In an internal document, the Ministry of Foreign Affairs argued that by participating in the UNCED, it would help “repair relationships with the Western countries and completely break the Western countries’ sanctions (Ministry of Foreign Affairs 1992).”

<sup>8</sup> For example, Qu Ge-ping, the director of the State Environmental Protection Administration (SEPA), posited that Chinese environmental problems could only be resolved by Western countries’ advanced management and technology. On the condition that developed countries did not threaten the CCP (Chinese Communist Party) regime, China had to withdraw the alert that international institutions and developed countries helped China to reform its environmental policies (Qu 1992).

(Song 1989)<sup>9</sup>.

### **Deng Xiaoping's Southern Tour and Deepening the Reform**

The two groups mobilized politically to influence public opinion as well as probe the intention of top leaders, especially Deng Xiaoping (Han 1993; Yeh 1994; Zhao 1998; Ma 2012). After Deng Xiaoping's southern tour<sup>10</sup> which indicated the support for the further opening of the market and economic reform (Goodman 1994; Saich 2016), the debate about the capitalist or socialist road illustrated that reformists won the support from Deng (Goodman 1994; Zhao 1998).

After the reform was assured, the Chinese government appointed Premier Li Peng to represent China, attend the Rio UNCED in June 1992 to sign Agenda 21 (Ministry of Foreign Affairs 1992). Due to the political mood created by the reform and China's commitment to the UNCED, the Chinese government held China's Agenda 21 preparatory meeting in July 1992. Reformists and international institutions were optimistic that the World Bank and Agenda 21's marketization of environmental policy strategies could swiftly be established in China. However, because many core ideas within the conflicts between the reformists and conservative leftists still existed, the decision-making process and the implementation of the China Environmental Strategy Paper and China's Agenda 21 encountered obstacles.

### **The Effort at the Environmental Policy Strategy towards Marketization**

Both China's Agenda 21 and the China Environmental Strategy Paper suggested that

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<sup>9</sup> For example, EPC's chairman, Song Jian, made a statement in the first conference after the Tiananmen Protest. He emphasized: "This conference is postponed because of the counterrevolutionary riot ... We have to pay close attention to tendencies of international environmental protection and actively participate in them ... Developed countries and capitalist countries have their purposes. We have to employ independent diplomatic policies, ... , and ally with third world countries (Song 1989)."

<sup>10</sup> Deng visited Guangzhou, Shenzhen, and Zhuhai and spent the New Year in Shanghai.

solutions to China's environmental problems could not be limited to environmental fields, but had to employ systemic economic, financial, urban, and agricultural reforms with the assistance of the UN and World Bank<sup>11</sup>. In order to meet the requirements of the UN, the Chinese government appointed the State Planning Commission (SPC) and the State Scientific and Technological Commission (SSTC) to take the lead in forming China's Agenda 21 leading group in 1992 and established the Administrative Center for China's Agenda 21 (ACCA) in 1993. The task of the leading group and ACCA was to fulfill China's Agenda 21 by coordinating all state departments and negotiating with the UN. To fully comprehend the World Bank's lending requirements, the Ministry of Finance (MOF) established the Project Management Office (PMO) at central (NPMO) and local (LPMO) administrative levels in order to review and manage all the projects of the World Bank (Ceng 2004; World Bank 2005; Tan 2013)<sup>12</sup>. These state organizations changed the state structures that provided institutional channels for the state departments and the international institutions to access the decision-making process regarding the two plans<sup>13</sup>.

During the draft process of China's Agenda 21 and the China Environmental Strategy Paper's implementation, the UN and World Bank's demand of comprehensive reforms (included privatizing public utilities, establishing a fee-collecting system, reforming financing rules, providing BOT, fostering the private environmental industry, etc.) raised

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<sup>11</sup> For example, the World Bank argued that a systemic economic reform should include the establishing of price incentives, promote the privatization of SOEs, develop cost-effective plans and, foster the private environmental industry, so as to improve the environment (World Bank 1992:4, 57-60).

<sup>12</sup> Local project management offices (LPMOs) were established by bureaus of finance at the provincial level and were directly controlled by the National Project Management Office (NPMO) in order to eliminate local governments' self-interest.

<sup>13</sup> During the period of the 1990s, civil society groups were too weak to effectively influence policies.

doubt within several state departments. Two reform suggestions provoked the strongest opposition. First, the UN asked that China should meet the high standards of reducing its carbon emissions and the high ratio of coal-fired power generation. Second, in an attempt to promote public-private partnerships (PPP), the UN and the World Bank suggested a comprehensive reform plan for the private sector participating in public utility construction markets.

### **The Demand of Carbon Emission Reductions**

Opposition to the demand of carbon emission reductions emerged from the SPC and the Ministry of Coal Industry (MOCI). They strongly disagreed the UN's demand because the SPC was responsible for macro-economic planning and MOCI had interests in the coal consumption of coal-fired power plants. Drawing upon conservative leftists' nationalist viewpoints, the SPC and MOCI argued that China was still a developing country and, therefore, they had to give priority to economic development. They insisted that it was unrealistic to replace coal-fired power generation with other clean energy in the short term (Rong 1995).

During the debate, reformists, the Ministry of Water Resources (MOWR), and other energy producing bureaus within the Ministry of Power Industry (MOPI) (especially nuclear) supported the UN's suggestions (State Science and Technology Commission and State Planning Commission 1992; Niu 1994). Because the nationalist standpoint was able to attract leaders' attention, the reformists, MOWR, and MOPI aligned with the UNDP and the World Bank to offer an alternate version of China's Agenda 21. Because of the two sides' compromise, the final version of China's Agenda 21 included the following amendments: 1) The UN and the World Bank encouraged the State Council, MOWR, and MOPI to apply for construction loans toward clean energy projects with aid funds for sustainable development,

especially hydroelectricity (Niu 1994)<sup>14</sup>. China's Agenda 21 listed these clean energy facilities, including incinerators, and argued that coal-fired power generation would be substituted in the long term. It was the first time that incineration technology was treated as clean energy in Chinese official documents. 2) Because of the sustainable development funds as well as the UNDP and MNCs' ability to introduce new technology, MOCI agreed to upgrade the coal-fired power plants' efficiency.

These two amendments produced an important outcomes. The decision to introduce clean energy and upgrade coal-fired power plants opened a gate where MNCs could utilize their capital and technological advantages to demand more reforms. On the one hand, the decision justified promoting BOT in order to attract foreign investment (The BOT reform will be discussed in the next session).

On the other hand, MNCs' participation in these clean energy and upgrading plant projects influenced officials' view on Chinese environmental solutions toward MNCs' preferences. In the waste management field, MNCs promoting incineration technology altered officials' solid waste management strategies. For example, the Ministry of Construction (MOC) applied for "Municipal Solid Waste (MSW) Management Systems, Technical Standards and Capacity Building in China" in China's Agenda 21. The purpose of the project was to "strengthen the capability of the municipalities with China to better manage MSW, through both direct support to selected demonstration cities as well as through strengthening of MOC at the central level. This will increase its capability to develop appropriate strategies and provide advice to the municipalities in planning MSW management and operations on an on-going basis (United Nations Industrial Development Organization 1998)." One important activity of the project was to train officials in MOC and

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<sup>14</sup> Niu Mao-sheng, the minister of MOWR, posited that China's Agenda 21 was a good opportunity for MOWR to address problems pertaining to the shortage of water resource facilities (Niu 1994).

local governments. According to the UN project document, this project received donations from the Swiss government and the foreign advice team of the project was managed by the Swiss government. In order to promote incineration technology, the Swiss government appointed Kurt Wiesegart, who was an ex-staff member of the AAB Group (one of biggest companies in Switzerland. Incineration was its most important component), as an advice team leader. F-1 admitted that “Mr. Wiesegart’s professional advice convinced MOC to put incineration into a more important role in solid waste management (Interview F-1, June 17, 2016).”

### **BOT Reform at Central and Local Administrative Levels**

The UN’s promotion of PPP on China’s Agenda 21 resulted from MNCs’ persistent influences on the UN after the UNCED. The BCSD formed a number of regional and national BCSDs in 1994 to develop more influence in domestic areas (Najam 2009). More importantly, the BCSD set up Sustainable Project Management (SPM) in partnership with the United Nations Development Programme (UNDP). The SPM’s aim was to create pilot water, waste, and energy infrastructure projects in developing countries’ Agenda 21 in order to 1) demonstrate that the PPP practices were able to bring efficiency and green technology and 2) encourage developing countries’ “political will” to reform institutional arrangements to benefit the PPP (Faulkner 1997b; Faulkner 1997a). The World Bank’s China Environmental Strategy Paper attributed China’s environmental degradation to the outmoded technology and control-and-command environmental management. The World Bank argued the private sector’s participation and establishment of the private environmental industry were able to produce three positive impacts (World Bank 1992:4, 57-60):

It should improve efficiency generally, including energy efficiency and agriculture productivity (thus reducing environmental pressures); it should make it easier to enforce environmental policies; and over the longer term, it should generate greater

profitability and therefore funds for environmental investments (World Bank 1992:4).

There are many forms of PPP<sup>15</sup>. In the 1990s, the UN and the World Bank primarily promoted Built-Operate-Transfer (BOT)<sup>16</sup> in China in which the private sector builds an infrastructure project, operates it and eventually transfers ownership of the project to the government.

The UN and the World Bank's promotion of BOT divided the Chinese state departments into two groups. The anti-BOT group was primarily comprised of departments which were still responsible for constructions of public utilities. The pro-BOT group primarily consisted of reformists and departments which were responsible for economic development and finance. The UN and the World Bank aligned with the pro-BOT group to resist the anti-BOT group's opposition at central and local administrative levels.

In Beijing, for instance, the World Bank's Beijing Environmental Project which declared to promote the marketization of public utilities caused a controversy<sup>17</sup>. The Beijing Municipal Construction Bureau (BMCB) which was responsible for the city's all public utility construction did not take BOT into consideration<sup>18</sup>. In contrast, the Beijing Planning

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<sup>15</sup> PPP includes SC (Service Contract), MC (Management Contract), LBO (Lease-Build-Operate), DBT (Design-Build-Transfer), BT (Build-Transfer), BOOT (Build-Own-Operate-Transfer), BTO (Build-Transfer-Operate), TOT (Transfer-Operate-Transfer), BOT (Build-Operate-Transfer), and BOO (Build-Own-Operate).

<sup>16</sup> In the 1980s, although China operated a few pilot projects for BOT (most of them were electrical power and transportation constructions) at a local level, the Chinese government did not pass any law pertaining to BOT (Zhai 2003; Jin 2014). Without the legal protection for BOT, foreign investment confronted numerous political and default related risks.

<sup>17</sup> The Beijing Environmental Project was China's Environmental Strategy Paper's sub-program, which was a ten-year plan and required 45 million dollars in loans.

<sup>18</sup> Zhang Lian-sheng, the director of BMCB, declared that BMCB preferred government allocations and

Commission (BPC) and Beijing Finance Bureau (BFB) were two important departments supporting BOT. Despite in charge of creating new methods to fulfill the demand of public infrastructure construction, BPC had an incentive to promote BOT because it's subsidiary, the Beijing Municipal Engineering Consulting Corporation (BECC), was a BOT analysis team (Zhu, Ji and Zhang 1992; Beijing Municipal Engineering Consulting Corporation 1995). BFB supported the World Bank because 1) they were acutely aware of the government's budgetary limitations on public infrastructure, since they were responsible for financing and budgeting, 2) BFCB's inefficiency produced a huge debt, and 3) the LPMO of BFB had institutional ties with the World Bank. When the Beijing government applied for sub-projects related to the Beijing Environmental Project, the World Bank used funds as a leverage to pressure the Beijing government to establish marketization reforms (Ceng 2004; World Bank 2005; Tan 2013).

Because of BFCB's resistance, the World Bank and the Beijing government did not promote entire marketization reforms of public utilities. They referred to BPC's experience where corporatizing the sub-units of bureaus was able to change their negative attitude towards marketization because they benefited from the corporatized units. More importantly, the corporatization of governmental units was the first step toward privatization. Although corporatized units were state-owned companies, it was easy to transform these companies to privatized companies when social capital was able to purchase their shares. As a result, the World Bank asked a few units of the BFCB to corporatize as a project conditionality (Yue 2000).

At the central administrative level, in response to the opposition, the reformists, the Ministry of Finance (MOF), and the SPC aligned with the UNDP and the World Bank to

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loans to supply public infrastructure funds. Moreover, the World Bank could utilize the loans to support BFCB's construction (Zhang 1994).

promote BOT. The SPC's responsibility for macro-economic planning initially opposed the carbon emission reductions, but now supported the international institutions' BOT agenda. The SPC realized that without an efficient method to attract foreign investment, China's resources could not afford to build sufficient public infrastructure (Dong 2007). The reasons of MOF's support for BOT were similar to BFB's. Apart from understanding the limitations from the government's budgetary shortage on public infrastructure, the support from LPMOs, including the Beijing LPMO, played important roles. On the one hand, many LPMOs' opinions to support BOT reforms gathered into MOF's NPMO. On the other hand, NPMO had institutional ties with the World Bank, who was able to monitor the project management teams directly or through the NPMO, and further identify major obstacles of the projects. In this way, the World Bank could request NPMO to play a role in suggesting that MOF propose policies in order to fulfill projects. As a result, MOF received inside and outside pressure from the department to promote BOT (World Bank Department of Ministry of Finance 1996; Ceng 2004; World Bank 2005; Tan 2013).

In addition, during the project preparatory processes, the UN and the World Bank arranged for MNCs to express pro-marketization demands. For example, the Chinese government and the UNDP invited all donors to participate in a roundtable conference in Beijing in 1994. Edwin Falkman, the executive chairman of Waste Management International (one of the biggest incineration companies globally) suggested that the Chinese government should demonstrate a deep commitment to BOT and the privatization of public utilities (Falkman 1994). Hugh Faulkner, BSCD's president, reiterated that the only aspect of the BCSD attempted to accomplish in China was to establish PPP (Faulkner 1994). MNCs' attitude placed pressure on the Chinese government. Under the UN's detailed correction<sup>19</sup>,

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<sup>19</sup> The ACCA director Gan Shi-jun suggested that "the UNDP corrected the drafts chapter by chapter (Gan 1993)."

China's Agenda Priority Projects<sup>20</sup> agreed to utilize diverse investment forms to support projects, including multilateral, bilateral, aids, loans, sole proprietorship, joint capital, and BOT (State Planning Commission and State Science and Technology Commission 1994). János Pásztor, UNDP's chief of the consultant group, admitted: "UNDP's role has been crucial in many ways – not least of all due to the fact that it is through a UNDP project that activities of this project have been developed, supported and implemented (Pásztor 1993)."

As a result, although a few departments' disagreement succeeded in blocking the whole marketization reform, the Chinese government still fulfilled several important public utility marketization rules. First, the Chinese government realized the importance of the corporatization of governmental units to promote BOT while the World Bank suggested that China should establish domestic BOT consulting companies in order to help MNCs address complex political relations. The SPC invested two BOT consulting companies: Beijing BOT Ltd. and Trust of Bridge Basic Installation Investment Consulting Ltd. The leaders of these two companies were the SPC officials going into business (Mao and Chen 1997; Jin 2014). These corporations dealt in project consulting, project feasible reports' writing, project supervision, assets evaluation, etc. (Beijing Municipal Engineering Consulting Corporation 1995).

Second, supported by the UN and the World Bank, the Chinese central government

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<sup>20</sup> China's Agenda 21 was separated into two documents. The first document was China's Agenda White Paper. The white paper referred to Agenda 21's structure and pattern, describing ideas, practices and purposes of Chinese sustainable development strategy and emphasized legal reforms for sustainable development (Gan 1993; Song 1993). The second document was related to China's Agenda 21 priority projects. The priority projects were important because they contained a list of concrete projects to achieve the purposes of China's Agenda 21 that was to be merged into the 9<sup>th</sup> Five-year Plan of China (Pásztor 1993; State Planning Commission and State Science and Technology Commission 1994). The UNDP investigated each project in order to affirm that the projects adequately met the demands and criteria for international investment.

passed two important BOT notices for foreign investment. In 1994, the same year when China's Agenda 21 was approved by the State Council and sponsored by the World Bank and the ADB, the SPC and the World Bank held two international conferences regarding related to BOT investment and a BOT legal framework (Liu 1995; Mao and Chen 1997). As a result, the Chinese government decided to pass two important administrative orders. The Ministry of Foreign Trade and Economic Cooperation announced "The Notice of Concerning Issues of Using BOT to Attract Foreign Investment" in January 1995. The SPC, the Ministry of Electric Power, and the Ministry of Communications announced "The Notice of Concerning Issues of the Examination and Approval Administration of Foreign Investment in BOT" in August 1995 (Zhai 2003). Although these two notices focused on foreign corporations, they became an important legal basis to develop future public utility marketization reforms for domestic corporations (Zhong, Mol and Fu 2008).

Third, after the BOT consulting companies were established, the Chinese government formally employed BOT pilot projects<sup>21</sup>. These pilot projects were important because they offered examples to support further marketization policies and allowed BOT consulting companies to gain experience and resources to promote further BOT practices and reforms.

### **The Beijing Waste Management Strategy**

The UN and the World Bank's sustainable development agenda had significant influences on the Beijing waste management strategy before 1997. Before China's Agenda 21 and the China Environmental Strategy Paper, the Chinese government (including the Beijing

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<sup>21</sup> In 1994, the SPC announced five BOT pilot projects: the Guangxi Laibin B Power Plant, Chengtu 6<sup>th</sup> Water Utility, Guangdong Dianbai Freeway, Wuhan Junshan Yangtze River Bridge, and Changsha Wangcheng Power Plant. Trust of Bridge prepared for the Guangxi Laibin B Power Plant (Jin 2014). In 1993, Beijing announced that Beijing BOT Ltd. was responsible for planning and designing the Jingtong Expressway BOT project (Jin 2014).

government) did not previously consider solid waste as a part of its comprehensive environmental problems<sup>22</sup>. China's Agenda 21's classification of incineration technology as clean energy allowed the Chinese government to establish incinerators as a better solution of solid waste problems. In the Beijing Environmental Project, the World Bank funded the Beijing government to build a landfill facility. In 1996, the World Bank funded and advised the Beijing Environmental Sanitation Administration (BESA) to study solid waste treatment for Beijing. In the study report, *Options for Domestic Solid Waste Treatment in Beijing*, BESA depicted the future growth rate of Beijing's garbage and planned to build five incinerators in the future (Beijing Environmental Sanitation Administration 1996). This report became an important road map to guide Beijing's waste disposal plan for the next 20 years.

In addition, the new BOT legal framework created by the pro-BOT group and the international institutions affected the local governments' public infrastructure strategy to support BOT. The Beijing government started to use BOT to import foreign and private investment without the World Bank's project loans, so as to develop environmental projects, including incineration. In 1997, the mayor of Beijing, Jia Qing-lin, decided to build the Gaoantun incinerator. The Bureau of Environmental Health of Beijing Chaoyang District and Hua Lian Da Clean Energy Technology Ltd. invested in the Gaoantun incinerator project and

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<sup>22</sup> Before the market reform, the underdeveloped consumer society did not produce massive amounts of garbage. The Chinese government's capacity was able to use recycling solutions to dispose of garbage from the Mao era. Because garbage was treated as viable resources, the Ministry of Commerce was responsible for solid waste management in the collecting garbage and, thus, allocated renewable resources (Feng 2007). After the market reform, urban planning departments joined waste management because rapid urbanization caused increasing amounts of solid waste. The Chinese government did not treat solid waste as part of environmental problems prior to receiving the World Bank's advice (World Bank 1992).

accepted the Spanish government's loans (Jia 2005; Xu 2007). The Golden State Environment Group Corporation (Golden State), founded by Peter C. Jiang who was a returning overseas scholar, imported the equipment of the Gaoantun incinerator in 1997 (Zhang 2010b).

### **The Impact of the Asia Financial Crisis**

In July 1997, the collapse of Thailand's currency value triggered the Asian financial crisis. The currency devaluation quickly spread to other Asian countries (Corsetti, Pesenti and Roubini 1999). Although China was able to maintain the renminbi's value successfully (Wang 2003), China did, however, experience an economic downturn. In 1996, the Gross Domestic Product (GDP) growth held at 9.9%, but later fell to 9.2%, 7.8%, and 7.6% in 1997, 1998, and 1999, respectively<sup>23</sup>.

After the Asian financial crisis threatened China's economy, the Chinese government offered relevant bailout policies. Although the bailout policies alleviated the crisis, the local governments used the treasury bonds to facilitate more construction and to build solid waste treatments, which produced an outcome that provoked many conflicts between the pro-BOT and anti-BOT groups. Before 1997, the marketization reform of environmental policy strategy, where that several public utility projects adopted BOT to introduce private investments, threatened the local departments which were still responsible for constructing public utilities. Therefore, the treasury bonds for construction offered opportunities for these local departments to challenge BOT policies. After allying with anti-BOT officials, they not only attained public utility projects, which included incinerators, but also suspended BOT projects.

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<sup>23</sup> The GDP growth rates are gathered from the World Bank website:

<http://data.worldbank.org/indicator/NY.GDP.MKTP.KD.ZG?end=2015&locations=CN&start=1961&view=chart>

In response to the anti-BOT group's challenge, private environmental corporations and reformist officials mobilized politically, so as to maintain or even expand BOT policies. Thus, they treated bond projects as a non-institutional and temporary solutions; hence, they began lobbying local governments to reoffer BOT projects. Not surprisingly, the city of Beijing was an important target for them.

When many private environmental corporations were integrated enterprises, which were involved in sewage treatment, incineration, and other environmental business, they primarily promoted sewage facility BOT, so as to justify local BOT pilot projects. This action also endorsed a nationwide and general BOT legal framework, which was suitably appropriate for all kinds of public utilities, including incineration. Wen Yi-bo, the chairman of Sound Environmental Resources Co. Ltd. (Sound Co.), took out a full-page ad to advocate the China Blue Water Plan, which posited that private sectors' participation in sewage treatment was the only way to solve the problem of river pollution (Zhang 2009b)<sup>24</sup>. Wen Yi-bo's action quickly attracted Beijing reformist officials' attention, especially Beijing's vice mayor Wang Guang-dao, a Beijing reformist leader, who were confronted with a challenge from the anti-BOT group (Ouyang 2015).

Sound Co. and the reformist officials' alliance led the anti-BOT group's attack. G-3 said, "Wen Yi-bo's plan offended BMCB and Beijing Waterworks. They ganged up against Sound Co., and because of the pressure, the leaders of the Beijing government decided to offer a small project to Sound Co. (Interview G-3, July, 12, 2016)." As a result, Wang Guang-dao offered the Xiaoguhe sewage treatment BOT project to Sound Co. and appointed Dayue Consulting Corporation to modify the BOT contract (Jin 2003).

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<sup>24</sup> In the 1990s with the political restrictions on social actors, Wen Yi-bo's action was quite ambitious and somewhat risky. G-3 thought that because Wen Yi-bo was Hunanese, he ventured to say that his daring attitude displayed an ambitious character (Interview G-3, July 12, 2016).

### **The Policy Formation Process of the MAFMPU**

After the pro-BOT groups' efforts, although some cities maintained BOT policies that created BOT projects, reformists and private environmental corporations were not satisfied. Their dissatisfaction came about because it was remained a tentative policy to maintain BOT projects, which were dependent upon city leaders' preference for marketization. From the perspective of the reformists and private environmental corporations, the marketization of urban utilities was the only way in which to substitute for inefficient public infrastructures and expand incineration markets. Thus, reformists attempted to create a pragmatic and nationwide BOT law that would be more realistic and practical. Therefore, when Wang Guang-dao became the minister of the Ministry of Construction (MOC) in 2001, he decided to propel an urban utilities BOT legal framework immediately (Jin 2014). In an official work conference initiated in August 2002, Wang Guang-dao declared that "operations of municipal sewage and waste treatment projects have to follow corporatization and marketization models in order to push industrialization (Wang 2002)." This declaration demonstrated that Wang Guang-dao's policy direction was to utilize the marketization reform (BOT was a primary reform) to promote the environmental industries, including the incineration industry, so as to deal with urban sewage and waste problems.

When Wang Guang-dao's attempt to propel the BOT legal framework, they faced a debate whether BOT was able to solve the environmental problems. Reformist officials and private environmental corporations confronted two obstacles. First, they met a challenge from anti-BOT officials in the Chinese government. Second, public opinion raised the question that the marketization of urban utilities worsened with the loss of state-owned assets (Li 2001). In order to pass a workable and effective BOT rule, Wang Guang-dao further modified the state structures and invited various social actors to participate in MOC's policy-making processes.

*The Challenge from Anti-BOT Officials*

Although the minister of MOC, Wang Guang-dao, promoted the BOT legal framework, anti-BOT departments mobilized politically to resist the marketization of the urban utilities. Besides arguing the importance to maintain public departments, anti-BOT groups complained that pro-BOT officials did not have the capacity for drafting a working law (Li 2003)<sup>25</sup>.

From pro-BOT groups' point of view, the criticism was partly true. Because the administrative reform of 1998 cut several crucial departments which had intervened in the economy during the Mao era<sup>26</sup>, many authorities, including MOC, did not possess sufficient manpower to adequately investigate the market operation. Moreover, MOC was responsible for urban planning and solid waste management, and according to the administrative reform of 1998, MOC employed two reform policies. On the one hand, numerous subunits of MOC were merged and corporatized. On the other hand, MOC altered the function of intervention into macro control, and did not focus on policy details (Ye 2000). As a result, when Wang Guang-dao became the minister of MOC in 2001, the weakened and altered structure of MOC did not have the capacity to establish an appropriate law for a market economy (Jin and Chang 2004).

In response to anti-BOT groups' challenge and the weakened capacity of MOC, Wang Guang-dao established a channel in MOC for external support. One important supportive

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<sup>25</sup> Li Dong-xu was the director of MOC's Urban Construction Department. He wrote an article in the People's Daily that criticized some conservative departments' resistance on the marketization of the urban utilities (Li 2003). This action revealed that the anti-BOT group's obstacle had an effect and reformists had to disclose the conflict between them in order to put pressure on the anti-BOT group.

<sup>26</sup> After 1998, with advice from the World Bank, the Chinese administration experienced another wave of shifts in the state structure. The State Council carried out a new administrative reform in 1998. In this reform, the State Council displaced 15 departments and dismissed thousands of officials (Luo 1998). Thus, the diminution of these authorities resulted in changes in decision-making processes.

factor for Wang Guang-dao was his close relationships with private sectors, which were established during the promotion of Beijing BOT projects. Wang Guang-dao outsourced the BOT draft to the Dayue Consulting Corporation, which had several collaborations with Wang Guang-dao and the Beijing government (Jin, Wu and Ma 2003).

*Public Opinions' Debate on the Marketization*

In a separate political arena, public opinions that were concerned about further marketization reforms emerged. These public opinions, which were generated by new leftists, originated from the widespread social discontent of the marketization produced by China's large scale privatization policies in the 1990s. MOC's BOT promotion process caused another wave of outcry from new leftists (Shan 2002). Their efforts to challenge marketization attracted media attention, as the media's negative reports on the next step in privatization developments became MOC's threat to promote BOT and private incineration corporations' obstacle to utilize BOT to expand the market.

In response to public opinions' concerns, MOC aligned with private environmental corporations to produce a counterargument. At the administrative level, private environmental corporations also focused on a sewage treatment' BOT in order to justify a nationwide BOT legal framework, which was able to support incineration. For example, in order to support MOC, Wen Yi-bo placed several related advertisements and contributed several articles to newspapers between 2001 and 2002 (Lu 2009).

The private environmental corporations' informal environmental industrial association, namely, the "h2o-china.com" website<sup>27</sup>, also played an important role. In order to reinforce

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<sup>27</sup> H2o-china.com was established and funded by Golden State. When the BOT policy was threatened by the bonds issued for construction after the Asian financial crisis, Golden State attempted to collect environmental corporations' opinions, so as to influence policy decisions. Golden State decided to establish a website instead of a formal industrial association for the following two reasons. First, in the beginning 2000s,

the dramatic influence, h2o-china.com established a “strategic partnership” with MOC and an academic institution, the Department of Environmental Science and Engineering (DESE), Tsinghua University. Moreover, DESE’s Professor C-3 was hired as an advisor for h2o-china.com because C-3 was an MOC official before he became a professor at Tsinghua University. Hence, h2o-china.com took advantage of his close ties with MOC, so as to gain resources and influence policies (h2o-china.com 2002; h2o-china.com 2004a). In addition, h2o-china.com generated public opinions which garnered support for MOC leaders’ marketization policies of urban utilities. C-3 suggested that after h2o-china.com was established, it played a major role in its impact on public opinion and the theoretical support for the reformists among the state managers (Interview C-3, June 29, 2016). C-4, who was a leader of h2o-china.com, said that, “the reformists we wanted to support were Wang Guangdao and his colleagues in MOC (Interview C-4, June 30, 2016).” Since 2000, h2o-china.com published several convincing articles, as well as hosting academic conferences and industrial forums to garner more support for the marketization of sewage treatment and urban utilities (h2o-china.com 2002; h2o-china.com 2004a).

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the size of urban utilities corporations was too small and inadequate to call on them to organize a formal group and make collective decisions. Second, there were two government-organized environmental industrial associations in the early 2000s: the China Association of Circular Economy and the China Association of Environmental Protection Industry. However, the establishing of an independent industrial association involved political risks for private corporations. As a result, Golden State decided to establish and promote a website to report industrial news and generate more public opinions (Interview C-1, June 17, 2016). However, superficially, h2o-china.com was registered as an industrial news website, but in fact, it performed many functions of an industrial association, such as recruiting members, collecting membership fees, holding conferences, publishing annual industrial reports, and announcing collective statements (h2o-china.com 2004c; h2o-china.com n. d.).

## **The MAFMPU and the Beijing BOT Legal Framework**

Due to the above mentioned collaboration between MOC leaders and private corporations, in December 2002, MOC announced the “Opinion for Increase in Marketization processes of Municipal Public Utilities (OIMP).” In order to accelerate the legislation, MOC authorized Dayue to employ BOT project investigation research and allowed Dayue to participate in the MAFMPU’s drafting process (Jin and Chang 2004); In March 2004, the MAFMPU was announced.

### *Beijing BOT Legal Framework and BOT Practices of Incinerators*

The passing of the OIMP provided an opportunity for pro-BOT groups at local levels to promote local BOT rules and a variety of BOT facility projects, which included incinerators. In Beijing, the Sound Co.’s Xiaoguhe project and Beijing’s winning the bid for hosting the 2008 Olympic Games in 2001 promoted two other catalysts for the city of Beijing to construct more BOT projects<sup>28</sup>. As a result, the large number of new BOT projects created the necessity for BOT laws, policies, and rules, so as to reduce disputes, and attract more private investment targeting various BOT projects (Zhou 2010).

After MOC passed the OIMP in 2002, the pro-BOT group was in a prime position to request that the Beijing government followed the central government’s opinion and fulfilled local BOT laws. In 2003, the Beijing government announced two crucial BOT rules. The first

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<sup>28</sup> After Wang Guang-dao, the primary BOT advocacy leader in Beijing, was promoted to MOC in 2001, the Sound Co.’s Xiaoguhe sewage treatment facility became a catalyst for the city of Beijing to construct more BOT projects. Since the Xiaoguhe project, the Beijing government created another eight sewage treatment BOT projects from 2000-2003 (h2o-china.com 2004b; Yang 2012)<sup>28</sup>. They were Beijing Economic Technological Development Zone (2000), Tongzhou (2002), Lugouqiao (2003), Beiyuan (2003), Dingfuzhuang (2003), Fatou (2003), and Wulituo (2003). Moreover, because the city of Beijing won its bid for hosting the 2008 Olympic Games in 2001, the demand for a large amount of Olympic venues prompted the Beijing government to create additional BOT projects.

was “The Opinion for Deepening Municipal Infrastructure Facility’s Investment and Financing System Reform.” This opinion explicitly stipulated that the city of Beijing would use PPP and BOT to attract social capital’s investment to urban infrastructures. The second was “The Measures for the Franchising Operation of Urban Infrastructures of Beijing Municipality.” These measures not only offered explicit steps for authorities to implement BOT projects, but also stipulated the scope of various urban infrastructures authorized to use BOT, including that of solid waste facilities (Zhou and Xu 2008; Zhou 2010; Yang 2012). The new rules provided an incentive for the Beijing government to utilize BOT to build infrastructures.

As a result, the effort to promote BOT urban utilities altered the Beijing municipal solid waste treatment policy, which created even more incineration facilities. In the same year of passing these two BOT rules, the Beijing government announced an urban solid waste treatment document: the “White Paper of Beijing Household Waste Governance” in 2003. In order to meet the requirements of a green Olympics, the white paper claimed to complete fifteen new urban solid waste facilities, along with three new incinerators. Because the BOT rules inspired the Beijing government’s confidence in building more urban utilities, the white paper emphasized that building solid waste facilities would utilize BOT to meet the construction requirements. Finally, the Beijing government announced the construction of two new incineration projects with BOT in Asuwei and Liulitun in 2005.

In 2007, the Beijing government announced another important urban solid waste treatment document: “Beijing MSW Treatment Facility Construction Implementation Plan in the 11<sup>th</sup> Five-year Plan (BMSWP).” The plan extended the white paper and specified, in 2010, not only an increased incineration rate from less than 10% to 40%, but also the completion of four scheduled incinerators: Liulitun, Gaoantun, Nangong, and Asuwei (Beijing Municipal Committee of the City 2007).

## **The Global Financial Crisis of 2007-2008**

The global financial crisis of 2007-2008 created a sudden and negative impact upon the Chinese economy. In 2007, the rate of China's GDP growth was 14.2%, which declined to 9.6% and 9.2% in 2008 and 2009, respectively<sup>29</sup>. Thus, numerous corporations registered a severe deficit. In response to the crisis, the Chinese government offered a four-trillion yuan economic stimulus plan focusing on infrastructure investment, which promoted corporations to develop a new profit model (Barboza 2008). However, similar to the Asian financial crisis of 1997, the government's stimulus plan threatened BOT projects again.

Moreover, because the crisis emerged from the US and Europe, neo-liberal developmental agendas, which were advocated by advantaged countries and the international institutions, created serious doubt. Furthermore, new leftists in China had a much broader political space to criticize the market reforms and privatization initiatives. Moreover, some state managers and intellectuals were more confident about China's state capacity and attempted to offer an alternative state, especially after the stimulus plan was effectual and the Chinese economy began to recover after the second quarter of 2009 (Freeman III and Wen 2011).

## **The Profit Crisis of SOEs**

The global financial crisis influenced all spheres of the economy, and many corporations, especially SOEs, attempted to locate new profitable business ventures. They discovered that the contract period of incineration BOT projects normally ranged between 25-30 years, which would allowed them to receive stable incomes for a long period of time (Li 2012). As a result, many corporations attempted to pour investment into the urban

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<sup>29</sup> The GDP growth rates are gathered from the World Bank website:

<http://data.worldbank.org/indicator/NY.GDP.MKTP.KD.ZG?end=2015&locations=CN&start=1961&view=chart>

infrastructure field (Jin 2015a). In these corporations, SOEs' investment had a significant influence on the BOT market. The decline in neo-liberal influences legitimated SOEs' expansion; thus, when SOEs had formal and informal ties with the government, they were able to easily leap over any administrative obstacles, ask the local governments to restore BOT projects for them, and receive additional incineration projects. This was especially evident among the first-tier cities which were large enough to own local SOEs, since these cities' incineration projects were monopolized by their urban construction groups and local SOEs (Interview F-2, July 8, 2016).

Therefore, from private environmental corporations' point of view, local governments decreased the number of BOT projects, or only invited SOEs to bid on BOT projects (h2o-china.com 2008; Dong 2015). Private incineration corporations were also confronted with declines in BOT projects again (Jin 2015b), which led to the marketization process of urban infrastructure becoming an uncertainty.

As a result, while the members of the CECC and E20<sup>30</sup> confronted diverse problems, they attempted to develop an industry-wide policy, which would be able to benefit all members of the industry. In addition, the central government attempted to play a role as a mediator, so as to determine new state agendas and industry-wide interests.

## **The Debts of Local Governments**

Although the economic stimulus plan alleviated the impact of the crisis, it produced a

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<sup>30</sup> In 2010, the leaders of h2o-china.com and solidwaste.com.cn established the Environmental Industry E20 Club, which recruited more than 30 famous environmental corporations as members. E20 became an umbrella name of h2o-china.com and solidwaste.com.cn. In 2014, the E20 Environmental Platform was established and became the parent company of h2o-china.com, solidwaste.com.cn, china-daqi.com, E20 Institute of Environment Industry, E20 Club, and E20 Forum. In 2015, the E20 Environmental Platform issued initial public offerings on the National Equities Exchange and Quotations.

serious side effect. That is, in order to drive the economic growth, local governments abused the stimulus plan to create a huge number of infrastructure projects; so as the supplement funds for the projects incurred severe debts. When the central government realized that the debts demanded an immediate action, two major solutions emerged. One the one hand, Ministry of Finance (MOF) emphasized that local governments should employ austerity programs in order to reduce the debts. On the other hand, the National Development and Reform Commission (NDRC) insisted the importance of infrastructure projects for the economic growth, so as to prefer a method which was able to transfer the debts.

The debate of the two solutions provided an opportunity for the pro-BOT group to mobilize politically. Pro-BOT officials and private environmental corporations allied with SOEs to promote a new BOT policy. They argued that the thorough expansion of BOT was able to not only utilize infrastructure projects to drive the economic growth, but also invite private investment to absorb local governments' debts.

The CECC and E20 not only convened NDRC's meetings, but also held forums and appointed their cadres to present the committees of experts. During this period, the CECC and E20 had developed into important actors in the decision-making processes. They not only recruited major corporations into their organizations, but also exhibited their good organizational capabilities. A formal official of the BMCDCR stated, "We were impressed by their capabilities, especially E20." He emphasized that "it was a virtuous cycle. E20 could recruit almost all corporations. The government had to participate in their events because they represented the industry's important actors. When many suggestions of E20 were accepted by the government, more corporations thought that E20 had great influences and wanted to participate (Interview, A-1, June 16, 2016)."

As a result, in order to balance the economic growth and debts, the BOT policy got the Chinese government leaders' favor. In 2013, 3<sup>rd</sup> Plenary Session of 18<sup>th</sup> CPC Central

Committee decided to “permit the social capital participated into urban infrastructure facilities’ investment and operation through the franchise.” The NDRC announced “Administrative Measures for the Government Confirmation of Investment Projects” in June 2014 to promote PPP. In order to prevent another wave of the project investment abuse, MOF announced the “Notice of the Ministry of Finance on Issues concerning the Promotion of the Use of Public-Private Partnership (PPP)” in September 2014, which emphasized that the PPP should improve the government’s debt management. When the NDRC continentally issued several PPP rules, they created a new wave of PPP projects.

### **Beijing Incineration Development**

The Beijing government and incineration corporations attempted to enact the BMSWP after 2007. In fact, although the BMSWP stated their objective regarding incinerator construction and numbers, the plan was actually a compromise. On the one hand, some experts along with the state managers who still preferred other waste treatment solutions, such as urban waste compost and garbage classification, urged the Beijing government to put their agendas into the BMSWP (Interview A-3, June 26, 2016; Interview B-2, June 10, 2016)<sup>31</sup>. On the other hand, in order to gain legitimacy, leaders of the Beijing government wanted to demonstrate a comprehensive plan that was under consideration. Their competition occurred in the policies’ practices (Interview E-1, June 25, 2016)<sup>32</sup>.

### **The Conflicts of the BMSWP Practice**

In the BMSWP, the Beijing government emphasized that incinerators played a role in

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<sup>31</sup> B-2 is a professor of an environmental department in Beijing and an expert in the Ministry of Environmental Protection. He is an important advocate for garbage classification and provided numerous suggestions to the Beijing government.

<sup>32</sup> E-1 said that because the BMCDR had the shortage of personnel, it was not able to take time out to deal with all the conflicts. Putting all the actors’ suggestions in policies was simply a way to mitigate conflicts.

urban waste problems, as well as denoting the importance of urban waste compost and garbage classification. Although the BMSWP claimed that these three solutions were complementary, they had serious conflicts of interest. According to the pro-incineration groups, if a government decided to build more urban waste compost facilities, the number of incinerators would decline. Moreover, garbage classification was the most significant threat for the development of incinerations. Some experts and state managers claimed that incineration technology could only be utilized in a city which established a precise garbage classification system. They argued that if garbage was not well classified, the incomplete combustion of incinerators would produce toxic carcinogens, such as dioxin (Interview B-1, June 15, 2016). Moreover, because one of the important aspects of incinerators' income was derived from garbage disposal fees, which were measured by weight and were paid by the local governments, the classified garbage reduction in weight negatively impacted incineration corporations' profits (Interview I-2, June 19, 2016)<sup>33</sup>.

The Beijing government assigned the Beijing Municipal Commission of City Administration and Environment (BMC) to be in charge of the BMSWP. Although the BMC attempted to implement all the solutions, incineration finally gained Beijing's favor. There were three reasons for this. First, the decline of land resources in Beijing could not satisfy the landfill and urban waste compost's large land area demands. Furthermore, the promise of

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<sup>33</sup> In June 2016, a court case in Guangzhou also ruled the conflict between incineration and garbage classification in China. The defendant, Pan Sheng-shen, was the former chairman of the Guangzhou Guangri Group (GGG), a local SOE monopolizing Guangzhou city's incineration market. Pan Sheng-shen was accused of corruption in 2015. He also was blamed for causing a resistance to garbage classification when he was the chairman of GGG. Pan Sheng-shen questioned, "Why do I need to implement garbage classification? When classification reduces one ton of garbage, I reduce one ton of subsidies, so as to reduce one ton of income (Yang 2016)."

urban waste compost's benefits of power generation did not meet the efficiency targets (Interview A-1, June 16, 2016; Interview F-1, June 26, 2016)<sup>34</sup>.

Second, Beijing was facing the predicament of being besieged by garbage, and if the leaders of the Beijing government could not effectively manage this serious public issue, they would most certainly have confronted promotion issues. They had an urgent need for a quick-fix solution to serious garbage problems (Interview A-3, June 27, 2016). Therefore, the leaders and incineration corporations formed an alliance which affected the Beijing government's opinion to ignore garbage classification implementation.

Third, pro-incineration officials, incineration corporations, [solidwaste.com.cn](http://solidwaste.com.cn), and CECC produced a common rhetoric which claimed that unlike Western countries, Beijing had an informal garbage recycling system where large numbers of migrant workers collected all reusable wastes such as paper, plastic bottles, glass bottles, electronic products, and furniture. They insisted that the rest of the garbage was suitable for incinerators (Interview A-3, June 27, 2016; Interview A-4, July 4, 2016). This consensus affected Beijing leaders' negative attitude towards further garbage classification policies (Interview, A-1, June 16, 2016).

As a result, the Beijing government did not offer enough sufficient and power for garbage classification implementation. Pro-incineration officials fiercely resisted the development of garbage classification as well. An official of the BMC admitted that while Beijing proceeded with implemented garbage classification after 2007 due to the upcoming

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<sup>34</sup> A-1 said that "(one reason to choose incineration is) the shortage of land resource. You didn't think. If you ask me to find 1000 mu of land in Beijing for a landfill, where I can find it? Plain areas are all villages. Mountainous areas are all water-source protection barriers. It is impossible to build a landfill plain (Interview A-1, June 16)." F-1 said that "after the reform, we employed a waste compost solution. The state supported us. Many waste compost plants were built in all country. Finally, these plants were closed. They could not operate (Interview F-1, June 26, 2016)."

Beijing Olympic Games, the effect of the implementation was worse. Only 10% of the garbage was classified (Interview A-3, June 27, 2016).

### **Local SOEs' Domination over the Beijing Incineration Market**

Although private incineration corporations and pro-BOT officials promoted Beijing BOT rules and the BMSWP, the private corporations did not occupy the entire market. While neo-liberal agendas were challenged after the global financial crisis, new leftists enjoyed enhanced opportunities and legitimacy to resist market reforms<sup>35</sup>. SOEs had larger legitimacy to develop. Moreover, the global financial crisis caused SOEs' profits to decline, which offered incentive to encourage them to mobilize politically. Many SOEs discovered that because BOT projects had 25-30 years contracts, they were able to receive stable incomes for an extended period of time (Dong 2015; Jin 2015b). The local governments also supported local SOEs' participation in BOT projects. Because the construction and operation of BOT projects were complex processes, they generated numerous disputes. The formal and informal ties between the local governments and local SOEs allowed the latter to mitigate the disputes quickly and effectively. For example, a staff member of the Beijing Huanwei Group (BHG) argued that, "We, local state-own enterprises, in Beijing must have our advantages. It's impossible that our rivals can offer proposals which are more detailed than mine." He continued: "A major reason is that when I can show you I establish, construct, design, and operate projects by myself, you can deduce that I understand the local contexts, right (Interview, A-1, June 16, 2016)?" An official of BMCDCR said that "private incineration corporations did not like local SOEs. Private incineration corporations were not responsible

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<sup>35</sup> For example, Hu An-gang supported the reform during the electric power system reform. After 2008, he published some important articles in newspapers to support SOEs, nationalism, and socialism. Thus, Hu An-gang became an important scholar for new leftists. As described in Footnote 45, because Hu An-gang's opinion was treated as the top leaders' trail balloon, his reverse boosted SOEs' confidence to expand influences.

for their troubles. We had to spend a lot of time dealing with them. Collaboration with local SOEs could save us time and money (Interview A-3, June 27, 2016).”

Therefore, in Beijing, local SOEs actively entered into the BOT incineration market. They treated the projects as profitable businesses. Three crucial Beijing local SOEs, BEGC, Shougang Corporation, and BHE, diversified into the incineration industry. They gained Lugushan incinerator and Nangong incinerator projects. A-1 said:

“Our advantage is that we provide comprehensive services in the urban sanitation field, including road cleaning, solid waste transportation, solid waste disposal, equipment production, facility operation, etc. .... We are ‘a dragon service’<sup>36</sup>.’ The Beijing government took this into consideration (Interview, A-1, June 16, 2016).”

As a result, private incineration corporations realized that the Beijing incineration market was monopolized by local Beijing SOEs, who were so powerful that even central incineration SOEs could not invest in the Beijing area. Everbright Environmental Protection Industry Co., Ltd. (EEP) was the largest central incineration SOEs in China. A leader of EEP said, “We have employed all our influences, but we cannot enter Beijing (Interview F-2, July 8, 2016).”

### **The Roles of the Beijing Environmental Authority**

Because the Beijing government’s leaders had a tendency to use incineration and the fact that the local SOEs played an important role in incineration projects, the officials of the Beijing Municipal Environmental Protection Bureau (BEPU) were divided into various groups. First, officials who believed that incineration was more environmental than other solid waste treatments or were under upper administrative pressure supported the leaders’ pro-incineration guidelines. Second, a few BEPU officials who considered incineration’s

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<sup>36</sup> “A dragon service” means that a company employs a vertical integration strategy which involves linking sectors in the pre-production, production and marketing chains (Waldron, Brown and Longworth 2006).

pollution supported the reinforcement of regulations on incinerators. Due to the following reasons, the pro-incineration strategy became BEPU's policy.

First, when Beijing's garbage problem had a correlation with leaders' promotions, there was an urgent environmental issue relating to massive amounts of garbage that could not be disposed. As a subordinate unit of the Beijing government, BEPU was under the pressure to cooperate with the leaders and ignore the potential pollution threat of incinerators.

Second, Beijing urban waste policies were determined by the BNDRC and the BMCC. Moreover, incineration corporations and incineration industry associations established close ties with the BMCDR and BMC. BEPU's implementation of environmental regulations, however, was under pressure from these two departments. An official of BEPU stated that BEPU should consider the complete development of Beijing. Because incineration was able to address the current serious environmental crisis at the time – Beijing being besieged by garbage, BEPU was responsible for supporting the development of the incineration industry (Interview B-1, June 15, 2016).

Third, because of the administrative reforms, BEPU had a demand for introducing external experts; therefore, when the BEPU decided to promote incinerators, pro-incineration BEPU officials and the experts played an important role in cutting environmental regulations<sup>37</sup>.

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<sup>37</sup> For example, land acquisition was constituted one of the primary problems of incineration projects because there was a rule that stipulated that the distance between an incinerator and residential area had to be more than 1000 meters. Getting construction permits approved takes incineration corporations a considerable amount of time, especially after the emergence of anti-incinerator groups. In Beijing, in order to get the Liulitun incinerator project approved, BEPU held a "Verification Meeting of Well-known Domestic Experts" to reduce the standard distance between an incinerator and residential area from 1000 to 300 meters. Because the meeting invited an anti-incineration expert, B-1, his opposition to this change regarding the standard distance left the meeting in an undecided state (Mali 2010). Thus, the Beijing officials and pro-incineration experts lobbied the

As a result, Beijing's environmental authority did not play a positive role in the prevention of incinerators' pollution, but became a promotive actor to support incinerators. BEPU was the first in line to advocate that incinerators were clean and non-polluting, and to claim that the decision-making processes of incinerators were in accordance with legal procedures, including environmental impact assessment processes. The alliance between leaders of the Beijing government, officials of the BMCDR and the BMC, and the incineration industry formed a policy that promoted the development of incinerators. This policy not only offered resources to support the building of incinerators, but also restricted any obstacles toward the development of the incineration industry within the administration. Although the Beijing government passed numerous environmental regulations on incinerators, they entangled in a mass of political spin. A leader of an environmental NGO said, "BEPU passed these incineration regulations to propagate and persuade us that the anti-incinerator groups and the public should trust the incinerators were clean because of BEPU's monitors. However, in reality, BEPU never implemented these regulations (Interview H-1, June 8, 2016)."

The current incinerators' operation demonstrated that BEPU's passive monitors created potential pollution threats. Although the Gaoantun incinerator had produced some sticky emissions, BEPU did not follow the regulations to disclose the emission data. The residents located near the Gaoantun incinerator engaged in several protests against environmental pollution (Zhang 2009a). Moreover, BEPU did not focus on the disposition of the flying ash which was captured post-combustion from the Gaoantun incinerator. The flying ash contained dioxin which is a toxic carcinogen. According to Beijing's incineration regulations, BEPU

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State Environmental Protection Administration (SEPA) to hold another expert meeting. Finally, SEPA's meeting with the experts passed the reduced standard distance and the new rule became a national standard. In addition, the BEPU removed B-1's name from lists of experts (Interview B-1, June 15, 2016).

should strictly monitor the disposition of the flying ash contaminants. However, when the Gaoantun incinerator produced flying ash at a rate of 12000 tons a year and Beijing's disposition capacity was only 9600 tons per year, BEPU did not take any action to prevent this pollution (Ding 2012). Hence, under BEPU's nonfeasance law enforcement, the Gaoantun incinerator is producing serious pollution, and other building incinerators may well have a similar situation, which will result in an environmental disaster for Beijing at some point in the future (Interview H-1, June 8, 2016).

## **Conclusion**

This research utilized the organizational-political economy perspective to explain the dramatic changes in the environmental policies as well as the development of the Beijing's solid waste policies 1989-2012. One particularly important aspect of the organizational-political economy perspective is to identify historical conditions which provide various mechanisms for the state and social actors to influence policies. Using the historical processes of the three periods (after the Tiananmen Square protests from 1989-1997, after the Asian financial crisis from 1998-2007, and after the global financial crisis from 2008-2012), I explore the three propositions developed by the organizational-political economy perspective: historical conditions, state structures, and the neo-liberal ideology.

First, this analysis supports the proposition that political and economic crises have brought about crucial historical conditions to prompt the state and social actors to mobilize politically, so as to offer new developmental agendas and policies which benefit their interests. From 1989-2012, China experienced three profound crises: the Tiananmen Square Democracy Protests of 1989, the Asian financial crisis of 1998, and the global financial crisis of 2008. This study proffers that these crises urged the state to align with social actors, so as to identify new version PPP policies.

Second, this research demonstrates that various state structures impact the ways in

which social actors access the decision-making processes. The administrative reforms in China produced three outcomes. (1) International institutions' efforts focused on administrative reforms that not only promoted the reforms, but also allowed international institutions and MNCs to actively participate in the decision-making processes in China. (2) The reforms brought about a decrease in the size of the administration; therefore, the Chinese government lost its manpower and resources by which to survey the relevant market operations. Moreover, numerous state departments introduced many external experts into the decision-making processes. (3) the reforms corporatized numerous departments' units and encouraged many officials to enter into business. These corporations and retired officials' previous ties with the government were not only based on an informal or personal relationships, which advanced individual interests, but also introduced an institutional channels to affect policies.

Third, the analysis also shows that the growth and decline in the influence of neo-liberal ideology affected the state and corporate behavior, so as to affect the environmental policy formation processes. During the period of 1989-2007, because neo-liberalism was a prevailing political and economic guideline, reformists, private corporations, MNCs, and international institutions gained more legitimacy to promote the marketization of environmental policies, which included the sustainable development agenda and public utility BOT policies. When neo-liberalism was blamed for the global financial crisis of 2008, SOEs expanded their businesses, including the incineration business. They allied with pro-incineration officials and incineration corporations to promote PPP policies.

This research also provides two important theoretical implications. First, I represent environmental authoritarianism is limited in its ability to portray the social actors' roles within these state structures. The studies of environmental authoritarianism concluded that the Chinese government created top-down state structures, so as to be able to prevent diverse

social interests' interference, so as to offer a more pragmatic and efficient policy. By contrast, this research has demonstrated that these state structures were crucial channels for pro-incineration actors to access the decision-making processes. Even though environmental authoritarianism claims that scientists and technocrats are professional and neutral, they have diverse relationships with incineration corporations and industrial associations, throughout these state structures, leaders of incineration corporations and pro-incineration experts were able to significantly influence MSW policies at the central and local administrative levels.

Environmental authoritarianism also fails to offer an explicit explanation for the internal conflicts among the various state departments. The studies of environmental authoritarianism suggest that the internal conflicts primarily emerge because of the different departments' jurisdictions and their diverse opinions regarding issues. Environmental authoritarianism also illustrates that not only does the Chinese government possess the bureaucratic rules to regulate interactions among the departments, but also that state managers have knowledge and information to negotiate with each other, so as to mediate the conflicts and reach a final consensus. However, this research displays that the internal conflicts within the state structures reflect diverse actors' conflicts. During the three periods, conflicts among departments occurred in many fields. The state mediates the conflicts among the departments through collaboration with social actors. For example, the policy formation process of the MAFMPU revealed that MOC relied on Dayue's (a BOT consulting company) capacity of drafting laws and h2o-china.com's public opinion support.

Second, this research demonstrates that the industrial environmental management model are rooted in its inability to explore limited power of social actors. This research supports the organizational-political economy perspective which argues that the creation of markets is not capable of being separated from politics. In contrast to the claim of neo-liberalism, where markets are self-regulating and independent from the state, this study's

analysis shows that the incineration market was created by the political actions of international institutions, MNCs, and reformist officials.

My analysis also provides limited evidence to support the industrial environmental management model's claim that markets are able to encourage corporations to raise efficiency and employ private environmental regulations. Because incineration corporations submitted that they effectively belong to environmental industries, they claimed that they established strict private regulations and followed environmental norms, so as to establish a typical example for other sectors. However, using the organizational-political economy perspective, this research shows that the incineration corporations were not committed toward employing these environmental regulations, but rather established and operated numerous polluting incinerators. There were three reasons why incineration corporations violated their commitments. First, similar to all industries, incineration corporations were concerned about issues related to their survival, such as the market expansion and subsidy policies. Especially after the Asia financial crisis of 1997 and the global financial crisis of 2008, incineration corporations concentrated within their mobilization in changes in policies which were beneficial to their interests. Their environmental commitments became their rhetoric to legitimize their political actions, so as to influence policies.

Second, although passing the MAFMPU of 2004 and the TMMPAC of 2006 produced significant room for the incineration industry to develop, it also attracted substantial investments, which were used to intensify severe market competition, especially after the global financial crisis. The BOT contract's garbage disposal fees, which were paid by the local governments, decreased dramatically. Therefore, incineration corporations' incomes confronted losses, which resulted in them being unwilling to increase their investment toward pollution prevention technology.

Third, by utilizing incineration investments as an only solid waste solution to expand

domestic investment and dispose of huge amounts of garbage, incineration corporations aligned with leaders of local governments, who were concerned about economic growth and the garbage crisis. When leaders of local governments preferred the incineration solution, local environmental authorities not only supported incineration projects, but refrained from implementing regulations and ignored the incinerators' pollution. Thus, incineration corporations had significant motives for not implementing steps toward pollution reduction.

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