The Politics of Incineration

The Chinese government sees the incineration of garbage as the most effective solution for the problem of disposing of the ever-increasing amounts of waste generated by the steadily expanding populations in the urban centres (Yang, 2013). Good governance is generally considered a prerequisite of urban health. Indicators for the level of modernity, development, and social progress of a state include setting up health governance organizations and institutions, such as the provision of services for sanitation and garbage removal and disposal (Kickbusch, 2007; Vlahov et al., 2007). Beijing and other Chinese metropolises all aspire to be seen as proper modern (global world) cities, using Singapore as their inspiration. All of these cities have top-down organized garbage disposal structures in place, with garbage trucks, transfer stations, landfills, and incinerators. Informal garbage collecting/picking may be more efficient than automated processes (and cheaper, since it contributes raw materials back into the production process), but it is undertaken by an unregulated ‘population [which] can be theorized as a kind of disposability and throwing away within capitalism’ (Yates, 2011: 1680). Added to this is that informal waste picking is less efficient in practice than we often assume or are led to believe. All this is seen as a blight on the modern, well-organized image of the Chinese city that the government wants to project, and this reflects badly on the officialdom that manages it (Ou, 2011; Williams, 2014: 196). But how many incinerators will China need to cope with its garbage?

The 13th Five Year Plan (2015-2020) states that in economically more developed areas and cities with land shortages and a large population, incineration should be designated as the priority technology for waste disposal, while the construction of such plants in third- and fourth-tier cities must increase (Li et al., 2015; Nelles et al., 2017). According to official estimates based on the amount of waste generated in 2011, some 600-700 facilities would need to be built, each with a capacity of 1000 tons per day (Yang, 2013: 182). The China National Renewable Energy Centre 2017 report estimated that 277 million tons of collected MSW will need to be disposed of by 2020, reaching 369 million tons by 2030 and 409 million tons by 2050; 87-90 percent of this amount will be available for incineration and heat generation (Energy Research Institute of Academy of Macroeconomic Research and National Development and Reform Commission, 2017: 316). On the other hand, the people – and not only those living near incinerator factories – are not convinced by these arguments. According to Yang
Changjiang, quoting poll results from 2009, ‘92% of people believe that waste incineration will harm human health, and 97% are against incinerator construction’ (2011: 190), despite the authorities’ assurances that the processes within the facilities are up to national and even international standards (Yang, 2013; Interviews, 2017).

Landfills

While landfill disposal used to account for 80 percent of the waste being treated nationwide, this option is increasingly seen as undesirable and too costly. As a result, the percentage of landfill disposal had dropped to 63 percent by 2013 (Li et al., 2015: 234). Landfills do have the potential to create large numbers of jobs for informal waste pickers who reduce the amount of waste at the tipping point, but this option is rarely seen as a reason to continue operating them (Hoornweg, Lam, and Chaudhry, 2005; Dorn, Flamme, and Nelles, 2012). More than half of the landfills still in operation have seen serious surface water and groundwater contamination due to the lack of leachate collection and treatment systems; many have also collapsed, leading to serious pollution issues (Yang, 2011). The presence of waste pickers at landfill sites is seen as a source of problems related to hygiene and control. Putting new sites into operation with the required protective measures against secondary pollution will require prohibitive investments (Hoornweg, Lam, and Chaudhry, 2005). On a more structural level, opening landfill sites calls for an amount of land that is simply no longer available in the vicinity of Chinese cities (Cheng and Hu, 2010; Yang, 2011; Yuan and Li, 2017). This has not deterred some people, mostly residents, from suggesting that the garbage could be moved out of the densely populated areas and be buried or landfilled elsewhere, such as in Inner Mongolia or in the desert of Xinjiang Province (Johnson, 2013a; Interviews, 2017). Some urbanites even joked that urban garbage could be exported to Africa (Interviews, 2017).

Around Beijing alone, more than 330,000 square meters is taken up by landfills, a figure that does not include the myriad illegal landfills that are also in operation (Watts, 2010; Wang, 2011b). Increasingly, urban residents are resisting the opening of new landfill sites, expressing worries about the potential of pollution and more importantly the foul odours and presence of waste pickers (Xie, 2011; Dorn, Flamme, and Nelles, 2012). To counter these latter complaints, some past municipal administrations have resorted to using deodorant guns to mask the stench, but this can only serve as a temporary solution (Watts, 2010). In 2009, the Beijing municipal government
expressed its intention to eventually phase out the use of landfills completely (Yang, 2011: 192).

The presence of 500 illegal and semi-legal landfills surrounding Beijing, most of them open dumps, has been documented by the photographer and journalist Wang Jiuliang, who was the first to bring their environmental and human impact to the attention of officials and residents in Beijing and China at large. Many interested parties elsewhere have also reacted strongly to his work. In 2007, Wang started following the waste collectors and those involved in moving collected junk out of the city, photographing their activities and those of the people working and living on and near the dump sites. He made visible how migrant children played in the dirt and with the garbage, including using discarded hypodermic needles and other harmful waste as toys. Wang showed how sheep and goats were feeding on the garbage, thus potentially bringing contamination into the food chain. He gave an impression of the squalor of the landfill sites and the people existing there. By using the sites’ GPS coordinates and locating them on Google Maps, a project that he started in 2008, Wang demonstrated that Beijing is surrounded by a so-called Seventh Ring Road of rubble sites and lajicun (‘junk villages’), 500 in all (Kao, 2011; Wang, 2011a; Wang, 2017; Kao and Lin, 2018). The photographs were exhibited in the Beijing Songzhuang Art Museum in 2010 (Kao and Lin, 2018: 301). Wang used his photography as a starting point for the production of a documentary called Beijing Besieged by Waste (垃圾围城, also known as The City Besieged by Waste), which was released in 2011 (Wang, 2011b). Wang’s virtual Ring Road of Junk was actually located between the Fifth and Sixth Ring Roads at the time, but has been forced further out into Beijing’s suburban districts over the intervening years. The impact of Wang’s documentary was enormous, both domestically and internationally. Some sectors of the Beijing municipal government assisted Wang and supported his work to strengthen their own position, providing him with access to the media and connecting him to other relevant contacts; other sections of the bureaucracy even seized upon the term ‘besieged by waste’ to advocate the increase and faster development of incinerator facilities (Kao and Lin, 2018: 301-303). Wang’s documentary succeeded in making the highest levels of the government aware of the seriousness of the situation, including former Prime Minister Wen Jiabao. Since the first screenings of the documentary, steps have been taken to clean up (some of) the mess and to organize and regulate garbage collection and treatment (S. Lu, 2017). As described in Chapter 4, by late 2017 the municipal government had started the comprehensive clearing out of junk villages and their inhabitants.
Biological treatment

The biological treatment of waste also takes place in Beijing on a very limited scale at Beijing Municipal Chaoyang Circular Economy Industry Park at Gao’antun. This treatment method only works well when the waste is properly sorted, for example when it is used to treat kitchen waste. When it fully uses the organic materials in waste, it causes less secondary pollution and is easy to control (Li et al., 2015). However, composting takes place over a long period of time and needs large land resources, making its end product expensive to sell. Another negative aspect is that there is currently no great demand for reusing waste that has been composted or gone through a process of fermentation. The fertilizer generated by biological treatment has low nutrient content and contains certain heavy metals, so it can only be used as a soil modifier and cannot replace chemical fertilizer altogether (Xu, He, and Luo, 2016: 38). This has not made peasants eager to apply this organic fertilizer in lieu of the inorganic variety, even though they are aware that the latter is harmful to the soil (Wei et al., 2000). The combined result of these factors is that the number of biological treatment facilities nationwide, as well as their treatment efficiency, has seen a steady decline since 2004 (Nelles et al., 2017). If a scheme for the separation of wet waste or kitchen waste at the level of the residents were designed, this type of garbage, properly sorted, would be eminently suitable for biological treatment.

Incineration

Of the three options for waste treatment, incineration is seen as the most promising because it is said to have nothing but positive benefits. Incineration solves the ever more pressing problem of burgeoning waste in one fell sweep: by burning it, the waste simply disappears. Moreover, burning garbage produces energy (WtE) that can be used for a variety of purposes. On a more symbolic level, the embrace of incineration technology demonstrates to the world how modern, developed, and evolved China is. Over the years, incinerator technology and/or equipment has been imported from abroad. Companies from Japan (Mitsubishi, Hitachi, and others), Germany (Stan Miller), France (Alstom), Switzerland, and other countries have transferred technology and/or equipment. Chinese companies such as HuaGuang Shares, Huaxi Energy, and Chongqing Three Peak Covanta have digested foreign technology and combined it with independent research, demonstrating the technological development of the country. Increasingly, Chinese domestic
companies design and build incinerators; these include the Everbright Environment Co. Ltd. from Shenzhen and the New Century Energy and Environmental Protection Co. from Hangzhou (Chin, 2011; Li et al., 2015). With the focus on incinerator construction, less attention is paid to the negative side effects of the processes that take place within the plants, but there are important questions that need a satisfactory answer. How can the secondary pollution caused by incineration be avoided, or at least limited as much as possible? How can the rest products from incineration such as fly ash, flue gas, and other toxic substances be disposed of as safely and least intrusively as possible (Cheng and Hu, 2010)? The 13th Five Year Plan currently in force calls for the consideration of these issues, but fails to provide specific measures (Nelles et al., 2017). It is too early to tell whether the ‘Action Plan for Straightening out the Municipal Solid Waste Incineration Power Generators to Meet Emission Standards’, promulgated in 2018 by the newly reorganized MEE, will have a positive effect (MEE, 2018).

‘Wet’ MSW

The available literature on MSW in China, including the waste produced in Beijing, agrees that it has special characteristics. It is made up of food waste, paper, textile, rubber, plastic, glass, metals, wood, garden waste from public parks and green areas, street cleaning waste, and miscellaneous types of inorganic waste (e.g., stones, ceramics, rubble from construction sites, and ashes) (Dorn, Flamme, and Nelles, 2012; Linzner and Salhofer, 2014). As I have shown in preceding chapters, the official municipal waste collecting authority does not engage in any systematic sorting and recycling of this waste; instead, it only tries to rake in as much garbage as possible to increase the amount of government subsidies it can claim (Yang, 2013: 177). Large numbers of informal recyclers sort and recycle a large volume of valuable materials with resale value, including paper and plastics, out of the waste stream. However, according to some of my sources, the importance of the recycling activities of this informal sector should not be overestimated. According to them, this could be done much more systematically and on a much larger scale (Interview with Hong Chao, 2017). Metal waste remains under the monopoly of the government’s recycling facilities and their collaborators; informal waste sorters are legally excluded from dealing in it, although they cannot resist the temptation of picking up and selling metals of any kind whenever they encounter them (Minter, 2013a, 2013b, 2015).
The most distinctive characteristic of Chinese MSW, however, is that food waste makes up the largest part of it, from 70-80 percent. This causes Chinese MSW to have much higher moisture levels than that in Western countries, i.e., 78 percent versus 12 percent (Cheng and Hu, 2010: 3819; Dorn, Flamme, and Nelles, 2012; Interviews, 2017). When looking for reasons why this was the case, I heard some interesting explanations. One of the experts I interviewed, an academic, was convinced that people ‘in the West’ only eat hamburgers packed in little boxes, with the result that, in his opinion, Western MSW mainly consisted of paper and cardboard. Chinese waste, on the other hand, was full of bones, vegetable peels, watermelon rinds, and so on (Interview with Hong Chao, 2017). Taking his argument to its logical conclusion, the wetness of Chinese MSW was the direct result of the Chinese diet, and was rooted in culture.

Because of its wetness, the calorific values of Chinese MSW are less than half those in more developed countries (Cheng and Hu, 2010; Xu, He, and Luo, 2016). This creates a range of problems at the moment of incineration, including difficulties in ignition, an unsteady and unstable combustion flame, incomplete combustion of the waste, and the increased formation of air pollutants. Lower combustion temperatures increase the dioxin levels in the flue gas (Nowling, 2016). To incinerate, pre-treatment of the MSW is needed. Various methods can be used to pre-dry wet waste (Interviews, 2017). In many cases, supplementary but higher-cost fuel is added, which decreases the net gain in energy and also increases the operating costs of the facilities (Cheng and Hu, 2010: 3819). Adding feedstock like coal is allowed, but the amounts that are added reportedly exceed the legally permitted limits; the stipulated percentage is 20, while cases of up to 70 percent feedstock have been documented (Balkan, 2012). These additions cause wear-and-tear to the equipment, calling for more frequent replacements than initially calculated. The plants’ emissions also contain more polluting elements. Another reason to add feedstock to waste has nothing to do with its wetness: some individual incinerator operators add large amounts of coal to the MSW mixture to achieve a greater power generation capacity. This entitles them to more electricity subsidies from the government. This practice not only consumes more resources instead of saving them, but it also generates more pollution – contradicting the arguments in favour of adopting incineration as a solution and harming the spirit and intention of the process of sustainable development that the laws and regulations attempt to create (Chen, Geng, and Fujita, 2009: 38).

These problems could be solved with the expansion of the separation of wet or kitchen waste at the consumer level. This wet waste, properly sorted,
could be composted or set aside for biological treatment. At the same time, by making the waste that is incinerated drier without the need for costly intermediate pre-treatment steps, this would ensure cleaner emissions from the incinerators. Better sorting and recycling practices of residents would therefore also improve incineration effectiveness and contribute to a decrease in dioxin emissions (Wan, Chen, and Craig, 2015).

Liulitun and other incineration sites in Beijing

Under the 11th Five Year Plan, spanning the period 2006-2010, four sites in Beijing were designated for the construction of incineration facilities: Asuwei to the north, Gao’antun in the east, Liulitun in the west, and Nangong in the south (Xie, 2011; Johnson, 2013a). The construction plans for the Asuwei and Liulitun incinerators met fierce resistance from local residents, leading to delays or even postponement (Watts, 2010; Johnson, 2013a, 2013b). The Liulitun incinerator was planned to replace a landfill that had led to many complaints over the years because of the stench it generated. Residents living in the vicinity, many from the circles of government officials and entrepreneurs as well as the owners of apartments in high-end gated communities, rose up in protest. They were worried that the value of their real-estate investments would decline, and also expressed concerns about their health and wellbeing. Through various means, including petitioning the authorities and using their connections with officials and politicians, the residents were able to postpone the construction of the Liulitun plant. In a later phase, various considerations, including about the city’s water supply (the plant would be located near the Beijing-Miyun drinking water diversion canal that supplies the city), eventually lead to the decision to drop the plan altogether in 2012 (Li, Liu, and Li, 2012: 69). Yet my interviews with Haidian sanitation workers in 2017 showed that the Liulitun facility actually was in full operation. Johnson (2013a: 123) states that once incineration had ceased at Liulitun and moved to Suijiatuo, the former facility would still remain in use for the pre-sorting of garbage.

The facility at Gao’antun, which was planned on the site of what used to be Beijing’s largest landfill in the Beijing Municipal Chaoyang Circular Economy Industry Park, met comparable popular opposition, but was completed and went into operation in 2008 (Kao and Lin, 2018). It has turned a landfill, the stench of which had caused increasingly intense resistance from the people living in the neighbourhood, into a national model of modernity. The Gao’antun facility is very careful not to use the term ‘incinerator’ in its
Illustration 7.1  Signpost showing directions to the various facilities at the Beijing Municipal Chaoyang Circular Economy Industry Park

Author’s photograph, 13 March 2017
official name. It serves as a model for other incinerator initiatives elsewhere in the country, as the regular reports about official visits on its WeChat site demonstrate (Johnson, 2013a). Images from its high-tech operations are frequently used in foreign and Chinese media reports as a template for incinerators (for example PressTV [Iran], 2014; Beijing Municipal Statistics Bureau, 2017). Beyond incineration, the plant also operates a wastewater treatment facility, medical waste disposal factory, and (since 2016) a recharging and switching service centre for electric sanitation vehicles, passenger cars, and buses in eastern Beijing (State Grid, 2016; Fieldnotes, 2017) (Illustration 7.1).

Trust

While the Chinese people are generally firmly convinced about the effectiveness of incineration and the positive aspects that incinerator technology brings, particularly when that technology is imported from abroad, there also exist deep-seated feelings of distrust towards the process as a whole and towards those responsible for it. For local residents, the potential risks that (WtE) incinerators pose to their health and living environment are the core areas of distrust (Liu et al., 2018). This was also brought forward by my sources in the ENGO community, as reported in Chapter 6. The government’s credibility and people’s trust in it have taken a deep dive as the result of the failure of governments at all levels to cope with increases in cases of fraud and corruption, fake products, improper academic behaviour, illegal land transactions and industrial pollution scandals, and badly functioning healthcare and civil services (He, Mol, and Lu, 2012). Without trust, it is extremely difficult to establish the cooperation and reciprocity that is needed to create support for and acceptance of incineration (Tu et al., 2011; Liu et al., 2018). As the late sociologist Fei Xiaotong argued, trust within one’s kinship group or network may engender cooperation and reciprocity for a small group, but when the objects of reciprocity and cooperation are extended to include public goods and provisions, a more generalized type of trust is needed (Tu et al., 2011). This general trust is lacking in China, particularly where health and the environment are concerned (Liu et al., 2018).

Fukuyama (1995) discovered that in communities that are strongly influenced by Confucian culture, including China and other parts of the Sinophone world, there is a lack of general (non-kinship or generalized) trust. Fei Xiaotong already established that rural (or traditional) Chinese society
is strongly based on kinship relations and networks, which indicates that trust is mainly influenced by high levels of kinship trust (in Tu et al., 2011; Gow, 2017); this works to the detriment of general trust. As a result of the pervasive influence of Confucian thought in Chinese society, an individual defines him/herself in terms of his/her relationships with others while adhering to culturally bound codes of etiquette, protocol, and convention. These social relations are not based on a process of voluntary association, but instead on a moral obligation (Gow, 2017). The traditional networks based on kinship relations were transformed after the establishment of the People’s Republic in 1949, with the introduction of public ownership, central production plans, and centrally controlled wealth distribution. Society was reorganized in (rural) people’s communes and (urban) work units, replacing interpersonal relations with a corporate framework (Tang, 2004: 5-6). With the arrival of economic reforms and marketization in the 1980s and the substitution of communist egalitarianism with phenomenal economic inequality, interpersonal trust was again strengthened (Hu, 2015).

Following Wenfang Tang’s analysis, it is possible to broadly identify three social groupings that influence trust. First, relations with family members and relatives are based on kinship ties; these can be classified as parochial trust. Second, friends, neighbours, schoolmates, rural residents, people from the same geographic area, co-workers, and supervisors are part of one’s immediate social and economic environment. Relations among these groupings are based on corporate trust. Third, urbanites, businessmen, out-of-towners, foreigners, and strangers are twice removed from one’s immediate self. Relations among them are based on the most abstract type of trust, which can be defined as civic trust. Urbanites are part of the complex of civic trust, since they are representatives of the modern lifestyle that is marked by less corporatist community solidarity and more technologically defined civic communities (Tang, 2004: 8-9). These include the residential communities where much of the research for this present volume took place.

There is considerable academic disagreement about whether China is a low-trust society. Wenfang Tang argues that statistical evidence does not support the conclusion that Chinese do not trust each other, although ample anecdotal evidence suggests otherwise (Fieldnotes 2015, 2017; Tang, 2018). The results of many scholars also point to the conclusion that trust in institutions and political support tend to be higher in China than in other nations (Yang and Tang, 2010; Tan and Tambyah, 2011; Steinhardt, 2012; Sun and Wang, 2012; Zhong, 2014; Saich, 2016; Zhong and Hwang, 2016; Tang, 2018). There is a profound belief among the people in the benevolence of the central government and the willingness of the paramount leader(s) to
right any existing wrongs. At the same time, there is broad dissatisfaction with the performance of the lower administrative levels, as demonstrated by continuing (bureaucratic) corruption and nepotism, crony capitalism, uncertainty about property rights, insufficient and/or inaccessible healthcare, food safety, personal security, and police brutality (Sun and Wang, 2012; Zhong, 2014; Zhong and Hwang, 2016). In any given conflict one comes across in Chinese society, one can hear the anguished complaints that if only the (central) government knew about the situation, it would step in and take the necessary measures to end it (Zhong, 2014; Zhong and Hwang, 2016; Fieldnotes 2015, 2017). As a result, it is the lower levels of government (local governments, *chengguan* (‘city management officials’), (armed) police, courts, etc.) and the institutions rendering social services to the population (hospitals, petition departments, etc.) that are identified as engaging in illegal activities and exploiting the people (Saich, 2016). For an ordinary member of the urban population, this means that every official or person in any position of authority cannot be trusted as a rule (Geall, 2015a). In 2011, the State Council recognized this by identifying the lack of credibility existing in society and lack of public trust as the main factors that have a negative influence on the wider governmental aims of progress, but little headway has been made in improving this situation (He et al., 2013).

It is this attitude of distrust that extends to the managers of recycling factories and to the officials responsible for or working in incinerator facilities. The antagonistic feeling is caused partly because nobody in the general public is really aware of what actually happens in these facilities. As a result, rumours and hearsay circulate about official incompetence and malfeasance and the real or alleged malfunctioning of the facilities that these officials operate. Added to these rumours are suggestions and suspicions of corruption surrounding the plants. According to interviews with representatives of ENGOs, ordinary citizens, and people who were familiar with the starting-up process of incinerators, such facilities can only operate with official government permissions (Interviews, 2017). These permissions generally are granted based on written documentation regarding the processes within the plants as provided by the company that operates the facility. This documentation is inspected and dealt with by the municipal or state authority that is responsible for granting permission to operate. The process of receiving permission does not include on-the-spot inspections of the plants or unannounced visits by the environmental department(s) responsible for the area. In many cases, as it turns out, the incineration processes that have received official permission bear no semblance to the actual work that takes place within the plants.
The Tianjin Explosion of 2015

One incident that was regularly referenced by the persons I spoke with in the spring of 2017 had no connection whatsoever to garbage incineration: the ‘Tianjin explosion’. This has become the catch phrase covering the steady flow of food safety scandals, industrial plant accidents, and the continuing pollution of water, air, and land that has taken place in recent times (He et al., 2013).

The explosion took place in a container storage station operated by Ruihai Logistics Co. Ltd. in the port of Tianjin on 12 August 2015, killing 173 people and wounding hundreds more. The damage wrought by the blast was enormous, destroying more than 300 buildings and almost 12,500 cars, totalling almost 6.9 billion yuan worth of damages (Fu, Wang, and Yan, 2016). The causes of the explosion were manifold, but can best be summarized as poor or absent inspection and audit practices by government agencies, which resulted in management deficiencies; a shocking lack of safety knowledge, awareness, and habits; illegal construction and operating issues; problems associated with risk control failures; and violations of national or industry standards (Chuang, 2015; Swiss RE, 2016).

This was further exacerbated by a confusing overlap of responsibilities among the responsible administrative bodies at various levels, eventually resulting in the unlawful combined storage of chemical components in life-threatening quantities. Although the facility had, often fraudulently, obtained all the documents and permissions it needed to operate, it had also engaged in illegal activities that were not noticed by the authorities or against which no legal actions were undertaken (Chuang, 2015; Fu, Wang, and Yan, 2016). Such behaviour was helped further by the fact that the organization operating the facility doubled as its regulator, and that the persons involved in the permission-granting process had family ties to politicians at the highest levels of government (Chuang, 2015). In the period from 7 to 9 November 2016, 49 people, 25 government officials and 24 staff members of the companies involved were jailed for periods ranging from three years to life by ten separate courts; the Chairman of Ruihai Logistics was convicted of the illegal storage of hazardous materials, illegal business operations, causing incidents involving hazardous materials, and bribery. He received a death sentence with a two-year reprieve (Xinhua, 2016; Kennedy, 2016).
Lack of Faith

Reports about similar but smaller cases often circulate in the media and are widely shared through social media channels including Weibo and WeChat (Duggan, 2015). Some of these incidents generate considerable publicity in the official media as illustrations of how diligently the government is taking steps to eradicate them, yet they continue to occur. Many other stories still make the rounds, although they run the risk of being quickly deleted by the state censorship system. All revolve around collusion between government officials who turn political capital into economic gain, on one side, and operators of facilities with a deficient understanding of the law, on the other, in projects that earn them loads of money but at best give ordinary people nothing, and at worst endanger their lives (Balkan, 2012). Time and again, Beijingers cite these and similar examples of the illegal and corrupt management of plants involved in garbage recycling and incineration as a reason for their lack of faith. This also extends to a lack of trust in the environmental protection departments that are responsible for overseeing the plants. In the people’s opinion, public welfare, the correct disposal of waste, improving the living environment, and the health of those working in the installations were not what concerned these departments or the industrial interest groups behind the incinerator initiatives that pushed their decisions through (Meng, 2010).

A concrete example mentioned by a number of people, including the representatives of ENGOs, was the Gao’antun Incinerator Facility in Chao- yang District, East Beijing. To try and quell rumours about the lack of safety procedures inside the incinerator and the potentially lethal side effects of its procedures for the workers, and by extension the people living in the neighbourhood, in 2000 the management ordered testing of the dioxin levels in workers’ blood in the plant, with the intention of releasing the results to the public. Once the results became available and it turned out that dioxin levels were unacceptably high, they were switched with results taken from the management staff and presented as if they came from the workers (Interviews 2017; Interview with Huan You, 2017). Another story I heard frequently was that, despite all the assurances that the facilities operated in line with national and international norms, the actual emissions were considerably higher than international standards (Yang, 2013: 186; Fieldnotes, 2017).
Building trust

The main recurring complaint about the proposed construction of incinerators is that people felt left out of the loop. The decisions are made by the government, the companies involved in the construction, and scientific advisers (He et al., 2013). The public feels that they are not consulted during the Environmental Impact Assessment (EIA) process, to which they legally have access since the relevant legislation was enacted in 2003 (Li, Liu, and Li, 2012; Zhu et al., 2015); that they have no influence on the decision-making process; and suspect that crucial information is not disclosed to them, although the law entitles them to full disclosure (Xie, 2011; He et al., 2013; Wang, 2016; Interview with Green Beagle, 2017). Most of all, the people feel that they and their concerns and reservations are not taken seriously by the deciding bodies (Yang, 2013; Zhong, 2014; Zhong and Hwang, 2016). The government is aware of this popular antagonism and has come to understand that the people’s confidence in both it and the project is essential (Liu et al., 2018). It has issued guidance to officials on methods by which to prepare the inhabitants of neighbourhoods for the arrival of a planned facility, which are much in line with the suggestions provided by my ENGO sources (for example, MOHURD, 2016).

Some incinerator plants have tried to develop a very open and above-board way of countering complaints, fears, and protests from the people living in their vicinity. These initiatives have had mixed results and have not been able to counter the public’s general aversion. The Gao’antun Incinerator Facility in Chaoyang District is one of them. When Gao’antun started operations in 2008, the management erected a giant display screen on the grounds of the plant that recorded the real-time sulphur dioxide and nitrogen oxide emissions. Unfortunately, the screen was not clearly visible from outside of the plant, and these data were not accessible online. More worrying was the initial omission of data related to dioxin emissions, the secondary pollution released when burning plastics and other synthetic materials. This was later remedied, albeit with a time lag in the reporting (Watts, 2010; Johnson, 2013a). The Gao’antun management tries to further allay suspicions by opening the plant’s doors, to make the processes taking place as visible as possible, by creating the impression that they take the fears and complaints of people living in the vicinity seriously, by organizing neighbourhood activities, etc. (Zheng S., 2017; Beijing Municipal Chaoyang Circular Economy Industry Park Management Centre, 2018b, 2018d). The Gao’antun plant is very active on Chinese social media, showcasing how the formerly waste and stench-ridden landfill has now turned into a veritable garden. The yearly postings on the
company’s WeChat account about viewing the blossoms in spring, a popular activity, are just one example of these public relation initiatives (Beijing Municipal Chaoyang Circular Economy Industry Park Management Centre, 2018c). Yet suspicions remain about this plant and the many others that are in operation across the country, particularly those in tier-two, -three, and -four cities (Wan, Chen, and Craig, 2015). Many see their public relations activities and postings as crude and simple attempts to whitewash nefarious activities and hoodwink more gullible residents, or to hide the true nature of what is happening inside the plants (Interviews, 2017).

Gao’antun garbage culture day trip

On her Weibo account, Lianpeng, a member of the ENGO Friends of Nature, critically reviewed a garbage culture event regularly organized by the Gao’antun plant; this review was republished on the Friends of Nature website (Lianpeng, 2017). In spring 2017, I also visited the Information Centre that features in her review and saw how a class of schoolchildren was educated (see also Beijing Municipal Chaoyang Circular Economy Industry Park Management Centre, 2018a). In general, Lianpeng believes that the event she participated in in 2014 was a failure. To begin with, it was not clear whether the visit was intended to show off the technology of the plant or to teach the visitors tips and techniques about reducing waste and classifying and/or separating it. The guide had a bored, annoying voice and presented the information in an unprofessional way. Her presentation was full of numbers and figures that showed how advanced the technology used at the plant is, underestimating the intelligence of the pupils. She also failed to mention the possibilities of harmless garbage disposal or provide useful information about how and why to recycle garbage. The visitors were surely impressed by the technology, but they did not feel connected to the whole process taking place. The district authorities (but not the plant management!) generously distributed many gifts to the visitors, but Lianpeng questioned the kindness and relevance of these gifts. Four of them were packed in plastic and most had little use in general. She thought it particularly weird that they were given fans, as the visit took place in autumn. She would have preferred more relevant and more appropriately packaged presents, such as little bags of fertilizer from the nearby landfill.

Lianpeng offered a number of suggestions to make the visit more worthwhile. The first was that the Information Centre should prepare lists of questions and tasks for the different types of groups that visit, and to make
Illustration 7.2 Display in the Circular Economy Information Centre at the Beijing Municipal Chaoyang Circular Economy Industry Park, showing the dioxin level of the incinerator emissions (right column), and comparing it with EU-levels and the standards for China/Beijing.

Author’s photograph, 13 March 2017
sure that these materials are distributed before the visit takes place. Then, when the groups arrive, they should be shown around the landfill site first, and then the incineration plant. This will make it clear to the visitors why incineration has been chosen. Second, when visiting the incinerator, aside from introducing the technological aspects, more information should be provided that is related to the neighbourhood and society at large. This should include topics such as the safe distance between the incinerator plant and neighbouring residential communities, the safety system that is in place, and the monitoring system that controls the whole operation.

Third, the visit should include the waste composting field. Here, detailed information about the classification of kitchen waste can be provided. In Lianpeng’s opinion, highlighting the difficulties that the sanitation workers experience when collecting kitchen waste, and the unpleasant smell in which they have to do their jobs, could persuade residents to separate the waste themselves.

The visits should be evaluated by designing questionnaires for the adults and quizzes for the children, with which they can win small prizes. The evaluation results can then serve as feedback for the guides.

These suggestions are certainly relevant, and some seem to have been adopted by the incinerator publicity department. Yet it should be noted that the Beijing Cultural Department and the Beijing Municipal Administration were the organization that contacted Lianpeng in response to her review, not the Beijing Municipal Chaoyang Circular Economy Industry Park Management Centre which appears to take care of external communications. During my visit to the Information Centre, a few years after Lianpeng’s, I was struck by the motivated and lively way the guide did her job, even when most of the secondary-school pupils whose tour I joined were hardly interested. The displayed information also provided more than mere statistics and data, and some of the displays were interactive, attracting a lot of participation from the pupils (Illustration 7.2).

**Popular opposition to incineration**

Opposition to incineration and to the construction of other potentially polluting and environmentally hazardous factories such as PX (paraxylene) plants is one of the few things that can galvanize people into action. In many instances, however, such actions and protests do not evolve beyond the NIMBY level (Lee and Ho, 2014; Steinhardt and Wu, 2015; Johnson 2013a, 2013b; Wong, 2016; Zhu, 2017; Bondes and Johnson, 2017). People are only, and
mainly, concerned about events taking place in their own neighbourhoods, and do not care about what happens in others. In short, as far as many are concerned, a principled opposition or resistance against incineration as such (Not-In-Anybody’s-Back-Yard) has not yet emerged, although this situation is gradually changing (Bondes and Johnson, 2017; Interviews, 2017). Moreover, NIMBY protests are generally seen as emerging from the tension between the state and growing civil society interests and the demands from the expanding urban middle classes. Missing from these protests are other concerned parties, such as the people who are involved in the actual informal recycling (Tong and Tao 2016).

While ENGOs are hesitant about joining NIMBY protests in fear of encountering a political backlash that may threaten their existence, they do play a steadily growing role in providing these movements with the relevant legal knowledge needed to organize successful activities (Bondes and Johnson, 2017). They are also hard at work to increase the broader environmental awareness of the participants. This can be seen as an extension of their educational work. But as the Friends of Nature staff member pointed out, they are no match for a government that is determined to pursue the policies of incineration, whatever the costs.