

Addressing E-Waste in China

Understanding the Roles of the Chinese
Government and Civil Society through Advocacy

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Executive Summary

Electronic waste (“e-waste”) comes as a result of the economic development and technological advances of the twentieth that now pose serious challenges to the global environment. For China in particular, the existence and effectiveness of e-waste management will have considerable ramifications on local economic, social, and environmental conditions. However, the complicated bureaucratic structure of Chinese government and the limited ability of civil society to respond to key issues pose obstacles to the e-waste management.

This report first provides background on the emergence of e-waste as a global concern and China’s legal and policy responses to domestic and imported e-waste streams. It then analyzes the key stakeholders in both government and civil society to assess why e-waste initiatives may—or may not—have gained traction as key policy issues. It concludes by arguing that the most effective way of advancing responsible e-waste management in China requires a two-pronged approach. First, consumer education is critical in raising awareness of e-waste as an issue. Second, private sector engagement plays a critical role in circumventing the challenge of enforcing e-waste legislation by encouraging producers to bear a share of the costs of their products.

An advocacy campaign can target both requirements, raising awareness of participants and their communities while simultaneously putting the issue on producers’ agendas, from the local business community to the foreign-invested multinational. The campaign materials, appended to this brief, include a brief strategy memo and advocacy campaign guidelines that interested groups can consider before initiating a campaign; a sheet of frequently-asked questions (FAQs) intended for public education; two sample form letters addressed to key stakeholders that can be used as-is or edited to suit the Chinese context; and a sample pamphlet.

Background: Electronic Waste

Vast technological innovation and aggressive market strategies in recent years have caused the lifespan of most electrical and electronic devices to shorten sharply. Due to rapid turnover rate of these devices, large amount of electronic waste (“e-waste”) are generated once they are disposed. Currently, there is no universal definition to e-waste. According to the Solving the E-waste Problem (StEP) Initiative, e-waste broadly refers to “almost any household or business item with circuitry or electrical components with power or battery supply” that “has or could enter the waste stream.”¹ Among the most recognized definitions is found in Directive 2002/96/EC of the European Parliament Article 3(b), where e-waste are discarded “components, subassemblies and consumables” of products encompassed by the following categories²:

No.	Category
1	Large household appliances
2	Small household appliance
3	IT and telecommunications equipment
4	Consumer equipment
5	Lighting equipment
6	Electrical and electronic tools (with the exception of large-scale stationary industrial tools)
7	Toys, leisure and sports equipment
8	Medical devices (with the exception of all implanted and infected products)
9	Monitoring and control instruments
10	Automatic dispensers

Table 1: WEEE categories according to the EU directive. (Source: European Union)

Each year, an estimated 40 million tons of e-waste are generated globally, posing a rising challenge for their disposal.³ Complexity in the design of modern electronics and the cost of recycling them in developed countries render these devices undesirable for technical and economic reasons.⁴ In 1992, the Basel Convention was enacted to deter exportation of hazardous waste from developed nations to developing countries for final disposal.⁵ As a result of the Convention, end-of-life devices are exported as secondhand goods, and e-waste is traded for reuse and recycling instead.⁶

Today, China plays a key role in the electronic industry, manufacturing a significant share of the sector’s worldwide output. The total sales revenue for electronic products in 2009 was RMB 5.1305 trillion, or US\$ 751 billion.⁷ At the same time, it is also the world’s largest importer and recycler of e-waste, primarily from the western half of the United States, Japan, Korea, and Southeast Asia (Figure 1).⁸ Since nations such as Cambodia, India, Pakistan, Nigeria and Ghana are also notable destinations for obsolete electronic equipments, this is not a problem solely faced by China.⁹ However, while African nations seek to repair and refurbished the used devices for local resale, Asian nations typically dismantle them in unsafe manner to recover the raw materials.¹⁰ The problem is largely driven by illegal exportation of e-waste by developed nations.¹¹ For example, the United States is able to legally export its waste for recycling because the country has not ratified the Basel Convention.¹²

polyhalogenated organics are emitted during e-waste disposal, posing potential adverse effects to the environment and human health.¹⁷ Therefore, addressing the occurrence of improper e-waste disposal and the associated toxic is not just urgent for the ecosystem, but also critical for responsible global socio-economic development.

As the world begins to acknowledge the scope of the problem, China has initiated several policies to address the import of e-waste and its disposal. The current laws and regulations are summarized below in Table 3. Additionally, in conjunction with four other agencies, on January 2008 the Ministry of Environmental Protection issued the Announcement on Releasing the Catalogue of Solid Wastes Forbidden to Import, the Catalogue of Restricted Import Solid Wastes that Can Be Used as Raw Materials, and the Catalogue of Automatic-Licensing Import Solid Wastes that Can Be Used as Raw Materials.¹⁸ The catalogues collectively updated the previous list of wastes that were banned for imports and that could be imported as raw materials under restricted conditions.

Regulations	Effective Date	Purpose and content
Law of the People's Republic of China on the Prevention and Control of Pollution by Solid Wastes ¹⁹	Apr. 1996, amended in Dec 2004	To ban the importation of solid waste unusable as raw material, and forbidden the entry of solid waste for the purpose of dumping or disposal.
Notification on Importation of the Seventh Category of Wastes (No. 19/2000) ²⁰	Feb. 2000	To prohibit the importation of the seventh category of waste in the national catalogue, including electronic products.
Administrative Measures on the Pollution Control of Electronic Information Products ²¹	Mar. 2007	To restrict the use of hazardous substances; reaffirms eco-designs with consideration of non-toxic or low toxic, recyclable materials; mandates product labeling with environment information.
Administrative Measure on Pollution Prevention of Waste Electrical and Electronic Equipments (No. 40/2007) ²²	Feb. 2008	To prevent and control the pollution by the dismantling, utilization and disposal of electronic waste; stipulates e-waste recycling companies to register with local government agencies.
Circular Economy Promotion Law (Presidential Order No. 4) ²³	Jan. 2009	To promote clean and efficient economic development with emphasis on the principles of reduce, recycle, and reuse; mandates governments at all level to establish systems to control energy use and pollutant emissions.
Regulations on Recovery Processing of Waste Electrical and Electronic Products (No. 551/2009) ²⁴	Jan. 2011	To define activities that encompass e-waste disposal; mandate the recycling of waste electrical and electronic products; implement extended manufacturer responsibility; establish State fund to assist e-waste recycling.

Table 3. Current regulations on e-waste management in China.

Although China has made great strides in its efforts to use legislation to mitigate environmental impacts caused by e-waste, pollution derived by e-waste has persisted, and is likely to escalate if

existing enforcement efforts continue to fail. Hence, while there is a dire need to determine how to deal with international trade in obsolete electronic products and e-waste, China must also develop systems to manage its domestically generated e-waste.

E-waste in China

When examining this issue it is critical to understand the complexity of the economic, social, and environmental effects of e-waste recycling in China. The following considerations must be taken into account when generating options for policy response to the challenges of managing e-waste.

Economic Incentives

In China, e-waste is viewed as a resource and an income generating opportunity. Economic profits in e-waste recycling come from two sources: the resale of salvageable parts and raw material recovery. These activities are especially lucrative in China where there is a large secondary market for remanufactured equipment and limited natural resources. E-waste increases access to technologies and raw materials, which can be beneficial and efficient. It also plays an important economic role through job creation. According to a report by the International Institute for Sustainable Development almost 1 million people in China were employed in the e-waste recycling in 2007.²⁵ E-waste in China is most commonly handled through the extensive unregulated waste sector. This informal economic sector is dominated by small and medium-size private enterprises²⁶ whose owners have been able to make sizeable profits by taking advantage of lax enforcement of regulations and cheap labor costs within China. Although the enterprise owners stand to make significant financial gains on the disassembly of e-waste, workers make less than 30 RMB (\$4.63 USD) per day and are most vulnerable to the health hazards of e-waste.²⁷

Environmental Hazards and Health Risks

Poverty and lack of education significantly contribute to people's willingness to engage in e-waste recycling jobs. Many Chinese who work in this industry are migrant laborers who disassemble the waste by hand in primitive home workshops. Clearly there are no environmental standards under these types of conditions and little to no protective equipment is worn. Workers use open fires, acid baths, and broilers to extract copper, gold, silver and other valuable metals. These techniques discharge toxic fumes and liquid waste causing health problems for the worker and severe environmental degradation to the surrounding area. However, the dangers of e-waste do not stop there. Once the waste has gone through the disassembly process and the salvageable materials are removed, the unusable remains are dumped. The leaching of heavy metals and toxins into the groundwater from these dumps and landfills are another cause for environmental concern.

The Chinese Government: Challenges and opportunities in dealing with e-waste

Introduction

In order to study the effectiveness of any policy intervention, one must first undertake a serious study of the policymaking environment—this includes different stakeholders, formal and informal centers of power, and divergent means of exercising this power. External observers, particularly the foreign media and some activist groups, characterize the Chinese government as a unitary actor. Does this facile, one-dimensional characterization of Chinese authoritarianism accurately portray the situation on the ground?

To the contrary, China scholars remind us that the nature of the formal structure of Chinese government, and the informal networks and connections that exist between government and other actors, is highly heterogeneous. For example, Ken Lieberthal posits that “fragmented authoritarianism” resulting from the dissolution of Mao-era central leadership has given rise to a number of competing discourses and interests within the government.²⁸ Furthermore, relationships between different government bureaus and party organs complicate the command chain, making not just the drafting of policy, but also its implementation and enforcement, substantial concerns. Andrew Mertha, through his discussion of water management in contemporary China, extends this argument to highlight the ability of policy entrepreneurs—understood broadly to include both governmental and non-governmental actors—and issue frames to alter the shape of national policy.²⁹

The question this section aims to address is: What are the various bodies within the Chinese government who have some responsibility for resolving the problems of e-waste? How do the interactions between these bodies balance two conflicting policy goals: promoting local economic growth in the recycling and high-tech manufacturing industries, and mitigating the challenges that e-waste poses to environmental quality and public health. Furthermore, as per capita income increases in China, the question of future waste streams arises; e-waste will no longer be primarily a problem that China imports, but rather will become a by-product of increases in consumption of electronic home goods.

Stakeholders: The Ministry of Environmental Protection (MEP)

The mission of this ministry, started in 1998 as a ministry-level agency responding to severe flooding and increased strains on the environment from the past two decades of rapid opening, not to mention several decades previous of heavy industrial development under Mao. MEP headquarters is in Beijing, and takes most of its policy guidance directly from the State Council. However, much of the enforcement responsibility is passed on to five regional centers scattered around China. The area’s most affected by e-waste are Guiyu, in Guangdong (with MEP offices in the provincial capital of Guangzhou) and the Taihu region of Zhejiang, which is under jurisdiction of MEP-Eastern in Nanjing.

MEP has passed legislation indirectly targeting e-waste over the last decade, but it has two large drawbacks. First, the nature of MEP legislation does not immediately enter into force. They are frequently understood as “administrative regulations” or “guidelines” as opposed to “laws.”

Second, most legislation covers only certain kinds of e-waste, largely household appliances: refrigerators, washing machines, air conditioners, TVs, and PCs. Beyond this, other major contributors to e-waste—for example, household-use batteries and the more dangerous variety used in electronic scooters—avoid regulation.³⁰

Stakeholders: The National Development and Reform Commission (NDRC)

This body also operates directly under the purview of the State Council. The NDRC was responsible for further e-waste (WEEE) legislation, and focused particularly on the recycling aspects of the problem. The drafting of this legislation, one scholar notes, was a collaborative effort between NDRC officials and major electronics manufacturers, both domestic and foreign.³¹ Taken optimistically, this process lends credence to both Mertha's arguments about the increasing plurality of China's policymaking environment, as well as Cho's discussion of the strengthening of provincial and local legislature vis-à-vis Party organs.³² However, the articles of the legislation place significant emphasis on reuse standards, indicating that perhaps the input of the private sector served to obviate them of responsibility for recovery of their electronic products. Without this obligation, they could keep costs down and increase brand loyalty. Clearly, the close-knit ties between government and industry further complicate the pollution problem.

Structural Challenges in the China Context

Regardless of country, regulating pollutants is a serious challenge. However, in China the nature of governance—specifically what Lieberthal calls “the matrix muddle”—and the tenuous embrace of rule of law both exacerbate the problems of regulating current and future e-waste streams. Below are some of the key issues raised in the literature on pollution from e-waste, and the particular ways in which the structure of Chinese government poses obstacles to its effective management.

- In China, the decentralized governing system allows local government unprecedented control over the functioning of local ministry affiliates. As Lieberthal and others have outlined, leadership and professional relations function to constrain Beijing's power. Leadership relations mean that one office or bureau is obligated to respect the orders of another; this often comes down to how each is financed, and where in the hierarchy of Party-state organs the office is situated.
- *Tiao/kuai* relations also motivate government actors. While leaders in Beijing (who must interact with international partners) and the central offices of MEP have a strong incentive to pass legislation that regulates e-waste, the ministry *tiao* cannot compete with the more immediate demands of *kuai* offices. The observation that, “somewhat paradoxically... China has in fact been one of the first global proponents for an international ban on the export of toxic waste from developed to developing countries” highlights precisely this center/local disjunct.³³ Though environmental protection is a priority of the central government, the decentralized regulatory regime and the cadre evaluation system still incentivize local government officials to sacrifice medium- and

long-term health of their citizens and their environment to reach targeted rates for economic growth.

- Many producers do not have to take into account the future costs of product disposal. The principle of extended producer responsibility (EPR), in which manufacturers and importers pay a portion of the future costs of disposal in order to reduce social costs of waste management, has not taken hold in China. Pollution from production processes within China presents another common problem: the challenge of measuring the costs of production externalities. Particularly when waste-water from acid baths or fumes from burning plastics pollute public goods like water or air, the causal impacts on public health or agriculture are medium- to long-term and thus, cause difficulties in assigning responsibility.
- Pollution does not respect bureaucratic boundaries, but rather flows in and across various jurisdictions. Just as an example, one of the most serious and long-term public health effects of improper e-waste disposal is the leaching of acids and heavy metals into local water systems, both groundwater and surface water. In China's system of bureaucratic silos, the Ministry of Water Resources has responsibility for water management. Meanwhile, MEP manages water pollution, and sewage is managed by the Ministry of Housing, and groundwater by the Ministry for Land and Natural Resources. Finally, the pressure of citizen interest groups on local governments has increased in recent years. In some ways, this constrains certain government bureaus from making decisions regarding placement of landfill and incarceration sites; however, other government bureaus may capitalize on citizen discontentment with present policies to push their own agendas with the effective "stamp of approval" of the local community.

The Role of Civil Society in China

Non-governmental Organizations

At first, the existence of bottom-up Non-governmental Organizations (NGO) in an authoritarian regime appears to be a contradiction, but upon closer examination, NGOs play a critical role in the Chinese civil society. The first NGOs in China were Government Organized NGOs (GONGO), and were created to be a venue to allow for greater association between people post-Cultural Revolution while maintaining state control. Bottom-up NGOs on issues ranging from anti-dam building to women's health increased in the 1990s. The Ministry of Civil Affairs (MOCA) official figures show that the number of registered NGOs increased from 211,000 in 2001 to 412,000 in 2008.³⁴

Despite the large number of registered NGOs, many more operate as unregistered NGOs. Some scholars estimate that the number of unregistered NGOs in China is between 1 and 1.5 million.³⁵ Current rules and regulations pose challenges for NGOs to obtain a legal permit, causing the swell of unregistered NGOs. To be officially recognized by the state as a NGO, the NGO is required to find an official government sponsor prior to registration – often the sponsor is a GONGO. To prevent multiple NGOs from serving the same purpose in the same sector (that a

GONGO is often already present) have caused many NGOs to go unregistered. Unregistered NGOs are technically illegal, but the state does not actively crack down on such activities as long as the NGOs do not promote social unrest and/or undermine state positions. But the threat that the NGO could be banned at the whim of the government has caused many unregistered NGOs to be more careful in their activities.

International NGOs (INGO) face legal ambiguities when operating in China because there is no official state reorganization of such entities. As a prerequisite, many INGOs need to build relationships with Chinese counterparts in order to have a presence in China, but they are still operating in a grey area under current Chinese laws.

To the unregistered domestic NGOs and INGOs, the lack of coherent policy on the national level also means that each provincial government has its own policy regarding NGO, resulting in some provinces being more popular for NGO startups than others, while selective banning of disruptive NGOs have ensured that no organization can grow to challenge state rule.³⁶ As a consequence of this unspoken agreement between the government and the NGOs, organizations that focused on politically neutral subjects such as environmental advocacy and poverty reduction have thrived. In the survey conducted by Cooper, more than half of the NGOs interviewed in Yunnan are environmental NGOs (ENGO).³⁷ It may be surprising that there are so many ENGOs in China given that it is one of the worst polluters in the world, but both the political environment and the need to solve China's environmental problems have contributed to create an environment fertile for ENGOs.

Given the large number of NGOs, legal or otherwise, were NGOs able to effectuate meaningful policy changes? Fortunately the answer is "yes". Mertha studies three cases of civil protest against dam-building. In the case of the Dujiangyan Irrigation System the NGO, Fauna and Flora International, held a press conference setting the frame for the future struggle in terms of heritage and cultural preservation that set the tone for future debates over the Dujiangyan project. In another example, Green River, a NGO devoted to the protection of the Yangtze river, requested that all traffic across a stretch of the Qinghai highway be stopped to allow for Tibetan antelope to cross, and was adopted to become official policy.³⁸

The large number of NGOs in China is both a strength and a weakness. On one hand, the number of environmental NGOs signals that environmental activism is healthy and thriving in China; on the other hand, it causes fragmentation and it is difficult to find a dominate NGO on the topic of e-waste in China. The fragmentation is a result of NGOs' fear of growing too visible to catch the attention of the government and being shut down for political reasons. Therefore, it has been difficult to find grassroots NGOs in China that are focused on the issues around e-waste. This is perhaps unsurprising: e-waste disposal has human in addition to environmental costs and it touches upon issues of fairness and human rights – potentially dangerous territories for domestic NGOs to pursue. However, INGOs such as Greenpeace are actively raising awareness around e-waste in China.

Stakeholders: Greenpeace

Greenpeace is an international NGO with office in Hong Kong, Beijing, and Guangzhou. It is also one of the largest INGOs in China. It has made e-waste one of the five campaigns that it is pursuing in China. Greenpeace China enjoys the backing of Greenpeace International and the resources it has across the world. Despite Greenpeace China's uses of non-violent direct action protests that often draw media attention, its presence in China is tolerated and maybe even welcomed by the Chinese government because it is still operating in China and has not been banned.

The Role of Media in China

The media outlets in China have grown beyond the state-run *Xinhua*, *Chinese Central Television* (CCTV), and *People's Daily*. Chinese citizens today have far more choices on where to get their news from and the channel to get them from than their predecessors. Despite the burgeoning media sources, journalistic freedom has not significantly improved. Indeed, China ranks 171 out of 178 countries in Reporters Without Borders index of press freedom, next to despotic regimes such as North Korea and Iran.³⁹ Journalists on the wrong side of the ever-changing boundary of acceptable speech have found themselves censored, beaten, and jailed without due process.

Advances in technology and the advent of the internet have allowed an estimated 420 million Chinese citizens to express their opinions and read other people's opinions online. To maintain control over the new media, China has invested in the most sophisticated internet censorship on Earth and is expanding that censorship to meet emerging technologies, such as cell phone text messaging, on-line games, and microblogs such as Twitter.⁴⁰ The technology can delete words and block search results automatically. The government also hires an approximately 30,000 individuals to monitor online message boards and online comments, occasionally relying on these individuals to not only eliminate dissenting voices, but strengthen the image or apparent support for official policies.

As evasion methods become more clever, so does the technology to censor; the government has employed human resources to help where automation fails, in the ever-evolving game of cat-and-mouse of censorship subversion – and so far it has the upper hand and has refused to succumb to foreign pressures whether they are from human rights groups, sovereign nations, or companies. For example, in 2010 the internet search juggernaut, Google, threatened to leave China to force Chinese government to allow uncensored search results on its search engine. What resulted can be described as a meeting of an unstoppable force against an immovable object – and Google lost. China refused to change its policies and Google departed China and moved operations to Hong Kong, where its self-governance has allowed more information freedom. Momentary gains in information freedom from the Beijing Olympics quickly regressed post-Olympics.

Despite China's censorship, NGOs and citizens have been able to use the media to effectuate policy changes. Success depends on if the citizen groups can generate enough public support that the state cannot ignore – it also helps if the issue doesn't tread on sensitive issues or embarrass party officials. Tai gives several examples of civil actions that led to reversal of state policy or court rulings.⁴¹ For example, citizen rage over the death of graduate student, Sun Zhigang, who

was detained and later beaten to death because he didn't have a proper identification, led to the arrest and execution of a dozen people and reversal of a two decade policy on detention of vagrant people. Mertha points out that the media served as a voice for the opposition to the Dujiangyan dam project, and concludes that it helped reverse official policy to build the Dujiangyan River dam.⁴²

It would be dangerous to use past success as guidance to push the boundary of acceptable speech in Chinese media. Mertha also pointed out examples where the media failed to effectual policy changes in the Nu River dam project and even resulted in press blackout. There is no clear formula on how to use the media for policy change in China, and success depends as much on luck as is on the issue and issue framing and the stakeholders involved. Ultimately, the media is a political tool for the CCP and it can allow civil discourse as long as it serves a political purpose, such as ousting a political opponent, or allowing citizens to vent without harming state positions, or advancing Chinese nationalistic pride.⁴³

Managing the EWOKS campaign: Strategies and Recommendations

The E-Waste Origins Knowledge-Sharing Network

In any country, though perhaps China in particular given the characteristics we've discussed above, having a good sense of strategy can be essential to the success of an advocacy campaign. In the following memo, we will discuss three elements to consider, strategically, while formulating your campaign. They are:

- Target audience – who will be the main audience for your campaign? Additionally, who are you trying to mobilize to advocate for improved e-waste management in China?
- Issue framing – Mertha argues that the availability of multiple frames for issues has direct bearing on the success of those projects/campaigns. However, some frames may be more appropriate than others in the China context, depending on what issues are “sensitive” or at the forefront of domestic and international affairs
- Recommended actions – what can you do, concretely, to raise awareness of the problems e-waste poses to China's social and economic development?

Audience

Our campaign will target Chinese college students in urban cities, particularly Guangdong Province and Beijing. Beijing is politically significant as the capital, while Guangdong is where most of the e-waste is processed. While advocacy will focus on the Guangdong and Beijing areas, we envision that the campaign will be active across major urban campuses.

We have selected this population as our audience for several reasons. First, because this population is young, educated, and urban, they are also more receptive to ideas of social fairness and environmental justice. Second, we anticipate that college campuses enjoy greater freedom of association, allowing student clubs to be formed if they are registered with the university. If an environmental club has already been legitimately established at the institution, the EWOKS campaign will be much more effective. If not, the following strategy note and advocacy materials will hopefully inspire students to organize around e-waste issues. Third, the educated class will have higher earnings potential and more disposable income to spend on electronics, so contributing more to the e-waste problem. Fourth, the educated class can take the entrance exams to become government bureaucrats, thereby allowing for policy changes at the government level, or become business leaders in private sector to promote sustainable products. Finally, dense populations in urban areas allow more efficient implementation of the EWOKS campaign.

Raising awareness on college campuses allows for students to take ownership over the issue, forming their own student-led initiatives to demand for proper recycling of electronics. It is the goal of this campaign to plant the seeds for greater grassroots actions to demand greater corporate social responsibility (CSR), and force Chinese authorities to enforce existing regulations and provide incentives to promote safe and environmentally friendly recycling techniques. The students can also test policies locally on college campuses before expanding the scope.

College students have the added advantages of greater freedom of association afforded and are unconstrained by labor contracts. As college students enter the workforce and enter into labor contracts, they lose the protection buffer that college environment affords them, and they will have fewer incentives to engage the management out of fear that they will be fired or blacklisted.

The internet drives the demand for personal computers, smart phones with internet access, and laptops, and urban residents under the age of 30 makes up for 42.8 percent of all internet users in China. To see this, urban internet users under the age of 30 accounts for 59 percent of the population, while proportion of urban internet users is 72.6 percent compared to rural. Using these statistics, the expected number of urban internet users under the age of 30 is 179.89 million, or 42.8 percent of total internet users.⁴⁴ By targeting this young, educated, and urban group of consumers, the campaign goes after the group with the most impact on reducing waste.

Counterarguments

There are drawbacks to targeting only the educated urban young. First, while the urban young consumes a large portion of the requisite electronics for getting on-line, a much large portion of Chinese own televisions; as much as an estimated 97.9 percent of all Chinese household own a television set. Using two person units as a household, this would mean there are more than 600 million television sets in China. Currently as the cathode ray tube (CRT) technology phase out and more Chinese have access to liquid crystal display (LCD) technology, this means hundreds of millions of CRTs are going to landfills. CRTs contain large amounts of lead to block the radiation and other toxic chemicals that can leach into the ground. Second, the hukou system and provincial boundaries restricts the audience to urban population which is not the destination of electronic waste, and there is a limit to how policies cross provincial borders or can be enforced. Third, EWOKS doesn't address the foreign import of electronic waste that is at the center of much Western activism and where much of the trash comes from. Finally, assuming that a receptive Chinese audience awaits an opportunity to challenge the status quo may be overly naïve.

EWOKS can address these concerns on different levels. First, if grassroots activism born on universities campuses can successfully influence policy, then it benefits all electronic recycling, regardless of the type of electronics, or the origin of the trash. Second, if subsidies can allow safe recycling to be economically competitive to ad-hoc methods, then it will remove work opportunities for the rural workers, and eliminating the need to address the rural areas directly. Third, by concentrating our efforts in Guangdong and Beijing, we target the provinces that can directly rule and enforce policies – locally in Guangdong and nationally in Beijing. Finally, if universities students are apathetic to reducing e-waste, then other demographics are even less likely to be successful. Workers will be bound by labor contracts, while older generations are not the biggest consumers of electronics and arguably have a longer upgrade cycle.

Issue Framing

Because e-waste streams present challenges in so many different areas of policy, the problem can be discussed in a variety of ways that will vary depending on your audience and aims. By “framing” we mean simply that “different presentations of an issue generate different reactions

among those who are exposed to that issue.”⁴⁵ Therefore, the choice of a frame will substantially influence the ability of your campaign to have an impact on policymakers, business interests, and other key stakeholders. Some frames may overlap, and framing options can change as current events change what issues are at the top of the agenda. Below are a few options we offer to start you off thinking about how to best conduct the EWOKS campaign.

Human Rights

First, we can consider framing the issue of e-waste in China as a human rights issue. Given the dramatic short- and long-term effects on people’s health, livelihoods, and living environment, human rights and social welfare can clearly be put at the top of the list of potential frames. As with many environmental issues in the United States, such framing relies on mobilizing compassion for others on the one hand and empowerment of self on the other to push policy change. One recent example may include advertisements located in Washington, D.C. metro cars that show photos of young children against a backdrop of factory smokestacks, declaring that these children are the “new air filters.” The campaign aims to minimize air pollution through blocking the passage of legislation funding “clean coal” plants as party of U.S. energy strategy.

This frame could resonate very strongly with the target audience, as it could have strong visual image possibilities and could elicit an emotional response. It may also find easier allies in the Western press and civil society, as human rights motivates NGOs dealing with health, but also with labor rights and women’s/children’s rights. However, in the Chinese context, the broad social marketing appeal of a human rights or social welfare angle may face significant push-back from key government stakeholders. Campaigns that focus on the negative health impacts of e-waste, without taking into account larger institutional context, may cause potentially important actors to feel threatened, shamed, or otherwise discouraged from participating. Additionally, although this is less of a concern with educated urban youth, Mertha notes that rights and welfare frames are problematic in China because they fail to mobilize individuals who, themselves, face challenges making a decent living.

Environment

E-waste issues could also be discussed in ways that imply the severe health impacts of pollution, but that center more strongly on larger environmental impacts. The short-term or superficial effects of e-waste streams, such as open dumping and air/water pollution, can be easily illustrated through photography. The long-term impacts on water systems, agricultural output, and local plant and animal populations may be harder to illustrate, but nonetheless could influence a longer-term agenda.

This frame has several advantages, but may nonetheless face similar political challenges to a human rights frame. First, the Chinese government has often taken a relatively hands-off approach to many environmental movements within China. The central government has a stake in allowing some limited involvement of civil society in environmental issues, and “green development” provides a catch-all for mainstreaming environmental concerns into the policy-making process. Second, the overlap between environment and nationalism provides a productive way of channeling citizens’ concerns in positive ways, or at least, in ways that do not

run counter to government interests. It would not be surprising to find that managing imported e-waste finds much more support from local government and Party committees, as China begins to assert its presence on the global stage as more than just the world's factory—or the world's dumping ground.⁴⁶ Finally, with regard to domestically-produced e-waste, one possible benefit of the environmental frame would be the loss of face (for local government and Party) if the locality earns a reputation for being a contributor to e-waste pollution. Some have argued that the negative impacts of e-waste limit a locality's possibility to cash in on tourism dollars, another potential revenue stream that would rely on a relatively clean environment.⁴⁷

Business and economics

In recent years, scholars and policymakers have placed increased emphasis on finding market-based solutions for environmental problems.⁴⁸ Therefore, framing the challenge of e-waste management as a business or economic issue may prove an effective way of skirting political sensitivities that could arise from either a human rights or environmental frame.

In China, this may be an effective frame for many reasons. Given the importance placed on economic development in the cadre evaluation system, the costs of e-waste pollution to future investment opportunities and quality of life measures could prove persuasive in getting local officials on-board. Additionally, mechanisms like EPR tend to apportion responsibility to some individuals (companies/producers) while deflecting it from others (local officials, bosses in the informal economy). While admittedly, in China, these individuals may be one and the same, this framing avoids connotations of corruption and poor governance. Finally, CSR has been broadly embraced by the central government since President Hu Jintao announced in 2007 that “scientific development” would be a key theme in the twelfth Five-Year Plan.⁴⁹

Recommendations

1. **Reach out to key stakeholders:** Use form letters and petitions to make stakeholders aware of your concerns and to hopefully build a critical mass of citizens concerned about your issue.

These methods have long been the materials of successful grassroots advocacy campaigns in the U.S. and other developed countries, although they have developed over recent years to incorporate the use of the internet, particularly through email and social media networks. In the Chinese context, though we caution that in the absence of a representative government writing to officials or legislators may be less effective, we believe that this method can still be useful. We encourage students and other interested individuals to write using our form letter to MEP Guangzhou and Beijing and also to send form letters to electronics manufacturers. Sample form letters can be found below. These letters will signal to MEP that e-waste is not just a top-down state issue, but that citizens are aware of - and concerned with - harmful effects that e-waste causes. It will signal to business leaders that there is support for cleaner and safer disposal methods and will encourage businesses to adopt better standards if they know that there is a demand for it.

2. **Create alliances:** Identify and build relationships with local NGOs, local educational institutions (both secondary and tertiary) and the local business community to increase community buy-in and participation.

We recommend that college students look for local grassroots NGOs and lend support by volunteering or helping with local efforts against e-waste. We also encourage students to contact the Greenpeace China branch in Guangzhou and invite them to share their knowledge and years of experience in combating e-waste. We also encourage college students to form alliances with other colleges and campuses and to work together. In addition, college students can serve as mentors to secondary education students and become leaders in their own neighborhoods and communities. Finally, we invite students to attend Chamber of Commerce meetings to advocate for reducing e-waste not only to voice concerns about e-waste but to build personal relationships (*guanxi*).

3. **Participate in, shape, and create dialogue:** Through attending academic conferences and other professional events, you can gain knowledge, contacts, and new audiences for your issue.

Guanxi are crucial for success in China. This is an intangible element that is often missing from the Western perspective. But case studies of successful civic actions have shown there to be an important human element behind the stories. The lesson these cases teach us is that better connections between stakeholders, and active cultivation of *guanxi*, lead to higher rates of success. Therefore, we encourage student leaders to host conferences in politically-insulated academic settings to form these contacts and share ideas with government officials, business leaders, and local NGOs.

4. **Increase visibility:** The most important element of your campaign's success will be your ability to mobilize individuals to care about your issue. Through strategically placed advertising, you can reach a wider audience.

Branding can help EWOKS differentiate itself from other NGOs, create a sense of prestige for its members, and recognition with the public. For example, the Joint US-China Collaboration on Clean Energy (JUCCE) successfully wooed top actress Li Bingbing and supermodel Du Juan to be participate in its forums on clean energy.⁵⁰ As a result, clean energy and environmental justice are becoming increasingly in-vogue in China. Without proper *guanxi*, it is unlikely that EWOKS can attract recognizable public figures. However, with time and careful framing, it has the potential to deliver e-waste advocacy into the mainstream in a popular light. Other strategies include making an attractive and interactive website for EWOKS that is compliant with modern web standards and is continuously updated and maintained that will serve as the gateway into domestic e-waste issues. Finally, we recommend handing out "swag" to people across college campuses to increase brand recognition and to point visitors to our website. Some products that may be relevant to this target audience include cell-phone charms or covers, laptop cases, and branded, eye-catching recycling bins placed on and around university campuses.

Advocacy Campaign Guidelines

Campaigns are a strong tool that advocates can use strategically to influence decision-makers and pressure them into addressing a salient issue or interest. A well-designed campaign must have a focused plan with a coherent course of action. However, there must be room to allow for flexibility in case a different course of action is required to attain the desired results. Because it is normal to run into challenges during a campaign, the plan must be organized to handle obstacles positively without discouraging participants or impacting the outcome negatively. In addition to delivering positive results, a campaign plan should also expand valuable networking opportunities for your organization by raising its visibility and credibility, and develop positive relationships for future campaigns.

This guide outlines the steps that you may take in order to build a constructive advocacy campaign.

1. Develop clear mission, goals, and objectives for the campaign

Identify the general direction and aim for your organization, and formulate a mission statement that broadly describes why your organization advocates for the environment and how it operates. Also, set realistic goals that will define the scope of your actions. Avoid overly ambitious goals that may undermine your efforts, and focus instead on the actions that your organization can take. Consider the political climate, the probability of success, and the availability of human and financial resources that you have at your disposal. Develop measurable objectives and clearly define outcomes in a realistic time frame.

2. Identify your target, allies and opponents

The primary target of your campaign must be people who can influence and initiate a positive change towards illegal e-waste disposal. In this case, your target audience may be electronic consumers and businesses. Determine potential allies among legislators, such as MEP Guangzhou, and existing NGOs, such as Greenpeace China, and how they can support your campaign. Additionally, identify likely opponents, which may be local governments or people with business interest in informal recycling, and how they may oppose to your campaign efforts.

3. Create solutions and consistent campaign message

Research on your recommendations and solutions to the e-waste issue. Consider how your proposed recommendations will address the problem, and how they can be implemented with minimal expenses. Also determine the amount of time that might be required before achieving tangible results. Develop a message that is tailored to the consumers and private sectors with consistent emphasis that e-waste cannot be ignored. Determine the media channels that you can utilize to spread the message.

4. Taking action and implementing the campaign.

Approach the consumers, authorities and private sector separately, as each target will be influenced by a different message based on their own interests. Identify the strategy that is appropriate for your target. The three broad categorical approaches are:

- **Informational strategy:** Assume that your target audience does not have sufficient information to the e-waste problem, and devote efforts to educate them about the issue. This may involve the use of the mass media and other promotional activities, or roundtable discussions. The key purpose of this strategy is to reach on an agreement and convince the target to take action on your issue. Notable disadvantages are that education alone seldom brings about a social behavioral change, and it may be difficult to assess how much of your message has reached the targets.
- **Collaborative strategy:** Assume that the environmental concern of your campaign is already shared by your target audience. Actively network and engage with them so that you may work together as a coalition to achieve your campaign objectives quicker.
- **Confrontational strategy:** Assume that dialogue will not sufficiently convince your targets to recognize the e-waste problem, and it could include demonstrations or boycotts. Because confrontational strategy may lead to what state views as social instability, this strategy has the greatest risk and should be avoided for personal safety.

5. Evaluate your advocacy campaign

Upon the conclusion of your campaign, evaluate if your organization has met the desired objectives. Seek feedbacks from your allies and your network on the strengths and weaknesses of your campaign, and what improvements can be made before you plan for the next advocacy campaign.

SAMPLE: Frequently Asked Questions - E-waste in China

We recommend creating a Frequently Asked Questions (FAQs) document to provide easy access to information on e-waste in China and to anticipate commonly asked questions.

▪ ***What is e-waste and where does it come from?***

E-waste is electronic waste - the result of discarded electronic equipment. It includes a broad and growing range of electronic devices from computers to cellular phones, stereos, consumer electronics, and monitors. E-waste is generated here in China (2.3 million tons in 2010)⁵¹ and is illegally imported from abroad.

▪ ***What is China doing with e-waste and where are these actions taking place?***

China is the world's largest global recycler of e-waste. Most of the e-waste in China is treated in primitive home workshops. In this unregulated environment, workers manually dismantle the electronics and extract any components and raw materials that could be of value on the secondary market.

▪ ***What are the benefits and dangers of e-waste recycling?***

E-waste recycling allows for the recovery of components and raw materials, and it also plays an important economic role through job creation. Many urban and rural poor make their living by recycling e-waste. However, the toxins released during this process pose serious adverse effects on the environment and human health.

▪ ***What are the hazardous materials in e-waste?***

There are thousands of hazardous materials in e-waste. They include: cadmium, lead, mercury, antimony and arsenic.

▪ ***What regulations are in place regarding e-waste disposal in China?***

China has initiated several policies to address the problems of e-waste disposal, but unfortunately these policies have not been regularly enforced.

▪ ***Are there regulated e-waste recycling centers in China?***

At least eight formal e-waste recycling facilities are under construction or in operation mostly along the eastern coast of China, but it has been difficult for them to contend with the informal sector.⁵²

▪ ***What can I do to help?***

Increase your awareness and understanding of e-waste issues in China help promote regulated e-waste recycling. Write to electronics companies and request that they reduce the risks of e-waste by removing the chemicals and toxins from their products in order to make them safer for disposal. Write to community leaders, institutional administrations, and other key players to request that they provide easy access to information on e-waste and to e-waste recycling systems.

SAMPLE: Form Advocacy Letter for Educational Institutions

In the United States advocacy letters are a popular way to encourage a specific action on an issue. We recommend that this format be utilized to raise awareness about e-waste in China. In the U.S. citizens commonly write advocacy letters to government officials, however, in China we feel the target recipients should be educational institutions and/or large companies.

[Date]

[Name of Dean or other respected officer at Institution]

[Address]

Dear *[Name]*:

I have been a supporter of your institution for many years and I am currently writing to you as a concerned citizen to encourage you to support responsible practices concerning electronic waste (“e-waste”) in China.

Currently, the majority of e-waste in China is being recycled through an unregulated system that results in the release of highly toxic chemicals. These chemicals cause long-term environmental degradation and endanger the health of recycling workers and their families. Your support would provide *[Name of institution]* with an opportunity to make a significant positive contribution to the socio-economic and environmental well-being of our country.

There are three main ways that *[Name of institution]* can make an impact on reducing the destructive current practices of e-waste recycling and disposal:

1. **Modify procurement practices** and contract with suppliers who abide by extended producer responsibility (“EPR”) and are focused on the environmental impact of their product throughout its life cycle. Once your used equipment is at the end of its life, these suppliers will take the units back and ensure they are recycled through an environmentally sound process.
2. **Incentivize regulated recycling** at *[Name of institution]* to encourage safe dismantling of older, used electronics that were not purchased from EPR suppliers.
3. **Increase e-waste education** at *[Name of institution]* and in the community through seminars and workshops. Use facilities to host global information exchange opportunities for governments, scholars and industries.

I ask you to pledge your support and take action on this important issue that will streamline e-waste recycling at *[Name of institution]*, and will contribute to the preservation of human health and our environment.

Sincerely,
[Your Name]

SAMPLE: Form Advocacy Letter for Electronics Companies

[Date]

[Name of Senior Executive]

[Address]

Dear *[Name of Senior Executive]*:

I have been a loyal customer of *[Name of Company]* electronics for over *[number]* of years. However, I am tremendously concerned by the unsafe and unregulated treatment of electronic waste (“e-waste”) created from your products at the end of their life cycle. I write to you today to encourage you to take immediate action to reduce the environmental and health risks that your products pose when they are recycled outside a regulated recycling center.

I urge you to be a socially responsible company and participate in extended producer responsibility (“EPR”) practices. By adapting these practices, your company will be integrating your business interests with the economic, social, and environmental interests of our country. There are three key actions that will be most beneficial to reducing unregulated e-waste recycling and to the long-term bottom line of *[Name of Company]*:

1. **Discontinue the use of certain hazardous toxins** in the production of your products to ensure that they will not be released into our ecosystem during recycling.
2. **Collect your products at the end of their life cycle** and ensure that they are taken to a regulated recycling center. The sophisticated extraction technologies available in these centers will allow you to reuse more materials and create operational cost savings.
3. **Create a mark on your product** letting customers know that you abide by EPR practices. This will create awareness that *[Name of Company]* is a leader in social responsibility and will instill good will and brand recognition from customers.

I ask you to take action on this important issue because it will contribute to the preservation of human health and our environment, and it will also help *[Name of Company]’s bottom line*.

Sincerely,

[Your Name]

EWOKS

Electronic waste: Discarded electrical and electronic device that could enter the waster stream.

*cell phones, computers, televi-
sions, and steros are just a few
common waste items*

30 million tons are import-
ed each year.

2.4 million tons are pro-
duced annuallly.

And growing.

Heavy metals such as
chromium, mercury, cadmium
containate drinking water around

Guangdong

Leading to detrimentral effects on the
nervous system, reproductive system,
and may even cause **cancer**.

Learn how you can help:
visit us on the web
at www.eworks.cn

Join the fight against **e-waste**
Be an ewok

Help China. Save the environment

Tell your friends



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