

# Stink of Guangzhou garbage plan refuses to go away

City says landfills can't handle all the rubbish and incinerators are a must. But residents have a host of worries, and don't trust government

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■ PEARL BRIEFING  
Sally Wang SCMP  
Jul 07, 2012

Hundreds of residents of Qingyuan and Guangzhou took to the streets on June 10 to protest against a plan to build a garbage incinerator in Guangzhou's Huadu district, close to Qingyuan.

It was one of the largest protests against government plans to build incinerators in Guangzhou, but just over a week later the standing committee of the city's people's congress confirmed plans to build five garbage incinerators by 2015, with one of three planned for Huadu to be completed by 2014.

The government has cut the number of incinerators it plans to build by 2015 from six to five, and reduced its **daily-capacity target** from **15,000 tonnes** to **11,000 tonnes**, but public opposition remains widespread.

The city already has one incinerator, in Likeng, in the northern district of Baiyun, which handles 1,000 tonnes of refuse each day. Most of the rest of the 18,000 tonnes of waste the city produces each day ends up buried in landfills, which, according to the *Southern Metropolis Daily*, already contain 40 million tonnes of garbage.

While the scaling back of the city's incineration plans can be viewed as official acknowledgement of public concerns, the government remains resolute in its determination to promote the burning of refuse both to solve its waste problem and to generate electricity.

Xu Jianyun, a deputy director of Guangzhou's Urban Management Committee who is in charge of building waste-treatment facilities, told the *Southern Metropolis Daily* that the city would create 20,000 tonnes of refuse a day by 2020 and had to reduce the amount being sent to landfills.

But the public has concerns, with people complaining the incinerators will be built close to communities and could pose serious threats to residents' health and the environment. There are nine villages and several residential communities within 2.5 kilometres of the proposed Huadu plant, the *Nanfang Daily* reported.

Arguments over whether Guangzhou should have incinerators, and, if so, where, have been going on since 2009. Besides concerns over health and green issues, some people also doubt the government's integrity, and worry about back-room deals.

According to the government plan, incinerator operators will receive a 110 yuan (HK\$134) subsidy for each tonne of household garbage burned. In the June 10 protest, people complained about a lack of openness in the bidding process and the selection of operators.

In 2009, when the Guangzhou Guangri Group obtained the right to operate the city's first incinerator, the *Southern Metropolis Daily* reported rumours that the brother of Lu Zhiyi, deputy general secretary of the Guangzhou city government, held a senior position in the group. It also reported that the group had given two cars to the leaders of the Urban Management Committee.

The only response from the city government was that if special interests had been favoured, the city's discipline-inspection commission would have stepped in to investigate the matter.

Selecting sites for garbage incinerators is not an easy job for any government. Hardly any have been built in the US for more than 15 years, *The New York Times* has reported. But Guangzhou residents are also entitled to open and thorough hearings and reviews before the government makes decisions on incinerators.

Independent and trustworthy third-party organisations should be appointed to assess the impact of such projects on nearby residents, and in particular the risks associated with dioxin, a cancer-causing by-product of incineration.

The city government also needs to answer doubts about the fairness of the bidding process and about just how clean its own hands are.

Only if it wins people's trust will the Guangzhou government be able to deal with the stink created by its plans for the city's garbage.

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<http://www.guardian.co.uk/environment/2012/jul/04/dirty-truth-chinas-incinerators?newsfeed=true>

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# The dirty truth about China's incinerators

The boom in polluting waste-to-energy plants in China has led to a backlash from residents, including one man's long-running legal crusade

- Elizabeth Balkan for [ChinaDialogue](#), part of the [Guardian Environment Network](#)
- [guardian.co.uk](#), Wednesday 4 July 2012 15:35 BST



A Chinese worker controls robotic arms to throw rubbish into an incinerator at a plant in Qionghai, Southern Hainan province of China. Photograph: Corbis

Xie Yong could be called a pioneer. He is one of very few to date to sue a Chinese government agency over its unlawful refusal of requested data. His crusade for change has little to do with civic altruism, however. Xie's struggle is personal in nature, his actions forced by desperation. He has been battling his son's paralysis-causing epileptic seizures and mounting health care costs since 2010. His son's condition, Xie believes, is the result of toxic emissions from an incineration plant near his home.

Xie and his wife, Ma Hongmei, lived in Nantong, Jiangsu province, when Ma gave birth to their son, Yongkang, in 2008. Even before they could celebrate his first 100 days of life, Yongkang's parents noticed he was not developing normally. He did not laugh like other babies and had trouble seeing and hearing. Most disturbing, he twitched incessantly and could not be placated. Shortly after, he became paralysed. Doctors eventually diagnosed him with [cerebral palsy](#).

During Ma's pregnancy and in her son's first two months of life, the family lived a short distance from the local trash incineration plant. The facility's odorous emissions were constant, but neither Ma nor Xie understood what risks they might be facing. Shanghai Xinhua Hospital determined that Yongkang's disease was not genetic, but caused by environmental factors during Ma's pregnancy.

Xie researched the science behind incineration emissions and health defects, spoke with experts, and learned that other couples in the village had experienced premature births and stillbirths. The couple concluded that their proximity to the plant, and the constant pollution it spewed, were to blame.

In 2010, Xie sought the assistance of the Center for Legal Assistance to Pollution Victims ([CLAPV](#)), a China-based legal aid NGO that provides assistance to citizens and wages legal battles in the name of environmental justice. The centre felt that his story justified legal action and, with Xie's help, began collecting the evidence needed to build a case against the company that owned the plant, Jiangsu Tianying Saite Environmental Protection Energy Group.

In China's first personal health-related legal case against a waste incinerator, the Hai'an local court heard the case in September 2010. Xie submitted analysis revealing dioxin concentrations in nearby air that grossly exceeded legal limits; reports documenting the physical condition of plant workers and other children living near the plant; and scientific papers demonstrating a link between dioxin and birth defects. The local judge rejected Xie's claims, prompting him to appeal to the county court. A county-level trial took place May 2011, with similar results. The court deemed the evidence insufficient and issued a verdict against Xie.

In response to these blows, Xie turned directly to the authorities. He filed a request for emissions data for the plant in question from the local environmental protection bureau, to which he had legal entitlement (read more about China's open government information laws [here](#) and [here](#)). His request was denied, on the grounds that releasing data would compromise the company's business secrets. Xie next asked the provincial level Ministry of Environmental Protection, one administrative level higher, to release emissions reports to him. They, too, turned him down. But he is determined to continue his fight.

Activists like CLAPV's Liu Jinmei [believe](#) that Xie's efforts "indicate a growing awareness of safeguarding the rights of victims of pollutants". However, it is hard to know how many individuals with situations similar to Xie's, but completely unaware of the potentially serious health risks they face, are out there. This is because conditions at Chinese waste-to-energy facilities are by and large shrouded in mystery.

## **The incineration boom**

China did not commission its first waste-to-energy plant until little more than a decade ago. Before 1990, public waste-treatment infrastructure handled less than 2% of the country's household waste. At the same time, output of inorganic rubbish was marginal.

Rapid change in waste production and management trends occurred in China over the last two decades. China now generates over a quarter of the world's garbage, at least 250 million tonnes annually. With municipal solid waste (MSW) growing 8% to 10% annually, cities are under great pressure to deliver advanced waste-management solutions.

Landfills currently handle roughly half of China's MSW, while only about 10% is incinerated. Official credo suggests that landfills will continue to play a dominant role. But Beijing's push to increase the share of burned waste is unmistakable: a central target calls for 30% of MSW to be treated by waste-to-energy incineration by 2030.

Presently, incineration is growing at a feverish pace. Industry insiders and state-run media routinely declare 300 plants will be operational by the time the 12th Five-Year Plan runs its course in 2015. A 2009 study by banking group Standard Chartered found that over one-half of global orders for new waste-incineration facilities came from China.

Information on the number of waste-to-energy plants in China is scarce and, when available, difficult to unpack. Interviews with experts and policymakers rarely converge on a single number, but their guesses routinely fall somewhere between 100 and 200. In an independent, verified assessment I conducted in 2011, I detected at least 155 plants currently operating or under construction. I would not be surprised if plans for new plants have been announced in the three months during which my data has aged.

China's earliest incineration plants deployed imported [grate burn technology](#) common in developed economies. Plant operators quickly found that Chinese MSW generally makes poor feedstock. This is because China's vast informal sector extracts the most easily burned trash, like paper, wood and plastic. The remaining composition is largely organic waste, too wet to burn without costly pre-treatment or fuel supplements. Technological barriers aside, the price of these technologies also puts them out of reach for China's second and third-tier cities.

Combined with these practical obstacles, Beijing's drive to localise environmental technologies helped catalyse (state-funded) development of domestic incineration technologies suited to Chinese conditions. Newer plants prominently feature domestically developed equipment, including both grate and circular fluidised-bed (CFB) type incinerators. Though smaller in terms of capacity, CFB incinerators generate similar amounts of electricity to stoke grates. They are also more flexible in terms of feedstock, permitting coal to be added for easier ignition. For these reasons, CFB incinerators enjoy considerable popularity in the market and now account for about half of China's MSW treatment capacity.

Early central-level legislation on municipal waste management – passed almost a decade ago – sanctioned private-sector involvement. These measures, intended to encourage growth in waste-to-energy installations, relaxed state control in a way that has yet to take place in the energy sector. However, the primary catalyst for growth in the sector has been generous government incentives.

Waste-to-energy incineration is classified as a renewable energy form in China, meaning that plants receive a [feed-in tariff](#) for every kilowatt hour of electricity they generate. Only two months ago, Beijing announced a fixed subsidised price for power purchased from waste-to-energy plants, which is about double that from coal-powered plants.

The results of these subsidies are dramatic. Both foreign and local waste-to-energy players have rushed to stake their claims, in some cases submitting loss-making tender offers just to get a foothold. Many waste-management experts suspect that Chinese city officials are among the most eager investors; using public infrastructure and tax revenue to profit personally.

### **Peeling back a green facade**

The ongoing justification for favourable waste-to-energy policies in China is simple: cities stem the problem of growing waste while getting much needed electricity in the process. That formula, however appealing, appears too good to be true.

China's incinerators, though canonised as a "clean energy," have a dirty underside. **Thermal waste treatment plants are subject to emissions regulations considerably looser than those for power plants. Legally, they can emit nitrous oxide and sulphur dioxide at, respectively, four and five times the levels of power plants in China.**

Newer facilities are installed with air-pollution control systems, but these are costly to use and maintain. Thus, many plants operate without the required flue gas filtering equipment. Likewise, treatment of other highly toxic byproducts – such as wastewater removed before incineration and fly ash created during burning – tends to be either poor or non-existent. This follows partly from the lack of regulations on how waste-to-energy plants should treat wastewater.

The company which operates the facility near where Xie Yong's family lived boasts on its website that it uses an advanced pollution control system which meets European emissions standards, but no details are given. This is a common claim among waste-to-energy developers. On the other hand, air and water pollution in waste-to-energy plants in China has been well-documented. According to [some reports](#), **some plants emit dioxins at levels 24 times higher than those from American waste-to-energy facilities.**

Making matters worse, plant operators regularly add coal to the burning waste. In private interviews, **Waste-to-energy plant operators admitted to using a feedstock mix comprising equal parts coal and rubbish, which far exceeds the 20% coal limit mandated by the central government.** It is not unheard of for the share of coal to be as high as 70%. Under these conditions, plants are operating essentially as small coal-fired power stations – exactly the kind of facility that Beijing is trying to eliminate on public health grounds.

Finally, while incineration plants in Europe charge rubbish haulers "[tipping fees](#)" that may reach US\$132 (840 yuan) per tonne of waste, these fees rarely exceed US\$16 (100

yuan) per tonne in China, and usually hover around US\$8 (50 yuan). When Xie's son was born, the plant near his house was making US\$10 (64 yuan) for each tonne of trash they accepted. Many experts say that environmentally sound performance, and the costs it requires, is not technologically feasible with such low tipping fees.

## Light beyond the haze

**Weak regulation and misaligned policies, combined with an absence of public emissions data, make for a truly toxic incineration sector. Xie Yong is not the only one who has noticed.**

Beginning a few years ago, communities near existing plants, offended by odorous emissions and worried about possible health risks, began protesting against new projects. In one incident, which took place in Xie's Jiangsu province, as many as 10,000 residents gathered and clashed with police over a waste incinerator in their village. According to Chinese media reports, by mid-2010 construction of at least six new plants had been postponed due to public opposition.

By some accounts, China's leadership has heeded the warnings. In interviews, city officials have said that some Chinese mayors are blocking new projects, concerned they could trigger unrest, thereby marring their reputations and chances of promotion.

Alongside these grassroots efforts, NGOs like Beijing-based Green Beagle are working to substantiate public opposition to incineration with actual emissions performance data. Having campaigned for, and been denied, credible figures for almost five years, the organisation is exploring the possibility of establishing independent waste-to-energy emissions monitoring stations.

As for Xie Yong, it is too early to say whether he can navigate a way through China's legal system and extract the data he is so desperate to get his hands on, in the belief it will demonstrate a more direct relationship between the plant's operations and his son's crippling illness. With every other option exhausted, Xie decided early this year to sue the provincial-level Ministry of Environmental Protection at the Jiangsu provincial court. The trial is expected to take place later this year.

"Taking the ministry to court is my last choice," Xie [has said](#). "It's the only way I can get justice." Though his case is still unresolved, growing numbers of onlookers await the outcome.

Xie's legal fight – the first of its kind – highlights the pressing need for greater transparency and accountability in the incineration sector. At the same time, growing popular opposition suggests that persistent, and public, resistance may be China's best bet for achieving meaningful regulatory reform in the waste-to-energy sector.

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**From:** James Middleton [<mailto:dynamco@netvigator.com>]

**Sent:** 12 June, 2012 08:12

**To:** Edward Yau Tang Wah EPD; EPD HKG; [ceeo@ce-elect-office.hk](mailto:ceeo@ce-elect-office.hk); [kswong@rlphk.com](mailto:kswong@rlphk.com); [martin.putnam@hkairport.com](mailto:martin.putnam@hkairport.com); [elvis\\_au@epd.gov.hk](mailto:elvis_au@epd.gov.hk)

**Subject:** Residents in Guangdong say No to the Garbage Plant

**Secretary for the Environment  
Mr Edward Yau Tang Wah**

Dear Sir,

In the recent EIA documents for the proposed Shek Kwu Chau incinerator project we could not find any reference to the following imminent incinerator projects just across the border from Hong Kong.

Since your staff Mr Elvis Au has frequently stated in public that the majority of the winds across Hong Kong are northerlies for most of the year, it stands to reason that these upcoming 24/7 projects will have a serious influence on transboundary pollution levels in Hong Kong which is already affected by marine shipping pollution levels without any Emissions Control Area in place.

Why were these (*easily searched*) major polluting projects omitted by the consultants from the EIA on the Shek Kwu Chau incinerator?

Yours faithfully,

James Middleton  
Chairman

[www.cleartheair.org.hk](http://www.cleartheair.org.hk)

[http://www.martingmbh.de/index\\_en.php?level=1&CatID=9&inhalt\\_id=10&presse=84&do=showDetail#84](http://www.martingmbh.de/index_en.php?level=1&CatID=9&inhalt_id=10&presse=84&do=showDetail#84)

**23/04/2012 [Foshan Nanhai I, China](#)**

Extension by 3 lines

In March 2012, our cooperation partner Mitsubishi Heavy Industries Environmental & Chemical Engineering Co., Ltd. (MHIEC) was awarded the contract to supply the technical equipment for the extension of the Foshan Nanhai I plant. Three MARTIN reverse-acting grates with a width of 9.48 m will be used. The throughput is 3 x 500 t/d. (1500 t/d)

Start-up of the 3 combustion lines is planned for 2013.

07/12/2011 [Dongguan Downtown, China](#)

Order for delivery of three grate systems

Our licensee, Chongqing Sanfeng Covanta Environmental Industry Co., Ltd., has been awarded a new contract to supply grate systems. Three combustion systems will be supplied to the waste-to-energy plant in Dongguan Downtown (Guangdong province), People`s Republic of China. The grates with a throughput of 600 t/d each will be manufactured in China and will use the MARTIN SITY 2000 technology. (1800 t/d)

19/10/2009 [Dongguan, China](#)

Order for delivery of 3 grate systems

Our licensee, Chongqing Luneng Environment Industry Co., Ltd., has been awarded a new contract to supply grate systems. Three combustion systems will be supplied to the waste-to-energy plant in Dongguan (Guangdong province), People's Republic of China. The grates will be manufactured in China and will use MARTIN SITY 2000 technology. Each grate will have a throughput rate of 600 t/d. (1800 t/d)

<http://www.globaltimes.cn/content/714075.shtml>

### **Residents in Guangdong say no to the garbage plant**

Global Times | 2012-6-11 1:50:02

By Tu Lei

Hundreds of residents from two cities in South China's Guangdong Province again took to the street in the provincial capital of Guangzhou Sunday to show their concern over a plan to build a garbage incinerator, according to several postings on Sina Weibo Sunday.

"We do not want the garbage incinerator built in our city, and we have no better option but to stage this rally," a participant surnamed Hu from Qingyuan, a city neighboring Guangzhou, told the Global Times Sunday.

Hu said the Fenshui garbage incineration project near the boundary of the neighboring cities of Qingyuan and Guangzhou has vexed residents for its possible impact on resident's health and the environment.

"Only two months are left for the provincial environmental protection bureau to make a final decision on its location. The company they've selected also isn't qualified to build the plant, and there has been no open bidding for the project." "Some 20 villages and three large residential communities are within 3 kilometers of the plant," according to a posting from a Weibo account that was opened to oppose the plant.

There are nine villages within 2.5 kilometers of the plant, the Guangzhou-based Nanfang Daily reported on May 30.

The first rally took place on the morning of May 23, when some 200 residents came to Guangzhou to show their displeasure. This time, "There were nearly 1,000 residents joining the gathering that lasted six hours," Hu said.

"Burying the garbage will take too much land, while an incineration plant is quite scientific and popular overseas," an official also surnamed Hu with the urban management commission of Guangzhou, told the Global Times. "We have made a thorough argument for picking the site and assessed the impact on the environment."

The Standing Committee of Guangzhou City People's Congress said in April that the **city will build six garbage incineration plants over the next three years**, and the location is to be finalized this year.

The city government said on May 22 that Guangzhou's population is expected to be 18 million in five years, and they will produce 18,000 tons of garbage a day, far surpassing the city's current handling capacity.

<http://titan-machinery.com/en/industry-news/shenzhen-waste-incinerator/>

## China's Largest Waste-To-Energy System Heads For Shenzhen

Posted in: [Industry news](#) | January 26, 2011 at 3:06 pm

[2 comments](#)



The second phase of the Bao'an Waste-to-Energy Plant, which is invested in by Shenzhen Energy and Environment Company, is expected to be the largest of its kind in China with a daily production capacity of 4,200 tons.

It is learned that Shenzhen produces 12,074 tons of waste are being yielded in Shenzhen every day. Though city has set up seven waste incineration power plants with a total capacity of 4,875 tons per day, it can still not meet the increasing demand.

At present, SEEC incinerates 2,450 tons of waste each day, which accounts for 50% of the city's total waste incineration. In addition, the company has three projects under construction which are expected to add a daily capacity of 6,300 tons for the city.

Set up in 1997, SEEC is one of the major waste disposal companies in Shenzhen.

## China's Incinerators Loom as a Global Hazard



Timothy O'Rourke for The New York Times

A worker shoveled trash at the Baoan incinerator in Shenzhen, which also generates power.

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By [KEITH BRADSHER](#)

Published: August 11, 2009

SHENZHEN, [China](#)— In this sprawling metropolis in southeastern China stand two hulking brown buildings erected by a private company, the Longgang trash incinerators. They can be smelled a mile away and pour out so much dark smoke and hazardous chemicals that hundreds of local residents recently staged an all-day sit-in, demanding that the incinerators be cleaner and that a planned third incinerator not be built nearby.



Timothy O'Rourke for The New York Times

A truck delivering trash to the Baoan incinerator in Shenzhen, China. The incinerator is relatively clean, but is also costly.



Timothy O'Rourke for The New York Times

Zhong Rigang, the chief engineer at the Baoan incinerator, saw little enthusiasm among the public for recycling.

[Enlarge This Image](#)



Timothy O'Rourke for The New York Times

The Longgang incinerators in Shenzhen were the focus of a recent all-day sit-in by hundreds of local residents.

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After surpassing the United States as the world's largest producer of household garbage, China has embarked on a vast program to build incinerators as landfills run out of space. But these incinerators have become a growing source of toxic emissions, from dioxin to mercury, that can damage the body's nervous system.

And these pollutants, particularly long-lasting substances like dioxin and mercury, are dangerous not only in China, a growing body of atmospheric research based on satellite observations suggests. They float on air currents across the Pacific to American shores.

Chinese incinerators can be better. At the other end of Shenzhen from Longgang, no smoke is visible from the towering smokestack of the Baoan incinerator, built by a company owned by the municipal government. Government tests show that it emits *virtually no* dioxin and other pollutants.

But the Baoan incinerator cost 10 times as much as the Longgang incinerators, per ton of trash-burning capacity.

The difference between the Baoan and Longgang incinerators lies at the center of a growing controversy in China. **Incinerators are being built to wildly different standards across the country and even**

across cities like Shenzhen. For years Chinese government regulators have discussed the need to impose tighter limits on emissions. But they have done nothing because of a bureaucratic turf war, a Chinese government official and Chinese incineration experts said.

The Chinese government is struggling to cope with the rapidly rising mountains of trash generated as the world's most populated country has raced from poverty to rampant consumerism. Beijing officials warned in June that all of the city's landfills would run out of space within five years.

The governments of several cities with especially affluent, well-educated citizens, including Beijing and Shanghai, are setting pollution standards as strict as Europe's. Despite those standards, protests against planned incinerators broke out this spring in Beijing and Shanghai as well as Shenzhen.

Increasingly outspoken residents in big cities are deeply distrustful that incinerators will be built and operated to international standards. "It's hard to say whether this standard will be reached — maybe the incinerator is designed to reach this benchmark, but how do we know it will be properly operated?" said Zhao Yong, a computer server engineer who has become a neighborhood activist in Beijing against plans for an incinerator there.

Yet far dirtier incinerators continue to be built in inland cities where residents have shown little awareness of pollution.

Studies at the University of Washington and the Argonne National Laboratory in Argonne, Ill., have estimated that a sixth of the mercury now falling on North American lakes comes from Asia, particularly China, mainly from coal-fired plants and smelters but also from incinerators. Pollution from incinerators also tends to be high in toxic metals like cadmium.

Incinerators play the most important role in emissions of dioxin. Little research has been done on dioxin crossing the Pacific. But analyses of similar chemicals have shown that they can travel very long distances. A 2005 report from the World Bank warned that if China built incinerators rapidly and did not limit their emissions, worldwide atmospheric levels of dioxin could double. China has since slowed its construction of incinerators and limited their emissions somewhat, but the World Bank has yet to do a follow-up report. Airborne dioxin is not the only problem from incinerators. The ash left over after combustion is laced with dioxin and other pollutants. Zhong Rigang, the chief engineer at the Baoan incinerator here, said that his operation sent its ash to a special landfill designed to cope with toxic waste. But an academic paper last year by Nie Yongfeng, a Tsinghua University professor and government adviser who sees a need for more incinerators, said that most municipal landfills for toxic waste lacked room for the ash, so the ash was dumped.

Trash incinerators have two advantages that have prompted Japan and much of Europe to embrace them: they occupy much less real estate than landfills, and the heat from burning trash can be used to generate electricity. The Baoan incinerator generates enough power to light 40,000 households.

And landfills have their own environmental hazards. Decay in landfills also releases large quantities of methane, a powerful global warming gas, said Robert McIlvaine, president of McIlvaine Company, an

energy consulting firm that calculates the relative costs of addressing disparate environmental hazards. Methane from landfills is a far bigger problem in China than toxic pollutants from incinerators, particularly modern incinerators like those in Baoan, he said.

**China's national regulations still allow incinerators to emit 10 times as much dioxin as incinerators in the European Union;** American standards are similar to those in Europe. Tightening of China's national standards has been stuck for three years in a bureaucratic war between the environment ministry and the main economic planning agency, the National Development and Reform Commission, said a Beijing official who insisted on anonymity because he was not authorized to discuss the subject publicly.

The agencies agree that tighter standards on dioxin emissions are needed. They disagree on whether the environment ministry should have the power to stop incinerator projects that do not meet tighter standards, the official said, adding that the planning agency wants to retain the power to decide which projects go ahead.

Yan Jianhua, the director of the solid waste treatment expert group in Zhejiang province, a center of incinerator equipment manufacturing in China, defended the industry's record on dioxin, saying that households that burn their trash outdoors emit far more dioxin.

"Open burning is a bigger problem according to our research," Professor Yan said, adding that what China really needs is better trash collection so that garbage can be disposed of more reliably.

Critics and admirers of incinerators alike call for more recycling and reduced use of packaging as ways to reduce the daily volume of municipal garbage. Even when not recycled, sorted trash is easier for incinerators to burn cleanly, because the temperature in the furnace can be adjusted more precisely to minimize the formation of dioxin.

Yet the Chinese public has

<http://www.nytimes.com/2009/08/12/business/energy-environment/12incinerate.html?pagewanted=all> shown little enthusiasm for recycling. As Mr. Zhong, the engineer at the Baoan incinerator, put it, "No one really cares."



Keppel Seghers is currently one of the leading providers for imported WTE solutions in China. Its in-house technology is supplied for the expansion of an existing WTE plant in Shenzhen, Guangdong.

Keppel Seghers' technology will enable the facility to treat an additional 3,000 tonnes to the existing 1,200 tonnes of municipal waste per day. When completed, the WTE plant will be the largest in China with an eventual capacity to treat 4,200 tonnes of municipal waste per day.

The existing WTE plant's key components were also provided by Keppel Seghers in 1999, when it was built. Back then, the plant was also the largest WTE plant in China.

## Heated opposition feared for city's incinerator plan

Updated: 2011-09-17 08:06

By Zheng Caixiong (China Daily)

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SHENZHEN, Guangdong - The government of the special economic zone is having trouble finding a location for the construction of a gigantic garbage incinerator.

Lu Ruifeng, executive deputy mayor of Shenzhen, said the city plans to build the world's largest garbage incinerator, with a designed capacity to handle more than 5,000 tons of garbage a day.

"But it is really a headache to choose the right location for the project," Lu said.

Lu made the remarks while meeting with Chen Xiaochuan, vice-chairwoman of the Guangdong Provincial People's Congress, who was leading a group of deputies from the province's legislative body to inspect the city's environmental protection work early this week.

Although Lu did not reveal what the problems were, insiders said the city government worried the project could meet opposition from people living near any chosen location.

**In Guangzhou, about 100 kilometers away from Shenzhen, the city government had to postpone construction of a similar project in its Panyu district last year because of residents' strong opposition.**

After the Guangzhou government chose a site in the Panyu district to build its garbage incinerator in late 2009, the overwhelming majority of nearby residents signed a petition to oppose the project. They were worried it would pollute the environment and harm their health.

As a result, the Guangdong provincial government had to make concession and announced it would postpone construction.

The Guangzhou garbage incinerator project had also stirred controversy among environmental experts and scholars.

Zhao Zhangyuan, a retired researcher for the Chinese Research Academy of Environmental Sciences, said incineration will cause pollution.

"Burning garbage produces many poisonous gases, even when advanced technology and equipment are used," said Zhao, who strongly opposed construction of the project.

Guangzhou authorities are now looking for a different site to build their garbage incinerator.

But Xu Haiyun, chief engineer with the China Urban Construction Design and Research Institute, said garbage incinerators will not pose health risks because the gases discharged would be strictly in line with the country's standards.

"There is a garbage incinerator in downtown Bonn, Germany, and similar facilities have been constructed in Japan," Xu said.

Lu Ruifeng promised Shenzhen's garbage incinerator would use the world's most advanced technologies, equipment and management system and uphold the strictest discharge standards to avoid polluting the environment.

"Shenzhen, a densely populated city that lacks land resources, will treat its waste mainly through burning in the future, in addition to burying and composting," Lu said.

According to Lu, Shenzhen's treatment rate of consumer waste will exceed 80 percent in 2015.

In addition, a number of garbage treatment facilities will be built or expanded in the coming years.

Yin Qingwei, a Shenzhen white-collar worker, said the city needs to build a big garbage incinerator to deal with its growing garbage problem.

"But the government should carefully consider the public opinion and seek suggestions from residents to choose the right location," he said.

Construction should not start before the majority of residents have reached an agreement with the government, he added.

China Daily

<http://news.newclear.server279.com/?p=3958>

## Shenzhen plans world's largest incinerator

Apr 6th, 2012 by Editor.

Choi Chi-yuk and Cheung Chi-fai

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Shenzhen plans to build the “world’s largest” rubbish incinerator, capable of **processing 5,000 tonnes a day**, in an effort to cope with the almost five million tonnes of domestic waste produced by the city each year.

Lu Ruifeng, the city’s executive vice-mayor, told a group of Guangdong provincial People’s Congress delegates on Tuesday that because its landfills could no longer cope with the growing trash pile produced by its 13 million residents, the city was planning to build the world’s largest incinerator, the Guangzhou-based Nanfang Daily reported yesterday.

Lu said public consultations had been held on site selection. He admitted that where to put the incinerator was one of the most challenging problems for the project.

The Nanfang Daily said Shenzhen planned to build three waste incinerators by 2015 to burn 80 per cent of the city’s rubbish. It said two of the plants would be in Laohukeng and Nanshan district, both in the west of the city, with the third to be built at an unspecified site in the city’s east.

A report in the Guangzhou Daily said Shenzhen had three waste incineration plants in the pipeline, capable of processing **a total of 6,300 tonnes of rubbish a day**.

Lu said that in order to meet environmental protection standards for the incinerator’s emissions – smell, liquid, ash residue and airborne ash particles – it would make use of mechanical grate technology to improve combustion. It would also adopt advanced management and stick to the highest global air quality standards, the Nanfang Daily reported.

It said Shenzhen was dealing with 4.8 million tonnes of trash a year.

Michelle Au Wing-tze, senior environmental affairs officer at Friends of the Earth (Hong Kong), said Shenzhen was taking a wrong path in waste management.

“Guangzhou has just started to ask people to separate and recycle waste, but Shenzhen is heading in the opposite direction,” she said.

“It is definitely not an image boost to tell others the incinerator will be the world’s largest.”

Au said that if the incinerator had any adverse environmental impacts, like dioxin pollution, it would not just hit Shenzhen and Hong Kong but could spread far beyond the region.

Last year, the daily per capita waste disposal rate in Shenzhen was 1.26kg, compared to 1.28kg in Hong Kong and 0.77kg in Guangzhou.

Hong Kong is also planning to build a large incinerator, with a capacity of 3,000 tonnes a day, on a reclaimed site at Shek Kwu Chau, south of Lantau Island. Environment officials have not ruled out the need to build an extra incinerator to cope with mounting waste.

Waste incineration projects are a sensitive issue in Guangdong, with proposals for new plants often met by fierce local demonstrations, forcing plans to be put on hold. In January, more than 1,000 residents from two districts of Guangzhou staged separate protests against incinerator projects near their neighbourhoods.

Growing environmental awareness among mainlanders as living standards have improved in recent years have fuelled more protests over environmental concerns.

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**ASIAONE NEWS SINGAPORE**

**Incinerator incinerated**

**Loud bangs then fire at Tuas incinerator**

**AsiaOne**

**Sunday, May 06, 2012**

**SINGAPORE - An incinerator at a waste management plant in Tuas caught fire early Sunday morning. According to witness statements, three loud bangs were heard before flames were sighted.**

**An eyewitness told the Straits Times that technicians on duty were transporting oil sludge into a funnel leading to the incinerator when they heard the three loud explosive bangs, followed by the flames.**

**The technicians then sounded the alarm and left the control room, which reportedly caught fire just seconds later.**

**The roof also partially collapsed, reported the English daily.**

**The Singapore Civil Defence Force (SCDF) said they were alerted to the fire at around 12.50am at Eco SWM, in Tuas. Deploying three fire engines, SCDF officers put out the fire within 30 minutes of their arrival.**

**A SCDF spokesperson said that all 25 employees who were onsite when the incident happened are accounted for. No injuries have been reported.**

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