

See it here: exclusive English translation of powerful viral Chinese documentary 'Under the Dome'

Investigative journalist Chai Jing's self-funded documentary "Under the Dome" about the long-term effects of air pollution in China went massively viral in early March 2015, racking up over 150 million views in its first weekend. Read the English translation [here](#).



by [Rebecca Eisenberg](#)

Retired investigative journalist Chai Jing's self-funded documentary "Under the Dome" about the long-term effects of air pollution in China went massively viral in early March 2015, racking up over 150 million views in its first weekend.

We at Upworthy felt it was so important to share the documentary with non-Mandarin speakers that we commissioned exclusive translations of the first and last 10 minutes of the documentary.

To fill in the middle, however, we called on Upworthy Head of Product Mike Su, who grew up in Taiwan and speaks fluent Mandarin, to provide a summarized play-by-play.

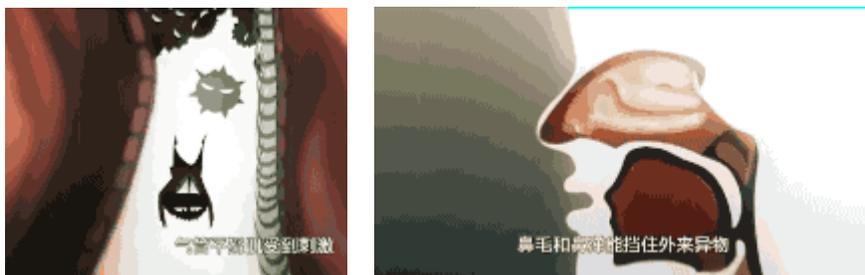
(Update 7/11/2016: The original documentary has since added complete English-language captioning, and that version now appears below.)

You can watch the documentary (with captions) in its entirety here or scroll down to read our time-stamped highlights:

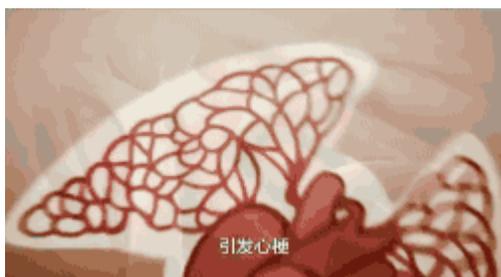
[10:02-12:30]

The first 10 minutes of the documentary segue into a short animation that breaks down the science behind how harmful "PM2.5" is. PM2.5 means particulate matter (aka pollution!) that is 2.5 micrometers and smaller. People in China have been told that exposure to pollution helps the body adapt to it. But this is scientifically untrue.

Jing's animation shows **PM2.5 and its gang of toxins** as playing a video game to get into the body, slipping through each layer of defense the body puts up and why they are insufficient to stop the almighty PM2.5.

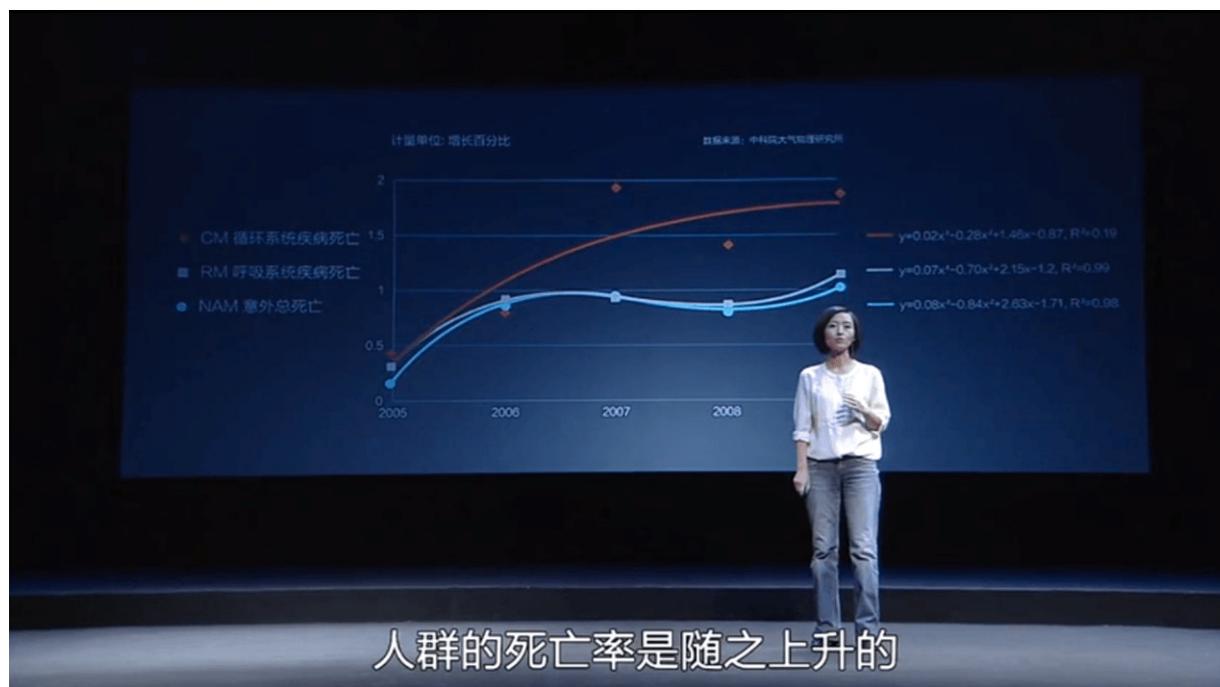


Exposing the human body to PM2.5 does not help it adapt. Long-term exposure to PM2.5 will ultimately compromise your immune system, and at worst, the particles will enter directly into the bloodstream, which can be fatal.



Scariest. Animation. *Evar*.

[12:30]



Here Jing shows a chart displaying the close correlation between death rates and elevated PM2.5 levels. The most vulnerable members of the community are children and parents.

[13:20]

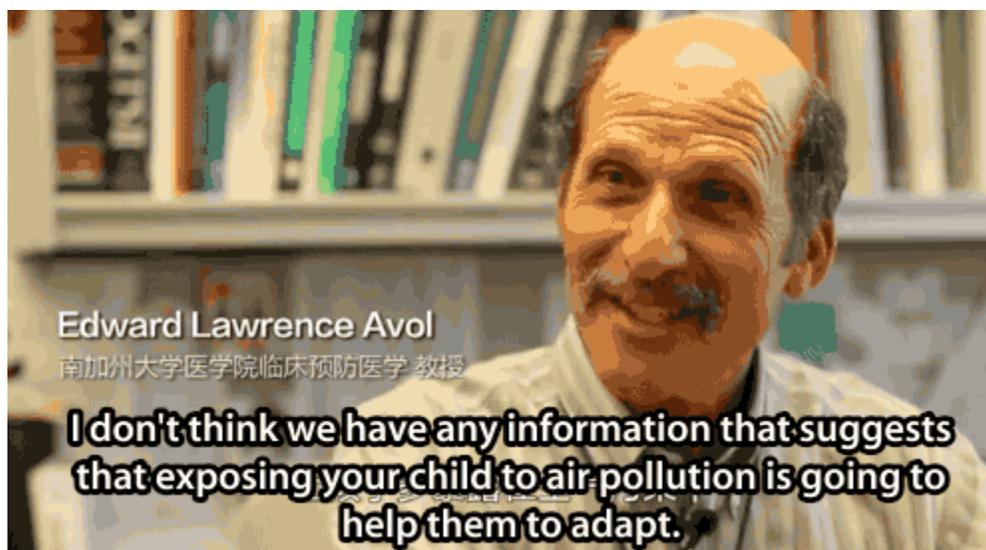


Parents allowed Jing to photograph their children who were born with respiratory problems. Just a few months into their young lives, they had already contracted pneumonia. It is suspected that this is the result of not properly protecting them when heavy haze (made up of the dreaded PM2.5) rolled in.

The parents tell Jing that doctors explained to them that they cannot officially tie the pneumonia and respiratory problems to the haze just yet. But! **What they can say is that in January 2013, during a period of particularly heavy haze, 27 cities in China reported 10%-150% increases in emergency room visits for children and the elderly.**

[13:47]

Around the time that Jing gave birth to her daughter, she found herself speaking to other mothers, asking whether it's true that exposing children to pollution helps them adapt. She introduces a clip of a University of Southern California professor who rebuts that theory.



Dr. Avol points to the massive amounts of evidence showing that children breathing clean air grow faster than children in polluted areas, and that poor lung function early in life is a predictor of poor lung function later in life. In other words, says Dr. Avol, "[When you do] something about the air while the child is still growing, you can make a change in that child's life."

[15:00]

It's heartbreaking, but Jing explains coming to the realization that she cannot protect her child forever. She cannot prevent her daughter from breathing.

[15:30]

(If you're squeamish, scroll past this next image, OK?)

A lung cancer patient allows Jing to tape her having surgery. The patient doesn't smoke, is generally healthy, and is in her 50s. The doctors take out giant freaking chunks of black stuff anyway.

Gross.

[17:00]

A doctor says he cannot officially pin the cancer on pollution, but based on his experience he strongly suspects it to be the cause. But, Jing says, it makes her wonder ... she knows lung cancer needs years to develop, not just the past few years. So she requests aerial pictures of China from NASA for the past 10 years. And holy crap, has China been polluted.

[18:00]

An expert shows the intense pollution that's been spread across China since at least 2004. Jing says she's puzzled because she doesn't remember bad haze being a thing back then.

But then the expert sends her this picture from the Beijing airport and asks her what she sees.

She thinks to herself, "**That's haze, right?**" It seems so obvious.

But then the expert shows her the newspaper headline from that day. It reads, "**Fog causes record delays at Beijing airport**" ... and it hits her like a ton of bricks.

She says she immediately felt guilty as a reporter. When she was covering pollution stories, she only thought of pollution as what happens when you see factory smokestacks blowing pollutants in the air, not when you're living in a metropolitan place like Beijing.

"At the time, I was no longer a reporter, but an eyewitness," Jing says.

[19:00]

But what about pollution while Jing was growing up? People in China all grew up on coal stoves to stay warm, so why didn't they all have cancer?

Her friend showed her a survey from 1976-1981 that proved the correlation between coal pollution and death. But this report remained internal.

[21:11]

Here Jing shows a series of pictures of each season. And what she has to say is so powerful that I'm going to literally translate here:

"A person, any living thing should live as such:

When spring comes, the doors are left open, welcoming the cool breeze, the smell of fresh flowers, the colors of spring. Sometimes when you encounter fresh rain, or fog, you find it hard

to resist the temptation to breathe deeply and feel the crisp air and refreshing moisture enter your lungs.

In the fall, you want to just find a loved one, and do nothing but laze around all day under the clear autumn sunlight.

Come winter time, you want to run outside and watch your kid stick their tongue out to catch the falling snow, and you'd tell them about the wonder of nature and life.

But today, every day I wake up, first thing I do is look at the Air Quality Index app on my phone. Use it to arrange my day. I wear my mask shopping, buying groceries, meeting with friends. I use tape to cover every window frame. When I take my kid out to get vaccines, I get scared when she so much as giggles for fear she's breathing in more pollution.

Honestly, I am not afraid of dying. I just don't want to live this way anymore.

So whenever someone asks me, 'Why are you doing all of this anyway?' I tell them this is personal beef between me and the haze. I want to know where it's coming from. I want to get to the bottom of this."

Wow.

[23:00-25:00]

Jing turns her attention to finding out where all the pollution comes from. Unsurprisingly, the vast majority comes from human activity. **PM2.5 has existed since the dawn of time, but it has accelerated as a result of human activity.**

60% of PM2.5 in China comes from burning coal and oil. As nations like Germany and England industrialized, they faced dire consequences from the pollution they produced. Eventually, the United States and Japan faced similar crises. And today, developing countries such as India, Iran, Pakistan, and Afghanistan are all wrestling with it.

China, with its massive scale and rapid development, has created massive consumption of oil and coal. Worse still, the combination of burning BOTH oil and coal has created unprecedented levels of toxicity.

[25:00-28:00]

If the whole world has to burn coal, Jing asks, why is China's particular pollution problem special? **It turns out China has burned AS MUCH COAL AS THE REST OF THE WORLD COMBINED.**

The last time a nation burned this much coal, it was England. Here Jing goes through the history of the prosperity England enjoyed as it industrialized on the back of its coal consumption. But,

she reminds her audience, the English paid a heavy, heavy price for doing so. **In 1952, a short 63 years ago, a confluence of events created London's Great Smog, which ultimately killed 12,000 people and sickened about 100,000 others. The images of England from that time are not unlike China today.**

[27:46]

After the crisis in 1952, Jing explains, Western countries cut back on their coal consumption significantly and were able to begin improving the air. But this happened just as China began the gradual process of opening itself up again. China had closed itself off for so long and had become so poor, it desperately needed something to catapult itself back into the global economy. China chose coal.

Where is all this coal being used? The vast majority is in Hebei province, a leading producer of steel in China.

Jing went to visit Tangshan, a large industrial city in Hebei, in October of last year. She went first with representatives from the Ministry of Environmental Protection (MEP) and tried to get some drone footage to catch illegal activity ... but the haze was too heavy to get an actual view:

cv

So they resorted to making some surprise visits. What they got on tape was shocking, to say the least:

Seriously, those flames are just straight-up burning, with fumes trapped under the ceiling.

[31:00]

After Jing got all this footage and evidence of illegal activity, none of these factories faced any discipline whatsoever. When she asked the **MEP representative** why, he referred her to their boss. She sits down with him for an interview where **she asks him why nothing was done.**

The reason he gives her? The factories have gotten too big to fail. He asks her if she could make the decision to shut them down and eliminate hundreds of thousands of jobs, essentially destroying the economy of the entire province in the process.

[33:00]

While this was happening in northern China, Jing would often talk to her friend in the south who would claim to be relatively unscathed from the crisis. But Jing quickly points out that while the south didn't have to deal with coal, per se, if you look at a map of all of the steel plants (red), power plants (green), and concrete plants (blue) in the eastern coastal region of China, you see a different story. In Jiangsu province, for example, there's a power plant every 30 km.

[33:42]

Then she shows this map of which factories were emitting pollution above the legal limit.

[34:00]

What are some other consequences of this massive coal consumption? What happens when you use up all of the cleaner coal? You burn the cheap stuff. And what does that cheap stuff, known as "lignite," look like? Check this out:

Getting coal in your stocking is bad enough. Imagine if you got a lump of this crap.

Lignite doesn't look anything like coal. But the real problem with it is that **it burns so inefficiently that almost 50% of it burns up into ashes without producing any usable energy.**

So what's the big deal with crappy coal? Well, in 2013, a factory opened in Harbin. On its first day of operation, the PM2.5 index hit 1,000.

This was a scene from Harbin that day:

At the time, there were no limits and no regulations. Factories just burned that crappy coal and set the fumes into the air. The 12 million people of Harbin were blanketed in haze, like a big concrete ceiling locking them in.

[35:39]

Jing points out that China isn't alone in using lignite. Germany is also a big user of it. The big difference is that coal, unlike lignite, can be cleaned. England washes 95% of its coal, while in China, less than half of the coal burned is washed, which produces all kinds of inefficient crap (to use a technical term). And it's killing people.

A lot of the coal in China is burned by individuals. **In Beijing, the PM2.5 index is 25 times higher during the winter because of coal burning.** She talks about a woman suffering from lung cancer who was coughing up blood. The woman was so weak she could not even shoo the flies that flew around her. So she asked people to put fly paper on her stomach.

Here Jing shares a photo of a man standing with pictures of all the family members he's lost to lung cancer:

And a photo showing that many houses simply have nobody left to live in them:

Cobwebs. Cobwebs everywhere.

We often hear that China is a developing country and protecting the environment is a luxury it can't afford right now. But those in China who are the most vulnerable are the poor and voiceless, and they need the rest of the country to stand up for them and protect them.

[37:00]

She then speaks with some experts who tell her that if China can reduce its coal consumption or clean its coal, that will massively reduce its pollution problem. **If China simply properly enforced EXISTING standards, there would be a massive 60% drop in carbon emissions.** The respect of the laws and regulations always comes down to execution.

[39:00]

If the coal pollution is taken care of, what else is exacerbating the problem? **Oil.**

The vast majority of oil usage is in automobiles. In 2010, Beijing added 800,000 cars in a SINGLE YEAR. So it makes sense that Beijing's #1 pollutant is emissions from automobiles.

Is it simply a matter of lots of cars equals lots of pollution? Not necessarily, Jing says. **Tokyo has just as many cars but doesn't suffer from the same pollution. That's because Tokyo has great public transportation and only 6% of people drive. Compare that to 40% of people in Beijing ... and sitting in that traffic makes the 405 in L.A. look like the autobahn.**

[41:30]

Chai Jing and her family agreed to only drive their car in a limited number of situations. Her husband commutes to work on his bike. But this is what the bike lane in their neighborhood looks like:

She makes a good point here, though: **This is not an issue about Chinese people being particularly law-breaking — this is an issue of enforcement.** Human nature is all pretty similar, she says; it's just whether the actions have consequences.

Next, she shows a picture of London before and after it regulated parking:

The left is before regulations, the middle is after introducing metered parking with penalties, and the image on the right? That's when they increased fees.

[42:27]

But car lovers have another question. If cars really drive the most pollution, why is it still so polluted in the middle of the night? Chai says she had the same question until officials gave her data that showed consistent spikes in pollution around midnight each night. Curious, she set out with a camera crew to get some answers.

As she joined the police in inspections, truck after 18-wheeler truck had stickers certifying approved levels of emissions filtering for diesel fuel, but none of them actually had the filters.

A single diesel truck with no filtering pollutes 500 times as much as trucks that meet regulatory standards. **While diesel trucks account for only 17% of overall oil consumption, they produce about 70% of the pollution.** And the exhaust from diesel pipes is even more toxic.

There are no greater victims here than the truck drivers themselves, who have among the highest rates of cancer. It seems cruel and unusual to go after the drivers for not having the filters, considering they used their hard-earned money to buy the trucks — trucks that have officially certified filtering stickers on them.

Jing concludes: Perhaps it's more reasonable to go after the car manufacturers.

[45:00]

Jing calls up one of these car manufacturers and presents her evidence that there are filter-certified stickers on trucks that don't have filters. He fumbles around without explanation until she finally gets him to outright admit that he's saying they put on the wrong stickers, and if someone wants the car, well, ￣_(ツ)_/￣.

Industries always have their own excuses, Jing says, but if everyone knows this and we have the laws, why can't we go after them? She cites several laws and explains various technical loopholes that, unfortunately, allow this behavior to continue.

Her next step is figuring out which enforcing body should close the loopholes. And, again, each of the ministries passes the buck.

Everyone she talked to basically said, ￣_(ツ)_/￣.

She interviews a guy from the **Ministry of Environmental Protection (MEP)** and goes hard after him to get an explanation for why they don't prosecute people under these regulations.

He dances around the answer a bit, explaining that each group basically does its duty but the real enforcement falls in the middle. Jing is totally flabbergasted and tells him straight, **"So all these years you guys have not used teeth at all in enforcing the law!"** This is a Chinese phrase used to describe tough talk but no ability to follow through. His comeback? **"Forget not using teeth. I don't want to even open my mouth for fear that people will see I don't have any teeth at all!"**

Her face kinda says it all.

She then calls the truck manufacturer back, and he explains: **"If the MEP were to enforce the laws, I guarantee you I'd meet regulations by tomorrow. But if they aren't coming after me, I would never meet requirements. Otherwise, if I were the only one meeting regulations, and the next guy is selling fraudulent cars, then I'd go out of business!"** After that, when she asked the MEP if this was reasonable, he agreed.

Worse still, she says, they tested the quality of the diesel fuel at the truck stops. Chinese oil measured 25 times worse than European counterparts. Her friends sent her a complicated chart that basically said China's oil is routinely 3-4 times lower in quality. If China could bring it up even one level, it would drop emissions by 10%.

So what's the big deal with crappy oil? Fumes from evaporation. Evaporation? Is that a big deal? Well, her friend sent her this infrared video:

According to her, there's more pollution in Beijing from evaporated fumes than there is from car exhaust pipes. Worse still, **the fumes are a big contributor of PM2.5 pollutants.**

So why doesn't China raise its oil quality?

When Jing asked people in the oil industry, they told her it's because the government standards are so low that there's no incentive to improve.

When Jing went after the government, what answer did she get back? Over 67% of one of the standards committees is OIL INDUSTRY EMPLOYEES. One of the other committees is over 90%.

This is dizzying. No wonder things haven't gotten better. Nobody is taking responsibility, and there are so many loopholes in this thing.

[53:22]

Being the investigative reporter that she is, Jing went to China's director of oil standards, who, oh by the way, also used to be the chief engineer for the state-owned oil monopoly Sinopec:

Jing gets right to it and asks him why there are so many oil industry insiders setting the standards.

He claims that standards shouldn't be set by industry outsiders who don't understand the details.

Incredulous, she asks, "**You're saying the Ministry of Environmental Protection doesn't understand?!**" No, he says, he doesn't think they do.

Again, her face really says it all:

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Who *should* set the standards? Jing tells him: "**If you guys set the standards, and then when it comes time to talk about raising the quality, you guys say the national standards (that you set) are too low, and then you give all these excuses. People will no longer believe you.**"

She goes on to explain how other countries have transparent debate, thorough interaction between governing bodies and the oil industry, and bring these decisions to a vote. She wants to know if he would be open to that sort of a process. He claims to be.

Jing challenges him further — she asks if he would be more transparent with China's process. This is where he says something truly ridiculous: He thinks that the public already mistrusts the oil industry, so if he were to be more transparent, they would only see what they would want to see. So they're better off not having the discussion in the first place.

Why not go ahead and raise standards then? He claims there may be too many unknown ramifications and too much potential economic impact. He isn't ready to bear such responsibility.

Jing's reaction is spot-on:

Then she lists the incredible revenue and profits of Sinopec and asks him, "**For such a large and profitable state-owned enterprise, why can't it step up to take more responsibility to society?**"

(Are you sitting down?) He says: "**Sinopec is big. Really big. Just like a person, it's very fat. Excessively fat.**"

(What does that even mean?!?!?)

Jing concludes that all businesses optimize for their self-interests. That makes sense. That's the nature of industry, after all.

[56:25]

Jing was still curious about how other countries set their standards.

Environmental regulatory bodies set most countries' standards (although, yes, perhaps with input and conversation with industry).

So why are China's so heavily **controlled** by industry? Jing points to some historical reasons.

In the 1960s, gas was so rare that you'd see buses with giant bags of propane tied to the top:

When oil was first imported to China, the MEP didn't even exist, so standards were set by a subsidiary of Sinopec. Over the years, as things evolved, the heavy influence of Sinopec always remained.

But as the public awareness for environmental issues has grown, more and more pressure has been put on Sinopec and the MEP to raise standards. **In the past couple of years, the mix has gotten better. Every country declares their values by which they strike that balance. Jing strikes a hopeful note, pointing out that the trends are starting to move in the right direction.**

[58:32]

Another shocking thing Jing didn't realize when she started her research was that harbors and waterways were completely unregulated:

Boats like this one use the worst-of-the-worst oil — completely unfiltered. In the worst places in the harbors, you can actually reach your hand into the water and scoop out pollutants. Yuck.

Even if you're not near waterways or airports, another threat exists: construction vehicles. Jing and her crew followed a billowing truck. The truck stopped by a gas station, if you could call it that:

Jing went in after the driver, and when they encountered the manager, he refused to produce any permits. They kept arguing with him, she explains, and he kept giving ridiculous excuses. She kept countering before finally declaring that they were with MEP officials, and therefore had the right to demand this of him.

He counters, "You have the obligation, but you don't have the right." Jing and her crew were so stunned, they had no comeback for him.

From coal to oil, there is massive consumption. The quality is low. China doesn't clean it. When Chinese citizens emit, she says, they don't have the proper controls in place. She doesn't understand why. But, she says, the manager's crazy response suddenly brought it home.

[1:02:00]

(Mike's note: This part of the documentary features a bunch of interview scenes in which Jing calls all these guys out. They're all mansplaining and trying to talk down to this "little girl" with their political talking points, and she basically cuts through all their B.S., catches them way off

guard, and connects all the ludicrous dots of what they say. They have weird, embarrassed faces the whole time. It's a really fun segment.)

When Jing interviewed this guy, she asked him if he would dare do construction without the proper permit. "No way," he says.

"If you had no operating license or tax ID, would you dare operate?" She asks. "No way. No way," he answers.

"Then why do you proceed with emissions without the proper permitting from the MEP?" she asks.

"Um, well, we're working on it. We'll have it eventually."

In perhaps the crowning interview, she shows a bunch of scenes of the utterly disgusting crap outside and talks about the reeking odors before sitting down with another guy, who she asks about the horrendous odors from outside.

Gross.

His answer?

To which the audience is all LOLZ:

She then breaks down how much you can save by not getting up to standards on steel, coal, diesel, and imported oil:

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The graphic shows that it costs 100 yuan per ton to produce steel that meets standards. It costs 156 yuan to wash coal and 20,000 yuan to get trucks that are actually filtered.

10 years ago, Jing says, she'd wonder what that smell was floating through the air ... now she knows it's the smell of money.

[1:05:08]

Everyone's talking about environmental protection, but who wants to destroy our economy?

This chart shows GDP growth in China since 1980.

Jing returned to the steel plants that she first visited 10 years ago and was shocked to find that piles of steel that had been there for a long time were rusty.

She asked a worker how business was. He pointed around and asked her whether she saw anyone coming in to pick up goods. Nope. These businesses are selling the lowest end of products and competing entirely on volume.

[1:05:51]

Here, Jing shows what goes into producing one ton of steel:

It requires 600 kg of coal and 3-6 tons of water. The process produces 1.53 kg of sulfur dioxide and 1 kg of soot. Yiiiiiiikes.

The profit from that one ton of steel? It's not even enough to buy an egg from a street vendor.

Yet all of these industries are still massively subsidized by the government. One company was receiving 2 billion yuan (~\$318 million USD) **every other year**. So these zombie businesses are voraciously consuming resources while creating massive risk for the economy. Still, they continue to expand.

[1:07:49]

Jing recently received a letter from a young girl asking for her help. The nearby plant was threatening to tear down her home in order to expand. Her dad refused and was beat up.

That girl? She's the little girl Jing interviewed 10 years ago (as seen in the first 10 minutes of the documentary) who had never seen stars or clouds.

Jing asked her how her health was. She said: **"I don't have the time to care about my health right now. I just want me and my family to have a place to live."** Luckily, when Jing checked back with her, the boss of the plant had gotten arrested. So that particular disaster was averted.

But these industries continue to expand and receive support. The reason? Growth. Simply put, when urbanization increases by just 1%, it justifies all the production.

But a Tsinghua University professor told her that cities in China have also reached a tipping point. She thought of to her personal life and the continued urbanization around her. That expansion must be continuing...

Her friend encouraged her to return home and take a look.

[1:09:57]

What she found when she returned to Shanxi was construction site after construction site, real estate ad after real estate ad, and lots of empty buildings.

She stayed in what was billed as a five-star hotel — in the presidential suite, no less. But when she arrived, she was greeted by a flashlight in the unlit garage and led throughout the hallways of an unlit hotel to her room. It was so deserted that the hotel did not even have power.

When she returned to Beijing and discussed this, she learned that Shanxi was a microcosm of what was going on around the country.

China has 1.3 billion people, but if you added up all of the occupancies of all of these buildings, it would equal 3.4 billion.

Jing speaks romantically about the positive impact urbanization has had in her own life — she was able to leave small-town Shanxi and come to Beijing to study and start a career. If it weren't for urbanization, she says, she'd probably still be in Shanxi flipping an abacus and eking out a life.

Cities gave us freedom and gave China 30 years of incredible prosperity. But if we don't change our model, she says, experts predict China will be consuming such large amounts of resources and producing so much pollution that it will run out of capacity to absorb the emissions before it runs out of the resources.

The haze is just getting started. Traffic is just getting started.

[1:14:49]

During the [APEC summit](#) (during which the government underwent massive efforts to clean the air), Jing's husband brought her to a place where, in his youth, his father often took him to go ice skating, swimming, and fishing.

He felt the beauty and elegance of this proud, historic city. They sat there soaking it in like young kids looking at the last piece of candy, she says, knowing that if they didn't eat it, it would melt ... but if they ate it, it would be no more. It's that mixed feeling of excitement, hesitation, and wistfulness.

She shows a powerful, nostalgic sequence of people recalling the Beijing of old, the Beijing where they grew up:

Beautiful.

[1:15:53]

She asked an expert, "What would it take to maintain the blue skies we enjoyed during the APEC summit?" He said that relative to 2013, **China would need to reduce sulfur dioxide by 47%, nitrogen oxides by 52%, and PM2.5 by 44% — basically, remove over 50% of the pollutants.**

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[1:17:30]

As dire as the situation in China seems, Jing turns to history to find hope. With all of its traffic and its geographical layout, she realizes that the Beijing of today is not dissimilar to the Los Angeles of old.

She shows a picture of a gag gift from back in the day that jokingly captures its former reality:

But, she points out, while the number of cars in L.A. has tripled since 1970, emissions have dropped by 75%.

Jing went to L.A. to find out how this was possible. She observed the lack of public transportation, much like Beijing, and the heavy reliance on cars. And, of course, the L.A. traffic:

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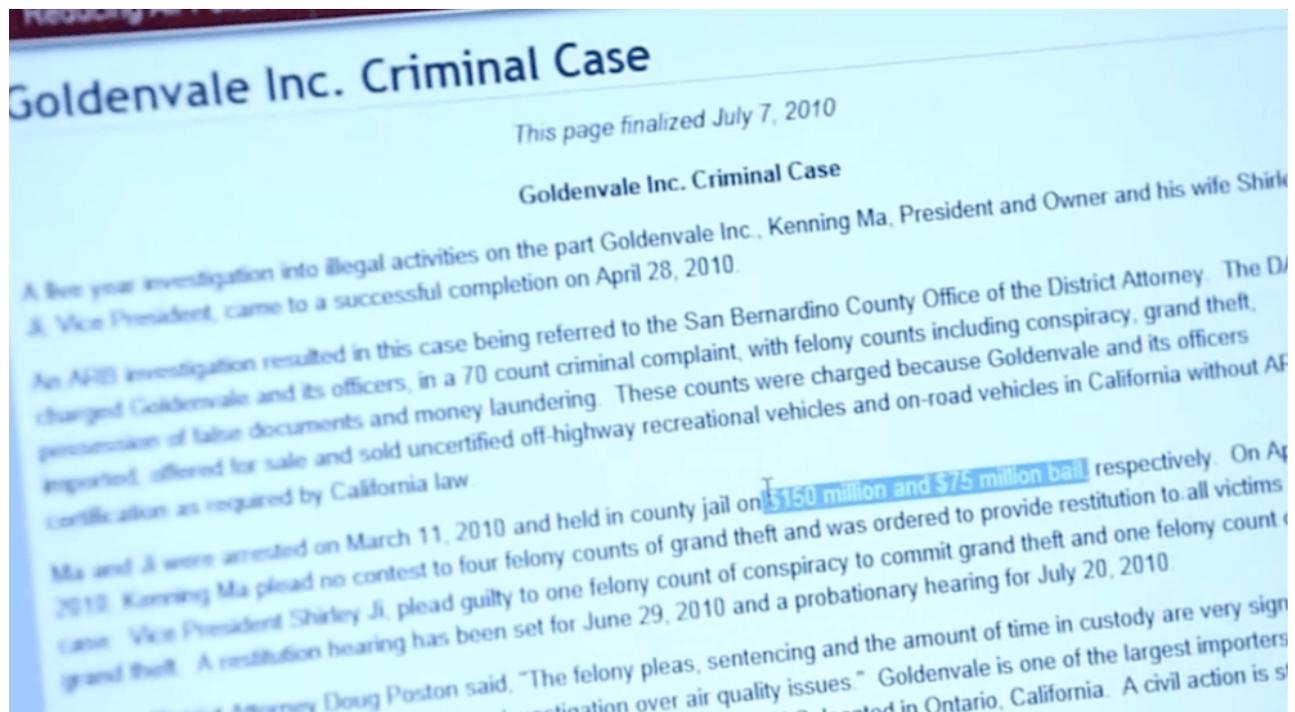
But look at those clear skies!

Then she witnessed checkpoint inspections, much like back in China. **All the trucks are required to install filters that reduce particle emissions by 99%.**

Jing witnessed them catching a driver who did not have the filter installed — he was fined \$1,000. She found out **the driver takes home about \$4,000 per month. He was fined a quarter of his income for not having the filter installed.** If a driver has multiple offenses, the driver is not able to renew the truck's tags, eliminating his or her income. The miracle of law enforcement!

A California official tells her that 45% of the people want to be good citizens and comply, 45% do it because they don't want to get caught and fined, and 10% say: "I don't care. Catch me if you can."

She cites the high number of citations and fines for non-compliance:



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Jing reiterates that human nature is the same everywhere. **No matter where you go, there are going to be those who want to cut corners. But if proper enforcement can bring 90% of the people into line, there is hope.** And just like they said at the car factories in China, if there's no enforcement, 90% of the cars coming off the factory line will be out of compliance.

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[1:22:40]

Jing explains that back when the U.S. was raising emission standards, the old industry complained. Car manufacturers said it would destroy their business and threaten the economy. They sued the EPA and fought the change.

But! In the meantime, foreign manufacturers raised their hands and said they could meet those higher standards. Once the U.S. companies heard this, they quickly got in line with the changes, even though they ceded a large chunk of the market share along the way.

Jing went to the EPA and asked if it faced accusations and pressure for destroying domestic industries. The EPA rep's answer: **"Environmental protection is not a burden, but an opportunity for innovation. If you're merely trying to protect your losses, you will not be**

able to innovate. Government's role is to set the standard and a level playing field. If you create competition, it will win the market."

[1:23:28]

Next, Jing asks, "If China is such a mass consumer of coal, how will we ever wean ourselves off it?"

People say it took London 40-50 years to recover from the Great Smog of '52. So will it take China as long? Jing says she points those people to **this chart showing that ACTUALLY the most significant drop in pollution came immediately after the crisis:**

She went to London to find out more.

With strict regulations and aggressive enforcement, London was able to turn a massive tragedy around.

Jing shows provocative footage of coal plants being blown up and destroyed, plants that once offered the same tens of thousands of jobs that the plants in China offer today.

The percentage of GDP that the coal industry was responsible for shrunk massively as well. She talks to officials who explain that 100 years ago, London was a place that had a million miners, compared to tens of thousands in China. An industry on its way out was replaced by new industries coming in. And in doing so, London reclaimed its blue skies.

[1:26:14]

Interestingly, on her trip to London, the most compelling artifact she found was a video made by the Gas Council called "Guilty Chimneys."

Amazing what a little competition will do.

In London, Jing was told that one of the keys to turning the corner is for the government to not subsidize those old, crumbling industries that are on their way out, but to instead invest in innovation in new opportunities and a competitive playing field that will create the next wave of jobs and industries.

Jing also wondered why China wasn't more aggressively pursuing natural gas as an energy source. In her research, she found that there's high potential for natural gas, but it's not being drilled for.

Curious, she asked an expert why that is. He explained that the largest natural gas producing country, the United States, has 6,300 natural gas and petroleum companies. China has only three, and 70% of production comes from one company. The U.S. has 160 natural gas pipeline companies. China, again, only has three, and 70% of natural gas production lives in, you guessed it, a single company: Sinapec.

If China opens those markets, it could create competition and flip the script.

[1:30:22]

As Jing reflects on her investigative process, she says that China's reform and opening back up after being choked off from the global economy for so long wasn't what she originally envisioned as a solution. She pictured it as a small bird hatching from an egg, immediately becoming a marvelous new life.

But through her research, she learned it's more like a cicada shedding its old skin, inching out bit by bit, and energy is the last bit of skin to shed, the last part being particularly difficult.

She says energy is an area that's been rife with corruption. She shows this chart of recently deposed corrupt officials in the energy sector:

That is ... a lot of corruption.

To change it, she says, requires a shift in how the government views the environment and potential energy opportunities, as well as the systemic changes needed to make a difference.

But the government can't turn this thing around all on its own. It relies on each and every one of us. Our choices. Our will.

[1:31:38]

Jing says she has learned the power of transparency and has been encouraged in recent years with the government's investment and transparency in reporting [air quality indexes](#). But, she says, we should not waste that money.

She brings up a downloadable app that shows factories that are exceeding emissions standards and encourages people to report these by calling a hotline or calling them out on social media.

Last year, Jing joined some community meetings where they challenged officials to require these companies to self-report emissions levels. Finally, officials conceded and companies were required to self-report or face a fine. And citizens had the right to submit an information request to compel them to report.

Tides are shifting, momentum is building.

[1:33:40]

Jing then shares an animation that demonstrates what everyday citizens can do to live greener lives and report offensive behavior through hotlines, or even @-replying to the department directly.



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Jing shares a recent story of when she walked by a construction site in her neighborhood and noticed a giant pile of unsecured dirt.



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She knew that as the wind blew, it would kick up particles in the air. So she approached the construction workers and spoke to the boss, and they immediately covered it up. From start to finish, just a few minutes.

The worker later told her that his boss saw she had a camera phone and feared getting exposed online, so he reacted quickly.



Chai Jing finishes her story on a really strong and bold note, rallying people into action. This truly is a remarkable piece of filmmaking by a remarkable woman.