



## Cities **Air of revolution: how activists and social media scrutinise city pollution**

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**I**n Krakow, Poland, lawmakers recently banned the burning of coal to heat homes after activists pressured them with a Facebook campaign that drew 20,000 followers. Driven by a survey that showed the city's air to be the third dirtiest in Europe, the small group of volunteers worked late into the evenings, on top of their day jobs, in an effort that had no funding at all until weeks after its big victory.

The relentless campaigner Simon Birkett, from London, messaged top European officials as they drafted important new air-quality rules. Working alone, funded largely by his own savings, he tirelessly posts smog warnings, health studies and detailed analysis of pollution regulations, making himself one of the best sources of expertise on London's air.

In Beijing, online posts from celebrities and ordinary people turned China's poisonous smog from a little discussed issue to a top-level concern, and helped push officials to acknowledge the problem.

In cities around the world, social media has given committed air-quality campaigners a powerful tool for drawing attention to an issue whose profile remains relatively low despite its big impact on urban dwellers' health. While environment campaigners focus on climate change and health experts worry about obesity, alcohol and smoking; dirty air prematurely [kills more than 6 million people a year](#), the World Health Organisation estimates.

The activists trying to change that say Facebook, Twitter and the like have given them an invaluable tool for amplifying their voices, engaging the public and getting the attention of elected officials. Some even take their own pollution readings and share them online. "When you get many supporters on Facebook and in social media, you become a real power, and politicians want to talk to you because they see they can reach voters," says Andrzej Gula, of the [Krakow Smog Alert](#).

Just a year after it launched, the group celebrated a major victory in November, when the regional parliament announced the ban on burning coal in home stoves. "Without social media, it wouldn't have been possible," says Anna Dworakowska, an activist with the group. The smog campaign used Facebook to share official pollution readings, explain the health effects of the city's foul air, generate crowds for street protests and gather signatures for a petition, she says. Also through Facebook, software designers got in touch with the group to propose a mobile app that now helps residents track air conditions, and a local public relations firm offered to donate a billboard campaign.

When local officials appeared to back down over plans for the coal ban, "people started writing very negative things on their pages," and they soon reversed course, says Dworakowska. Crucially, she added, journalists also took note of the social media blitz, and press and television coverage of the air pollution issue jumped dramatically, continuing for the first time last year into spring, when Krakow's air quality improves.



In London, Birkett, an investment banker-turned-campaigner who runs [Clean Air in London](#) from his home, posts incessantly on Twitter and Facebook. He took early retirement from HSBC in 2009, aged 50, to devote himself to the campaign full time, and full time it is - his phone rings constantly, his workdays sometimes stretch until 3am, and he sends email barrages even while on holiday. Birkett occasionally employs extra help but mostly runs the effort on his own from his home in Knightsbridge, with a businessman's focus and discipline.

He funds much of it too, lending Clean Air in London £30,000 of his own money, on top of his thousands of unpaid hours.

"What drives me? Two things," he says. "I like the intellectual, competitive battling, it's what I did at the bank as an investment banker." And, "I've always felt I have a mission on this planet, or a sort of purpose."

He stumbled on the air pollution issue while volunteering for the Knightsbridge Association residents' group, but now believes firmly that local clean air campaigns hold the key to stopping catastrophic climate change. "People who are coming up with climate targets for 2020, 2030, 2050, those people are like the generals in the first world war drawing sweeping lines on maps through France and Germany," he says. "It's very nice for them to have these grand strategies, but unless you can find a way of winning in the trenches, you can forget anything being saved in the future. You basically save London, save the world."

Birkett is adept in his use of social media. He paid £250 to promote his Facebook post demanding that the European commission produce a tough package of pollution rules in December, and then tweeted top officials daily with updates on how many people had "liked" his message, a number that ultimately topped 1,400. When the package was released, the European environment commissioner, Janez Potočnik, acknowledged one of Birkett's messages by sharing it with his own followers, the campaigner noted. "There is no other way in the world that I could, as somebody running a small campaign, reach someone like that if it wasn't for social media," he says.

In Newcastle, Australia, trains ferrying coal to be exported by ship spread choking dust through residential neighborhoods. James Whelan says the [Hunter Community Environment Centre](#)'s coal terminal action group has managed to generate somewhere in the vicinity of 20,000 personal emails to the premier of New South Wales. "We couldn't have done that before social media."

The group uses NationBuilder, software similar to that employed by US presidential campaigns, to link data from all its online platforms so campaigners can easily access details about every interaction they have had with each of their supporters. "It evens the odds a little, it really helps a grassroots community organisation like ours." Its main opponent is the well-resourced Minerals Council, the trade group representing mining companies.



▲ A coal train departs Newcastle Port, in Newcastle, Australia, in 2011. Photograph: Bloomberg/Getty Images

The most effective project, Whelan says, were the air quality readings the campaigners took themselves, with teams of volunteers and expensive, rented monitoring equipment, on two occasions last year. Existing Newcastle monitors were located far from coal dust hotspots, he says, while those the volunteers placed beside rail lines showed that airborne particles increased by a factor of 13 when an open coal train went by, findings they shared aggressively on Facebook.

In heavily industrialised Durban, South Africa, campaigners from the [South Durban Community Environmental Alliance](#) use specially designed plastic buckets to collect air samples, which are tested by a California lab for toxins released by the area's many chemical plants.

Residents can file pollution complaints online and the group uses social media and other tools to share data about contamination hotspots, says Desmond D'Sa, the alliance's co-ordinator. He says he came to the cause after losing his job as a supervisor at an oil company in 1994, for demanding better worker safety protections. He became aware of the health impacts of the city's serious contamination while, working in a youth programme, he began to notice how common childhood asthma and more serious ailments were.

"What drives me is that a seven-year-old child died of leukemia in my neighborhood, and that woke me up", he says of the health risks posed by Durban's toxic pollution. "It's all consuming, it's a lot of hard work, but in the end it's gratifying," he says. "I swear by the bucket because it works," D'Sa adds, saying that his group's DIY air quality readings had helped pressure industry to reduce sulphur dioxide emissions by 60%.

Perhaps nowhere has social media played as big a role in changing public opinion about air pollution as Beijing. As smog has worsened in recent years, residents began sharing hourly readings [tweeted by the US embassy](#), which has an air quality monitor on its roof. Twitter is blocked by Chinese authorities, and the embassy says its tweets were mainly aimed at expat Americans. But those able to connect to overseas servers soon began sharing the readings on Weibo, the Chinese microblogging site.

When pollution spiked in January last year, many Beijing residents posted screenshots showing the American figures next to official Chinese measurements, always far lower, says Christopher Cairns, a political science graduate student at Cornell University, in the US, who has analysed Weibo posts on air quality. Not only did city residents share the numbers, they were commenting on how shocking it was, Cairns says. Among the posters were celebrities with large online followings, like the [popular actress Yao Chen](#), who wrote about a future conversation with her son in which she imagined him asking what a sunny day was, and herself replying "Can't you find an answer in a history book?"

"That was a huge deal," Cairns says, since authorities a year ago still regarded smog as a sensitive political issue, a position that has since shifted as they have begun to acknowledge and address it. Chen, known as the "queen of Weibo" with more than 58 million fans on the site, has starred in romantic comedies and often posts on entertainment, but sometimes tackles more serious topics, once quoting Alexander Solzhenitsyn to back a newspaper facing censorship, and voicing support for a relative whose house was being demolished.



▲ The Float Beijing project gets people to build simple kites with air-quality testing equipment. Photograph: Float/Guardian Cities

Also a United Nations goodwill ambassador on refugees, she has been savvy enough online to avoid censure by the authorities, Cairns says. Chen and other celebrities "could get away with

talking most of the time about their acting, or building a personal brand, and then once in a while they would slip in a comment about air pollution or some other issue," he explained.

Cairns believes that Chinese officials, who can easily censor social media, chose not to remove posts about smog because they wanted to act on it, and allowed journalists to follow bloggers' lead in focusing on air quality. "The government is pretty good at determining what is a threat to social stability and what isn't," he says. "Yes, air pollution causes great public dissatisfaction. Yes, people are fed up with it but it's not the kind of issue that typically brings people into the streets."

Some Beijing residents have taken their own pollution readings with simple, cheap sensors attached to kites, as part of a crowd-funded project called [Float Beijing](#), organised by Chinese-American designer Xiaowei Wang and her collaborator, Deren Guler. The two ran neighborhood workshops in 2012 for locals who then sent in data from the sensors' memory chips, which Wang and Guler plotted on a map. The response, Wang says, was overwhelming; more than 100 people showed up to the final session. "For us the project was really about raising awareness and trying to see this invisible thing in cities made visible," she says.

Proof perhaps that if you energise enough people to care about their air, eventually the powers that can actually do something about it will feel the growing breeze of dissent.

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