

Is there a green awakening in China?

May 23 2017



Credit: University of Oslo

Heavy air pollution has led to increased environmental consciousness in China. A growing number of apps now allow people to check local air quality. Apps also serve as tools for political activism.

According to Mette Halskov Hansen, a researcher on Chinese society, something happened in China in 2013. Something which people had previously called "fog" – because the air pollution which covered the city looked like fog – acquired a new name: "smog". During the winter of

2012/2013 this smog was particularly thick in Beijing and other cities in northern China.

Professor Halskov Hansen says: "American monitoring stations had started to publish the results of their [air quality measurements](#) in Beijing and increasing numbers of people were starting to ask what was actually happening."

A lot has changed since then. From being a phenomenon which was not widely known, most Chinese school children can now tell you what "PM 2.5" means, i.e. tiny particles in the air which are harmful to health when they enter the lungs and the blood system.

Humanists, social scientists and atmospheric chemists are now working together on the Airborne research project in order to understand what air pollution means for China, both politically and for the people who live with it.

"We have put forward the hypothesis that the air pollution which hit northern China during the winter of 2013 became a game changer for the whole country. Since then greater priority has been placed on the environment and climate and the population has become much more interested in the problems involved," says Ms. Halskov Hansen.

Not held back by the US

China and the US are responsible for 40% of the world's CO2 emissions. Since coming to power, President Donald Trump has introduced several measures to weaken the US' environmental policy. Prof. Halskov Hansen does not think that this will have a negative impact on China's environmental commitments.

She says: "There is nothing to indicate that China will withdraw from

international climate cooperation".

China has shown a considerable degree of responsibility by recognising research which shows that climate change has been created by humans. Unlike the current US administration, the government of China has not actually questioned this. This means that the Chinese government is keen to enter into global climate cooperation and adopt local policies which could help to reduce air pollution and CO2 emissions."

According to Halskov Hansen, the main risks involved would be a big economic backlash or a major security policy crisis.

Local policy being implemented

The Chinese authorities are investing heavily in renewable energy. They also have clear percentage targets for reducing air pollution. One of the questions being investigated by the Airborne project is whether or not central policies are actually being implemented at local levels. So far the research results indicate that the answer is "yes".

Prof. Halskov Hansen adds: "There is no doubt that measures are being implemented in Zhejiang province where we are doing most of our research. This is the richest province in China and they are experimenting a lot on how to introduce measures without antagonising the population. For example, we found that decisions which were designed to restrict the number cars were made over night in order to prevent people from starting to protest or rushing out to buy more cars.

The restrictions on cars were introduced to limit air pollution, but they also help to reduce the massive queues experienced in cities such as Hangzhou, the capital of Zhejiang, and many people like this."

Researchers from Norway, the US and China are working together on

the Airborne project. They are also collaborating closely with the authorities and environmental organisations in the areas in which they are doing research. The Chinese researchers are, for instance, providing advice to local environmental bureaus about measures which can be implemented both locally and at national level.

Air pollution affects everyone

There are many environmental problems in China, e.g. the soil and water are heavily polluted in many areas. However, Halskov Hansen thinks that air pollution is the one environmental problem that occupies most people.

"I think that air pollution has become a game changer because it affects everyone and has become so obvious to the increasingly affluent middle classes in China's largest cities. When air pollution is as heavy as it has been each winter during the last five-six years, nobody is able to escape it. Obviously the more wealthy residents can buy air purifiers and send their children to schools where they can stay inside, but they cannot escape it entirely," she says.

"Surveys have shown that many Chinese citizens find that economic development is not enough to secure a good life. You also need clean air, clean water and polices which will secure the environment for future generations.

We find that top politicians are now trying hard to introduce much stricter, better environmental policies. However, we are also seeing a commitment among the population at large and throughout the Chinese administrative system that we have never previously witnessed in China. At any rate, thousands of protests are taking place each year against environmental damage and we have observed considerable activity on social media."

Mobile apps taking off

Many Chinese are now making use of more than one hundred environmental smart phone apps which have become available during the last few years. Most of these apps are developed by local environmental organisations, sometimes in cooperation with local governments, and the best of them provides updated information about pollution from more than 9,000 Chinese factories.

One of the Chinese researchers working on the Airborne project, Hongtao Li, is studying how people are using such apps.

He says: "Almost everyone living in China's cities now has one or more such apps on their smart phones. They use it to obtain information about the amount of air pollution affecting their local area at any time."

Based on this people can decide whether or not it is worth going outside, or if it would be better to stay at home if the [air quality](#) is bad. They can also report cases of environmental destruction to the authorities.

People can see which factories have the highest discharges/emissions, and they can put pressure on such companies by asking them for more information or giving them a poor write-up.

Unrecognized forms of air pollution

Each year between 1 and 1.6 million Chinese people die early as a result of air pollution which is caused primarily by industrial and car emissions. However, it has been estimated that around 40% of health damaging air pollution may be caused by household produced air pollution due to cooking and heating with the use of mainly wood or coal. This is a phenomenon that few people in China are aware of.

The Airborne researchers have interviewed people in both cities and villages in Zhejiang Province while monitoring the quality of indoor air in people's homes as well as personal exposure.

"In the villages we study people have been protesting against air pollution from factories in their vicinity, but they have little knowledge about the air pollution that is caused by their cooking. We study people's perceptions of air [pollution](#), but we also try to share with them the information that comes from our research into the levels of [air pollution](#) in their villages," says Mette Halskov Hansen.

Provided by University of Oslo

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