

## **Breathless in Bakersfield: is the worst air pollution in the US about to get worse? In California's Central Valley emissions from oil refineries and agriculture make Bakersfield America's most air-polluted city. Activists fear the Trump administration could undo small but steady improvements**

By Nate Berg

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The bluffs on Panorama Road offer a wide view of the northern half of Bakersfield, which is one of the few major population centres in California's Central Valley – perhaps the US' leading agricultural motherlode.

It's a rare bird's eye vantage point of this low-slung farm city of roughly 375,000 people, nestled in a bowl created by the Sierra Nevada mountains to the east and part of the California Coast Ranges to the west. On a clear day, the state's dominant topographical features put the landscape, and one's place in it, in sobering perspective.

But clear days don't happen all that often in Bakersfield. Emissions from agriculture, industry, rail freight and road traffic together create one of the country's worst concentrations of air pollution – a condition exacerbated by geographic and climatic conditions that trap dry, dirty air over this southern section of Central Valley like the lid over a pot.

Oil fields make up most of the view from the top of the bluffs, and the scent of petroleum is often detectable around the city. Dairies populated by hundreds of thousands of cows are scattered throughout the region, and their smell, too, is hard to miss. Massive warehouses and distribution centres on the outskirts of town bring in diesel trucks day and night from Interstate 5, the major north-south route that runs from Canada to Mexico (Los Angeles is about 100 miles to the south). Freight trains hauling oil rumble through the city, and its many refineries billow smoke into the air.

Bakersfield and surrounding Kern County are the unlucky nexus of this pollution. The American Lung Association's State of the Air 2016 report found the city's air to be the worst in the United States for short-term and year-round particle pollution, and the second worst for ozone pollution.

One of the main indicators of poor air quality is the level of fine particulate matter (PM2.5) in the air. The WHO's latest ambient air pollution database ranks nearby Visalia-Porterville worst in the US. Bakersfield's average reading in one 24-hour period in late January was 40.5 micrograms per cubic metre; over the mountains in somewhat smoggy Los Angeles, that number averages about 12.

Of the wider metro area's 875,000 people, about 70,000 are said to have asthma, 40,000 cardiovascular disease, and 27,000 chronic obstructive pulmonary disease. A 2006 study found the health impacts of the region's air pollution cost the southern section of the Central Valley, known as the San Joaquin, an estimated \$3bn (£2.4bn) – or about \$1,000 per person per year in a region where about a quarter of the population is in poverty.

Though some improvements have been made in recent years through more stringent air quality standards, cleaner burning engines and efficient industrial machinery, the region continues to struggle with poor air quality and the health problems it brings. Now the election of Donald Trump to the presidency, and his appointment of an Environmental Protection Agency (EPA) head in Scott Pruitt who is actively opposed air quality regulations, has many worried that the small but steady improvements to the area's air quality may all be undone.

Gustavo Aguirre Jr is a prominent local activist who works on environmental justice issues in many of the small, underserved and impoverished farming communities that surround Bakersfield. He says progress has been slow in the San Joaquin Valley, a conservative part of the state that's heavily influenced by agricultural and oil industry interests, and the Trump administration could further limit that progress.

"The potential of us going backwards 50 or 60 years in air pollution control and mitigation is very scary," says Aguirre. The worst air in the United States may soon be getting worse.

But the authority tasked with addressing the region's air quality issues, the San Joaquin Valley Air Pollution Control District, does not seem too concerned, suggesting it has done just about all it can to alleviate the problem.

“Over the last 25 years, air pollution in the San Joaquin Valley – from the stationary sources we regulate – has been reduced by over 80% with some of the toughest air regulations in place anywhere in the nation,” says Seyed Sadredin, the air district’s executive director.

These improvements have come through working with farmers to reduce the burning of agricultural waste, funding trade-ins for older farm equipment, and imposing requirements for cleaner burning furnaces and fireplaces, among other measures. Now, Sadredin argues, it is up to the state of California’s Air Resources Board to better regulate mobile pollution sources – the cars, diesel trucks and freight trains – that are under the state’s purview.

“The biggest pollution source right now that’s holding us back is the nitrogen oxide emissions from the mobile sources that make up 85% of the pollution,” he adds.

Indeed, Sadredin has begun calling for revisions to the Clean Air Act, a landmark federal law overseeing environmental standards in the US, as a way to reduce or even eliminate the estimated \$30m a year in sanctions and fines that have been placed on the valley because of its failure to meet federal clean air standards.

A November 2016 air district white paper directed to the presidential transition team makes the argument that the valley is unfairly punished by the existing provisions of the Clean Air Act, and calls for changes.

“We should have a more receptive ear at the EPA, if you read the tea leaves in the coming administration, that would pay attention to the economic devastation that some of these sanctions could cause to poor regions like ours,” Sadredin says.

He’d prefer to make these changes through new legislation, like the air pollution bill passed by the House of Representatives last year but was stalled before the end of the legislative session. “[But] given the political dynamics and the divisiveness in Washington, getting a clean piece of legislation like that may be difficult, so we may ultimately be in a position that I hope we don’t have to be in, where we have to attach what we need to something that perhaps does more than people like to see by way of changes to the Clean Air Act,” Sadredin warns.

Environmentalists and activists in Kern County worry that such a heavy-handed approach will erode the Clean Air Act, reducing regulations on Bakersfield’s highly polluting industries.

“It takes away the need to meet the standard no matter what it costs, because [Sadredin] wants language in there that reduces responsibility if it’s economically or technologically unfeasible,” says Tom Frantz, a local almond farmer and outspoken environmental activist. “And once you get language like that into the Clean Air Act, you can justify not doing almost anything for technological or economic reasons. You have this huge loophole.

“The San Joaquin Valley air pollution control district has claimed repeatedly that they’ve done all they should be expected to do,” Frantz adds. “They have every excuse in the world of why they’ve done enough. So our real enemy in this, from my side of things, is our own air district – which refuses to recognise the health costs of our continuing pollution levels, and is unwilling to do whatever’s necessary to get it cleaned up.”

### **‘We have to fight’**

While the results of the 2016 elections haven’t been welcomed by all in Bakersfield, last year was a good one for the area’s air quality. For the first time in nearly 20 years, the valley avoided violation of state and federal regulations for the concentration of PM2.5s: particulate matter that’s 2.5 micrometers in diameter or smaller (roughly a 20th of the width of a human hair). These particles are a key measure of air quality because they’re too small to be stopped from lodging in the lungs, and contribute to a variety of pulmonary and cardiovascular diseases.

After six years of extreme drought, a series of storms last year is credited with moving enough of the valley’s air to bring down the PM2.5 measurements. “The valley we live in has stagnant high-pressure systems that will sit for up to a month, even six weeks,” Frantz says. “Any time a low-pressure system comes off the Pacific, it blows out our bad air. If that would happen once a week, we would not have much of an air quality problem.”

What also helped, he says, is the drop in prices for both oil and milk, two market conditions that resulted in reduced output from the region's refineries and dairies, and thus fewer of their polluting emissions. "When they pull back a little bit because of low prices, we get a little bit cleaner air," Frantz says.

But, he notes, those dairies and refineries could soon be operating at greater capacity again – and while the region got lucky with rain last year, normal annual rainfall in Bakersfield is just 6.47 inches. Without stronger environmental regulations, he warns, Bakersfield could be stuck with its worst-ranked air quality for a long time to come.

Some aren't waiting for action at the federal level. In the front room of a Boys and Girls Club in the tiny farmworker community of Lamont, just south of Bakersfield, around 25 community activists from a handful of local organisations have gathered to coordinate their efforts around environmental justice issues in Kern County. Planners at the county are currently working on a new countywide general plan, and recent legislation requires them to take into consideration environmental justice issues.

Aguirre says the groups have to be strategic about how and where they advance their agenda. "We've made some progress at statewide level with the governor of California – but locally our pollution control district is an ultraconservative, pro-industry air district that says yes to everything from industry and no to the community."

To push back, he's working with a nearby community called Arvin to install a set of air pollution monitors throughout this small city to track PM2.5, ozone and other harmful pollutants. Aguirre is hoping to collect data to show local officials that air pollution issues here are much worse than the state and air district monitors report.

He says small communities, especially those most affected by the region's poor air quality and other environmental issues, have to become more involved in documenting the conditions that pose public health risks. If they don't, he argues, nobody else will.

"We have to fight," Aguirre says. "Tooth and nail."

### **A greener future**

Compared to years past, Bakersfield's air has improved significantly, according to Bob Smith, a local real estate developer and Bakersfield city council member. "I think it's a success story in a lot of ways," he says.

Smith argues that state and local regulations have played a large role in reducing air pollution in the city and the valley, as have industrial investments in cleaner technologies. Various state grants and incentive programmes have also helped reduce pollution, offering trade-ins or tune-ups for older vehicles and incentivising the adoption of cleaner burning farm equipment.

Now Smith sees the potential for even more improvements. A bicycle advocate who rides through downtown Bakersfield on a new electric Dutch-style cargo bike, Smith has been trying to make the case that alternative forms of transportation can help reduce the city's air pollution. He helped establish the city's first bicycle transportation plan in 2013, and also pushed the city to adopt a resolution in support of a Complete Streets policy that refocuses road planning to accommodate pedestrians, cyclists and other forms of transportation in addition to cars.

Walking down 18th street, a mostly sleepy commercial corridor in downtown Bakersfield, Smith points out a cafe he's helping to develop, and a 44-unit market-rate apartment project he's building a block away. They are two bets on the future of downtown, but also on the future of a more cosmopolitan style of city – not a traditional farm town renowned for its trucks and cowboy hats.

But while Smith is optimistic about a greener future for the city, he also notes that its population grew by more than 100,000 people from 2000 to 2010 – one of the fastest rates of growth in the country. As more people move to the region, addressing pollution from vehicles and homes becomes even more important. Getting more people on bikes, or at least out of cars, will surely only help.