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Parents and Health Experts Try to Ease Italy's Pollution

By [ELISABETH ROSENTHAL](#)

MILAN — This part of northern [Italy](#) is renowned for fashion, food, Fiat. But now it has another, less welcome claim to fame: the cities here have the worst air pollution in Europe.

By mid-May, Milan had already exceeded [European Union](#) and [World Health Organization](#) limits for particle pollution in the air on 80 days. Last year was bad, too. By the end of March, Milan had 64 such days, Turin had 77, Bologna 51 and Venice 49.

Particulate pollution is tied to heart disease and respiratory ailments like asthma, and poor lung development in children.

While Europe's other big polluters — Germany and Poland — have reduced emissions since 1990, Italy's emissions have increased. This year, the [European Commission](#) deemed Italy's plan for emission reduction to be inadequate, and the country faces billions of euros in fines unless it corrects the problem.

And so, when a coalition of parents and scientists fitted teenagers with portable monitors that measure ultrafine particles last November, it was no big surprise that the results were often harrowing. Tommaso Abbate, 16, found that the pollution levels at night in his living room were “really high” — 200 micrograms per cubic meter at one point. His home is along a busy thoroughfare, he said, and “we always open the windows.”

During his 24 hours wearing the monitor, his average exposure was 127 micrograms per cubic meter. The World Health Organization says a safe target for such particles is 10 micrograms per cubic meter.

“We're not warriors, we don't want to fight, we want to cooperate,” said Anna Gerometta, president of Genitori Antismog (Parents Against Pollution), who organized the monitoring program. “But we want people to rebel and politicians to pay attention. This is really bad for health.”

All across Europe, cities are facing air pollution levels that medical research has shown harm health, and that routinely breach World Health Organization guidelines for particulate pollution. “Many countries are distant, in some cases very distant, from that level,” said Roberto Bertollini, director of the health organization's European Center for Environment and Health. “We have a lot of countries where the value is at least double our guidelines.”

A vast majority of particulate pollution is caused by traffic and traffic jams, which are a growing problem in most European cities.

Politicians face competing pressures. On one hand, doctors and citizens' groups are advocating

binding standards; on the other, industries and businesses argue for greater leeway to foster economic development.

In recognition of those pressures and of the high cost of cleaning the air, particularly in new member states, two years ago the European Union proposed a target for small particles, called PM 2.5, of 25 micrograms per cubic meter.

This is well above the 10 that the World Health Organization recommends, or the level of 15 that is the standard in the United States.

Many doctors' groups are bitter about the decision. "In Europe we feel the limits are now set too high, and countries can ignore them — which is really, really dangerous," said Dr. Isabella Annesi-Maesano, a researcher at Inserm, an institute for health and medical research in Paris, and an official at the European Pulmonary Society, whose research shows that even a tiny increase in the smallest particles causes asthma.

Both Dr. Annesi-Maesano and Dr. Bertollini said that in Europe, where carmakers were a powerful economic engine, the auto industry had lobbied hard against stricter limits. "In a country with Renault and Citroën, I've learned that you can't say cars are a problem," Dr. Annesi-Maesano said.

Particulate pollution is measured in two ways.

One is PM 10, the longstanding standard, which measures small to medium-size particles. The other is PM 2.5, which measures only the tiniest or "ultrafine" particles that are most closely tied to human illness, according to new research.

Politicians in Milan say they are making slow progress. "We've had some victories," said Roberto Formigoni, president of the Lombardy region, which encompasses Milan, noting that ozone and benzene levels have sharply dropped in the past decade. But he conceded that reducing small particles had been difficult.

"We've reduced them 10 percent in 10 years, but they're still well above E.U. standards," he said.

Many air pollutants, like sulfur dioxide and benzene, have significantly dropped throughout Europe, the World Health Organization says, a victory gained through cleaner fuels and cars. At the same time, particulate matter has emerged as a stubborn holdout.

"That is very hard to get down more because of the way we live," Dr. Bertollini said. "Increased traffic, particularly slow-moving traffic, has counteracted gains in engine efficiency. And we can't expect to change in the type of pollution with engineering, since particulate matter has much more to do with our use of cars, and our nonuse of public transportation."

Slow city driving is as highly polluting in this regard, as are diesel engines. In Milan, 50 to 60 percent of particulate pollution comes from transportation sources, Mr. Formigoni said. According to W.H.O. figures, PM 10 caused an average of 8,220 deaths a year in Italy from 2002 to 2004. No part of Europe is meeting the W.H.O. 10 milligram standard for ultrafine particles. For 2006, Milan's average was 38, and there are times with readings in the 150 to 200 range, Dr. Bertollini said.

Athens averages about 25, Warsaw 34, Turin 41 and Vienna 24. At the lower end, cities are still well above the standard; Paris and London measure 16, and Lisbon 19.

In a study released last year, scientists estimated that 22,000 fewer people would die annually across 26 European cities if these small particles were cut to the level suggested by the World Health Organization.

Here in Milan, officials have begun a number of programs to reduce emissions, though critics say they have not moved nearly forcefully enough. On July 1, the city will replace 2,000 old buses with more efficient models. There are car-free Sundays. City officials are installing more efficient heating systems.

“We have a particularly difficult situation here,” Mr. Formigoni said. “We have a dense population, lots of industrial activity, traffic, a rich population — and we are surrounded by mountains so there is little ventilation.”

He said that “the only city that compares” with Milan in its pollution woes was Los Angeles.

But there, too, the problem is not just geography. Public transport is limited and inefficient. And everyone wants a car.

“We’ve also campaigned for less-polluting cars, but no one is willing to give up their cars in Italy,” said Mr. Formigoni, who gave his staff members bicycles for Christmas. “It’s impossible for the Italian mentality, and it will take at least 20 years to move in this direction.”

As a backstop, the Italian government offers tax incentives for buying conventional cars with cleaner engines. But that has not discouraged car use. To the contrary: the incentives have meant more new car purchases than in any other part of Europe, rising 9 percent a month.

Emile De Saeger, a scientist at the European Commission’s joint research center in Ispra, Italy, who analyzed the students’ data, said part of the lesson was that bike paths and playgrounds should be separated from traffic thoroughfares. The children’s monitors showed that their actual exposure to small particles was often higher than that gauged at monitoring stations.

Parents Against Pollution would like to see free public transport for children, charges for cars entering the center, bike lanes and special lanes for buses. “How can you expect people to take the bus if it’s always stuck in traffic?” said Ms. Gerometta, president of the group.

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