

# Is 'global dimming' under way?

By Robert S. Boyd

*Knight Ridder Newspapers*

WASHINGTON - Scientists call it "global dimming," a little-known trend that may be making the world darker than it used to be.

Thanks to thicker clouds and growing air pollution, much of Earth's surface is receiving about 15 percent less sunlight than it did 50 years ago, according to Michael Roderick, a climate researcher at Australian National University in Canberra.

"Global dimming means that the transmission of sunlight through the atmosphere is decreasing," Roderick said.

"Just look out the window when you fly into New York or to California - it's dimmer," said Beate Liepert, a climatologist at the Lamont-Doherty Earth Observatory of Columbia University in New York.

Researchers say global dimming, also known as solar dimming, partly offsets the global warming that most scientists agree is produced by "greenhouse gases" such as auto exhaust and emissions from coal-burning power plants.

The solar-dimming effect is "about half as large as the greenhouse-gas warming," said James Hansen, director of NASA's Goddard Institute for Space Studies in New York.

In global warming, gases in the atmosphere, such as carbon dioxide, trap some of the sun's heat and keep it from radiating back out to space, thereby raising Earth's temperature. Clouds and air pollution, on the other hand, block a portion of the heat energy coming from the sun, just as it's cooler sitting under a beach umbrella than under a bright sky.

Although global warming has been widely accepted, global dimming remains controversial. The theory has been advanced in recent years by a few researchers who measure the decline of solar radiation at hundreds of sites globally.

Support for the theory comes from two types of data:

- Radiation meters - black metal plates that absorb the sun's rays - aren't heating up as rapidly as they previously did.
- The rate at which water evaporates from special measuring pans placed in the sunlight has slowed over the years. Roderick, for example, measures the height of the water in his pans at 9 a.m. each day, subtracts rain that may have fallen and calculates how much has evaporated from the previous day.

"There's less evaporation out of pans of water all around the world, and that's consistent with global dimming," he said

The measurements indicate that the amount of energy from the sun - solar radiation - is shrinking by about 3 percent per decade, according to Gerald Stanhill, a biologist at Israel's Agricultural Research Organization.

Liepert said she expects to see the dimming trend continue in places such as China and the western United States, where population and industry are increasing.

[Sunday, May 9, 2004, Los Angeles Times](#)

## **Tough Laws Can Help Us Breathe Easier**

By Greg Goldin, Greg Goldin is a Los Angeles journalist

Inhaling in L.A. is again bad for your health, thanks in part to a lax White House. When the U.S. Supreme Court, with a brisk shove from the Bush administration, delivered its recent decision halting a South Coast Air Quality Management District effort to curb sooty diesel trucks and buses, the message between the lines was much clearer than the legal rhetoric of Justice Antonin Scalia's 8-1 majority opinion: Los Angeles, drop dead.

With the decision, the White House was given another tool to advance its assault on clean-air regulations. To the free market ideologues who make the decisions about the air we breathe, requiring businesses to take specific steps to lower the amount of pollutants pouring into our skies is anathema. Last year, the administration stopped implementing measures that forced old, heavily polluting power plants to retrofit their smokestacks when adding new generating capacity. In January, President Bush proposed loosening fuel economy standards by allowing automakers to bump up the weight of all their cars into categories requiring fewer miles per gallon - meaning, among other things, more gas guzzlers polluting the air and warming the atmosphere. And, in late April, the Environmental Protection Agency announced it would postpone for 11 years, to 2021, the deadline for making L.A.'s air healthful to breathe.

Direct regulation may be cumbersome, and it may ruffle feathers, but it works. In 1970, when the federal Clean Air Act was passed, L.A.'s air was so foul that it exceeded ozone standards fivefold. In 1975, one year before the AQMD was formed, the city had 118 days that surpassed the ozone standard. But as regulations took hold, the skies cleared. Smog alerts plummeted from 121 in 1977 to just seven in 1996. For four years, from 1999 to mid-2003, there were no alerts.

The picture was never perfect, of course. L.A. was still shrouded in a noxious brew of ozone, carbon monoxide, particulates and nitrogen dioxide - brown as bourbon and just as sour. And now, with regulation out of favor, smog is staging a comeback. Last year, for instance, nearly one day in five exceeded federal health standards, earning the Southland the dubious distinction, under federal law, as the only ozone "extreme nonattainment" area in the U.S.

Controls imposed on everything from cars' tailpipes to oil refineries and from water heaters to bakery ovens were what spurred California's progress.

The leap forward began in the mid-1970s, when California mandated lead-free gasoline. Besides the obvious benefit, especially to children, the change led to the introduction of advanced air pollution equipment on cars. Catalytic converters started stripping nitrogen oxides - the prime building block of smog - from automotive exhaust. As technology improved, regulations tightened, cutting emissions. A 2004 Toyota Camry is 98% cleaner than a 1970 Chevy Nova. By comparison, a typical lawn mower, which is an unregulated product, used just 45 minutes a week spews the equivalent pollution of 43 new cars driven 12,000 miles a year.

Incremental rules contributed their share of reductions too. The AQMD's push to take volatile organic compounds out of paint, for example, knocked nearly 9% of those ozone precursors out of the air. Perchloroethylene - a dry cleaning chemical that poisons groundwater, suffocates the lungs of laundry workers and leaves a residue of toxins on your freshly pressed shirts and blouses - is under banning orders that will be completed in 2020. This is why all those chemical-free dry cleaners are popping up around town. Similarly, the state-imposed (and shamefully abandoned) zero-emissions vehicle mandate produced the hybrid car market.

The "fleet rule" recently struck down by the Supreme Court would have pushed things further. The AQMD wanted to require public agencies and certain private companies buying new diesel buses, trash trucks, street sweepers, airport shuttles and taxis to go for the cleanest vehicle on the market. The rule targeted a chief pollution culprit: diesel, which accounts for nearly a quarter of all the nitrogen oxide emissions (a leading cause of respiratory disorders) and 70% of the total cancer risk from air pollution in Southern California.

The measure was mild. It merely called for picking the least offensive engine from among those available, but if implemented it would have stripped 4,870 tons of emissions from the air each year. The hardship to companies affected has to be weighed against the public good. And if you talked, say, to the parent of one of the half-million California kids with asthma - thousands of whom ride school buses each day, breathing diesel fumes that exacerbate their illness - you might start to think that requiring companies that transport kids to abandon diesel is a good idea. So why did the U.S. Department of Justice, in its friend-of-the-court brief, urge the Supreme Court to vacate this benign yet effective regulation? Because this administration is acutely uncomfortable with government interference in business. As U.S. Solicitor Gen. Theodore B. Olson told the Supreme Court, "The twin objectives of the Clean Air Act are, one, to produce cleaner air, but two, to do it in a way that does not disrupt the national economy and the marketing of motor vehicles, which is an important part of the economy of this nation."

Of course the administration would never say it is comfortable with smog. When the EPA announced last month its plans to extend all clean-air deadlines in California by more than a decade, it didn't admit that this was a setback for clean air. Instead it insisted that the standards it would impose in 2021 would be stricter than if it had kept to the original deadline. But it has taken away any sense of urgency.

To reach those standards would take not only strict enforcement of current regulations but also creative new approaches to achieve the massive reductions in emissions called for. It would take regulating locomotives, ships and construction equipment, and (as Gov. Arnold Schwarzenegger proposed last week) the removal of hundreds of thousands of not-so-very-old, heavier polluting cars from the road. But the kind of measures needed would take considerable political will - including

at the federal level - that just isn't there.

And, so, the pressure will be on to jettison the current standards with vague promises of better regulations in some distant future. The result is all too predictable. Our bad air will worsen, and long before 2021 rolls around, someone will be proposing another extension. But more time won't solve the problem: Only tough new laws can do that.

[Monday, May 10, 2004, Los Angeles Times - EDITORIAL -  
Cleaner Air Worth the Cost](#)

Blocked by the U.S. Supreme Court from pushing polluting trucks and buses off the roads, California is forging ahead with a plan to buy its way to clearer skies. Credit Gov. Arnold Schwarzenegger's coalition-building powers for moving the smog-cutting initiative forward, and the Legislature for coming up with the best ideas for funding it.

Old clunkers, trucks and cars alike, are only 5% of the registered vehicles but account for half of vehicular air pollution. Targeting old vehicles is one of the most efficient ways to reduce smog, which has been thickening again in the Los Angeles area after years of better air quality. Yet last week, the U.S. Supreme Court axed a rule by the South Coast Air Quality Management District that required fleet operators to choose cleaner vehicles when they replaced old diesel trucks and buses. Only federal regulators have such authority, the court ruled.

The new anti-smog initiative would help take those and other "gross polluters" off the roads by making it financially attractive to replace them with less-polluting vehicles. Safeguards are needed, though, to prevent the abuses that occurred in a similar program aimed at private cars in the 1990s. Sometimes, scam artists exploited the plan. The program, paid for mostly by the oil company Unocal, gave the company pollution credits for each car removed and little incentive to stop cheaters.

Though Schwarzenegger voiced a strong commitment to the new project, he shied away from saying how it could be funded. Getting rid of the most-polluting vehicles would cost the state up to \$400 million a year. There's talk of a voluntary car registration fee. That's hope, not a commitment.

Lawmakers have come up with better ideas: an extra cent or two a gallon for gasoline, and a vehicle registration hike. Schwarzenegger won his job in part by promising to get rid of a vehicle fee increase instituted by Gray Davis. But the amount at issue now - \$2 a year - isn't worth fighting over, even on principle.

Car dealers strangely oppose even this teensy increase, even though junking old polluters would cause some new car sales. California's gas taxes already are lower than those in 28 other states.

These very modest increases would measurably reduce smog if the program were effectively run. Smog causes asthma, especially among children, and can weaken the human immune system and worsen other health problems. Compare the price of treating an asthma patient with an extra \$2 a year to own a car. Quite a deal.

[Monday, May 10, 2004, Tri-Valley Herald - Letter to the Editor  
Asthma training in schools -- who will pay for it?](#)

A report released last week confirms that asthma has become as commonplace in California schools as textbooks, paper and pencils. A plan for dealing with asthma in our schools should be a priority, but an ailing state treasury probably precludes any less-than-thrifty proposal from being acceptable.

While asthma has led to hospitalizations throughout the state, an African-American child in Alameda County probably could serve as the prototype for those most likely to be stricken by the respiratory illness. According to the report-producing Oakland Berkeley Asthma Coalition, Alameda County registered the second-highest rate of asthma hospitalizations in the state. The report further found that the hospitalization rate was four times higher among blacks of all age groups than the general population. And, to complete the dreary picture, more than half of Oakland and Berkeley residents hospitalized for asthma were under age 15.

Asthma has become such an endemic problem among school-age children in California that 70 percent have experienced symptoms within the past year. Indeed, about one-fourth of the state's youth aged 6 to 17 have been diagnosed with asthma -- or about 1 million children.

Assemblywoman Wilma Chan, D-Oakland, has submitted legislation that would require schools to keep on file an asthma action plan for each child with the condition. But with a drafting-board cost of \$35.5 million according to the Assembly

Appropriations Committee, the Chan measure carries a hefty price tag and needs to be refashioned into a more cost-effective bill.

The Chan bill calls for school districts to assume the bureaucratically expensive task of keeping records on every pupil who has been diagnosed with asthma. While the objective of record keeping would be to heighten awareness among parents, teachers and students to prevent and effectively treat asthma attacks, the cooperative efforts of community groups -- such as the Oakland Berkeley Asthma Coalition or the American Asthma Association -- could help disseminate such valuable information and save the state money in the process.

Teachers would be expected to set aside one-half day of training on how to manage students with asthma and how to deal with asthma attacks under the Chan bill. But if teachers are required to go through a training program, it would make much more sense for them to be taught how to handle pupils with, say, diabetes or other health issues as well as asthma.

While implementing the Chan measure would be a local mandate, picking up the tab for it would largely be a state responsibility, primarily through the annual set-asides from the general fund generated by the passage of Proposition 98. With most annual Prop. 98 funds already allocated, though, Sacramento will be hard-pressed to find any available general fund monies.

School districts across California are now so cash-strapped that adding asthma training means that essential programs could be ended in some of them. It hardly seems reasonable to us that another program -- however meritorious its purpose -- should be initiated if the cost of doing so could end up robbing Peter's books to pay for Paul's health care. Unfortunately, the Chan bill as it stands now might accomplish just that.

[Sunday, May 9, 2004, Fresno Bee - Letter to the Editor](#)  
**Still waiting**

The May 3 local TV news reported the huge amount of particulates being "dumped" into the atmosphere by vehicles waiting for stop signs to favor their entry into and through the intersections.

An examination of the findings and recommendations of the 2000-2001 Fresno County Grand Jury reveals that the city of Fresno virtually had a system completed which would be operated by a central control. Depending upon the time of the day and traffic flow, much less waiting at intersections would occur and drivers would reach their destinations in far less time. The initial thoroughfares were Blackstone and Shaw avenues. Plans were being made to include more streets and eventually work with Clovis.

I keep waiting for the announcement of when Fresno's taxpayers can reap the benefit of this system, which was already budgeted. The incentive for the implementation of this program is great; anything that can be done to reduce tail pipe emissions will be welcome. Perhaps there will be a surprise for us soon.

Rene Lastreto Sr.  
Fresno

[Sunday, May 9, Modesto Bee, letters to the editor](#)

### **Hydrogen highway is worth tax**

Referring to the editorial (Our View, April 30) "Detours along 'hydrogen highway,'" 1 or 2 cents per gallon state tax on gasoline would not hurt anyone. This tax money could go toward clean, safe, renewable energies. It would be a step in the right direction.

BRIAN HINTON

Modesto

[Saturday, May 8, 2004, Fresno Bee - Letter to the Editor](#)  
**Hydrogen's future**

Kudos for your editorial, "Hello to hydrogen" (May 1), detailing the promises, challenges and risks of what promises to be a great energy revolution -- the displacement of petroleum and coal by pollution-free hydrogen as our principal fuel.

This is of crucial concern to all of us. According to Rep. Robert S. Walker, R-Pa., chairman of the House Science Committee, who was instrumental in getting the Hydrogen Future Act of 1996 passed, "It doesn't matter whether you're

liberal or conservative, Democrat or Republican, everybody assumes that at some point hydrogen is going to play the dominant role in how we use energy in our future."

However, as you correctly point out, unless hydrogen is generated from water by nonpolluting, renewable technologies such as wind or solar power, its environmental benefits will be minimal. The American Physical Society, National Research Council and other scientific organizations have criticized and urged fundamental changes in the Bush administration's billion-dollar "hydrogen initiative."

Although the hydrogen fuel cell, a device with no moving parts that converts hydrogen directly into electricity, has been used in our space program for decades, the United States lags behind Europe in its research and development.

Your editorial contained one small error. Hydrogen is not the most abundant element on Earth. It is the most abundant element in the universe (75% by weight), but it ranks only ninth among the elements in the Earth's crust (0.87% by weight), including the water and the air.

George B. Kauffman  
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