**In The News – August 8, 2005**

**PROFILE FRANK MITLOEHNER**
**Cows Shouldn't Get a Bum Rap, Researcher Says**
**Air quality officials think bovines may cause more pollution than cars. But the scientist whose studies they cite disputes the conclusion.**
**By Miguel Bustillo, Los Angeles Times, August 5, 2005**

In a towering beige barn on the outskirts of the UC Davis campus, Frank Mitloehner explained the finer points of his current field of scientific inquiry: cow flatulence.

Mitloehner, a plain-spoken native of Goettingen, Germany, who could pass for a dairy farmer in his crisp denim shirt and blue jeans, has emerged as an outspoken contrarian voice on an issue of great importance to the San Joaquin Valley: How much do cows pollute?

The San Joaquin Valley is home to the biggest single segment of the nation's dairy industry as well as the country's smoggiest air. The San Joaquin Valley Air Pollution Control District, prodded by a state law, is preparing to tackle the problem with tough new regulations on factory dairies.

This week, in a preliminary step, district officials estimated that cows emit more of a key smog-forming ingredient than cars. It is a controversial claim.

Mitloehner, whose research helped form the basis of the cow-pollution estimate, argues that the officials misused his findings. In a series of temperature-controlled environments in Davis that mimic the various aspects of a real factory dairy, Mitloehner has spent much of the last two years measuring cows' gaseous emissions in meticulous detail.

"I have this deep love of animals and the way they interact with their environment, so I knew I wanted to end up in this field," Mitloehner, 36, said during a tour of his research facilities last week. "But I had no idea it would be so controversial.

"Sometimes, I think everything in California is controversial," he added with a smile.

Mitloehner's first surprise was how much of the pollution comes from the front end of the cow and not from the malodorous piles of waste they produce.

His conclusion that most of the offending gas comes from the cow's chewing and regurgitating runs counter to the prevailing theory, which had earned such research the derisive label "fart science."

But the pollution from cows' digestive process remains poorly understood, Mitloehner said. He argues that more research is needed before assigning so much blame for San Joaquin Valley smog to ruminating cows and before imposing tight restrictions hastily.

Until he did his fieldwork, California's official estimate of bovine air pollution was based on an extrapolation from a 1938 New Hampshire study.

Mitloehner had openly scorned officials' application of the study to modern California dairies and testified at county government meetings. To hammer home his criticism, he likes to show visitors a weathered brown copy of the study. It is an antiquated-looking document that contains charts comparing emissions from cows and elephants.

Some environmentalists assert that by siding with the dairy industry and criticizing other

scientists' work, Mitloehner has jumped over an ethical line scientists should not cross.

"He has a history of taking positions on this issue. Meanwhile, his research is relevant to the way this issue is playing out," said Brent Newell, an attorney with the Center for Race, Poverty & the Environment, a group that has pushed for stronger pollution regulations on dairies.

"He is crossing a line from scientist to subjective advocate. It's his job to do his research, not opine on the district's use of other studies," Newell said.

Mitloehner, whose studies are funded by state and federal environmental agencies, rejects that assertion.

The same groups that question his motives would be championing his views and commending him for courageously taking a stand if he agreed with them, he said.

San Joaquin air quality officials on Monday officially estimated that the average dairy cow releases 19.3 pounds of pollutants known as volatile organic compounds every year. Volatile organic compounds react with another type of air pollutants, nitrogen oxides, to form ground-level ozone, or smog.

A sizable chunk of that estimate, 8.3 pounds, is based on measurements of gases known as volatile fatty acids that Mitloehner considers imprecise. He said he submitted the data with a stern caveat that it was too uncertain to be used in regulations.

Air pollution officials slightly lowered their initial estimate of 20.6 pounds of pollution per cow to the 19.3 number in response to some of Mitloehner's criticisms but still based much of their estimate on the data he considered unfit for rulemaking.

"The one piece I said to them could not be used for regulatory purposes is what they used," he said. "They concluded that they knew my data better than I did."

David L. Crow, the air pollution control district's executive officer, stood by his agency's conclusions, which he said were based on 15 scientific studies examining various aspects of cow emissions, including the gases emanating from cow waste at various stages of the factory dairy process.

"One of the important things to understand is that we were looking at all the potential emissions sources on a dairy, and no single scientist has looked at all of that," Crow said.

Mitloehner said he recognizes that factory dairies will have to be strictly regulated. For example, he believes ammonia from cow waste, which produces fine-particle pollution that has been linked to respiratory problems, may also need to be curtailed. San Joaquin pollution officials chose not to pass ammonia limits on dairies, unlike their counterparts at the South Coast Air Quality Management District, which includes Los Angeles and Orange counties and parts of Riverside and San Bernardino counties.

But he argued that regulators have a lot of work to do before they can fully understand the best ways to reduce emissions from dairy cows. Some pollution, he contends, may be unavoidable.

"The people of this state enjoy the commodities of agriculture: the wine, the cheese, the fruit," Mitloehner said. "But these things come with environmental consequences. The issue is how much are people willing to take."

(BEGIN TEXT OF INFOBOX)

On the move

While most young Germans went to universities in the west half of the country after the fall of the Berlin Wall, Mitloehner went east, to the University of Leipzig. "I was never a conformer," he said.

. Mitloehner's animal science work has taken him to China, Australia, Paraguay, South Africa, Namibia, Botswana and Indonesia. He met his wife, Elizabeth, a grants director at UC Davis, a month after moving to California.

. Mitloehner, who did his postdoctoral research at Texas Tech University, was once asked to study why cows kicked up more dust at night. The answer: they were hungry and restless.

## Polluting-cow claim calls for closer look

**SARAH RUBY, Californian staff**
**Bakersfield Californian, Sunday, Aug. 7, 2005**

Do 21,645 milk cows really produce as much air pollution as Kern's largest oil refinery? Last week's hype would make it seem so.

On Monday, the San Joaquin Valley Air Pollution Control District announced that individual dairy cows produce 19.3 pounds of smog-forming chemicals, known as volatile organic compounds (VOCs), each year.

The news made headlines nationwide. Dairy cows are still the valley's top polluter, they read. Cows pollute almost twice as much as all the cars on the road, etc.

The problem is, VOC tonnage is just a piece of the air quality pie.

It's true that the district's "emission factor" for dairies would have 21,645 milk cows producing as many pounds of smog-forming VOCs annually as the Flying J refinery on Rosedale Highway. That's the VOC equivalent of at least five Flying J refineries that are trying to move to Kern in the form of 19 new dairies.

But "volatile organic compound" is a blanket term for some 800 molecules, all of which behave differently in the environment. Most of them could eventually react in the sky to form ozone, or smog, which is the scourge of the San Joaquin Valley's "extreme" air quality.

Ground-level ozone aggravates asthma and lung disease, according to the U.S. Environmental Protection Agency. With some of the worst air in the country, startling asthma rates and unhelpful geography, the San Joaquin Valley is a perfect storm of smog.

But where does it come from, exactly?

Conventional wisdom says smog is a mixture of VOCs, nitrogen oxides and sunlight. Unfortunately, it's not that simple. Here's a rundown of why cows and oil refineries defy comparison:

· Some VOCs react to form ozone more easily than others. Trees in nature produce a chemical that is more than 20 times as reactive as acetic acid, commonly known as vinegar, which makes up most of the district's dairy pollution roster.

Several scientists close to the dairy brouhaha believe that a small number of very reactive VOCs are responsible for most of the valley's smog. Smog studies in Houston have lent credence to this idea.

But Bakersfield can't escape its geography, regulators said, which traps smog-forming chemicals that might otherwise sail away. With 2.5 million dairy cattle in the San Joaquin Valley, small amounts of moderately reactive gases add up quickly, they said.

· Industrial operations and automobiles produce VOCs that are harmful by themselves, ozone aside. Benzene and other toxic air contaminants from automobiles and industry are also smog-makers.

· Industry and automobiles also produce nitrogen oxides, key ingredients in any smog recipe. Besides diesel engines on the farm, dairies don't produce nitrogen oxides. By contrast, the Flying J oil refinery produced more nitrogen oxides than VOCs in 2001.

· Dairy air pollution science is an unruly toddler compared to mature bodies of industrial and automotive data. It's likely that dairies produce VOCs that haven't been identified yet, but whether they produce as much -- or as little -- of the ones we know about is a matter of fierce dispute.

## Week in review

**Bakersfield Californian, Sunday, Aug. 7, 2005**

Debate till cows come home What: The San Joaquin Valley Air Pollution Control District announced that individual dairy cows produce 19.3 pounds of smog-forming compounds per year. By that logic, the valley's 2.5 million milk cows produce twice as many of these volatile organic compounds as passenger cars.

What's next: The science is still shaky. Expect a challenge from the dairy industry.

## Dairies at critical juncture

**By TIM MORANBEE STAFF WRITER**
**Modesto Bee, Saturday, Aug. 6, 2005**

A pop quiz: What is the largest source of smogproducing pollution in the San Joaquin Valley?

A) Lightand medium-duty trucks

B) Passenger cars

C) Oil and gas production

D) Pesticides

E) Dairy cows

If you know the answer, you're a step ahead of the controversy between San Joaquin Valley air regulators and the dairy industry.

The San Joaquin Valley Air Pollution Control District thinks a cow creates about 19.3 pounds of volatile organic compounds a year. Those compounds are an ingredient in smog. The dairy industry thinks the number is closer to 5.6 pounds.

The 13.7-pound difference carries big implications for dairy farmers.

The higher number puts dairies on top of the list of sources for such compounds, ahead of trucks and passenger cars.

That number will lead to measures individual dairies must take to reduce air pollution. The cost of those measures could range from thousands of dollars to more than $1 million per dairy, according to industry officials.

The issue is a critical one for the dairy industry in the Northern San Joaquin Valley, where milk is the leading farm commodity in Stanislaus, Merced and San Joaquin counties.

The combined farm revenue for milk in the three counties in 2004 was more than $1.6 billion. That figure doesn't include revenue and jobs created by dairy-processing plants in the region.

The battle over the emissions number leaves dairymen like Matt Genasci frustrated. Genasci and his brother Andrew work a 600-cow dairy near Turlock.

"It's disheartening as a dairyman to be portrayed as greedy businessmen and blatant polluters," Genasci said.

"That's far from the truth. Any dairyman cares about the environment and wants to follow the standards that are in place."

But the standards have to be based on good science, Genasci insists.

**Politics confusing the situation**

While Genasci's 2-Ace Holsteins dairy is too small to require a permit, he hopes it eventually will expand beyond the 1,000-cow threshold for a permit. He and his brother are watching the issue closely.

"Dairymen in general are willing to do whatever it takes to solve the problem," Genasci said. But they don't know what the scope of the problem is or what kinds of solutions may be required of them.

"It seems like there is a lot of misinformation and politics that really isn't helping anyone come to a conclusion," he said.

The costs for individual dairies could range from thousands of dollars for changes in the feed for cows and more frequent flushing of dairy waste, to more than $1 million for covering waste lagoons and installing methane digesters.

"We don't know what the board is going to mandate," said Henry Van de Pol, an Escalon dairyman. "It's just hard to start reducing your emissions from a figure you know is too high."

Van de Pol milks 1,900 cows on his farm.

Dairymen already have nutritionists to determine the best feed for the cows, Van de Pol said. "What are we supposed to reduce? I don't know. The idea is to make milk, not reduce feed."

Environmentalists and health officials say that the 19.3-pound number is too low, pointing to the valley's poor air quality and rising rates of asthma.

The two sides cite different studies to justify their positions, a problem that became obvious when an advisory group charged with recommending an emissions number failed to reach a consensus.

The group came up with three figures, ranging from 5.6 pounds to almost 35 pounds, and left it to the air district pollution control officer, David L. Crow, to choose a number.

Crow picked the middle number, which didn't seem to please either side. The air district said the number is based on a review of 15 dairy research studies.

The 5.6-pound number preferred by the dairy industry is based on a University of California at Davis study. That study indicates that most of the problem comes from the cow itself, which leaves diet change as one of the few remedies, according to Michael Boccadoro of the Community Alliance for Responsible Environmental Stewardship, a dairy advocacy group.

The higher numbers, based on studies conducted here and abroad, indicate that the lagoons and waste-handling systems at a dairy are significant sources of air pollution, Boccadoro said.

Those would require more expensive solutions, he said.

Michael Marsh, president of Western United Dairymen, said the air district staff ignored California studies supporting the lowest number.

"If a farmer is asked to mitigate something they can't even find, what is the cost going to be for chasing air? We could spend a lot of money and not benefit air quality," Marsh said.

Air district officials say they gave the heaviest weight to studies done in California. None of the studies looked at all types of volatile organic compound emissions, Crow said, so the district evaluated all the studies to come up with the number.

**New rules could change again**

More research is needed, Crow said, and the emission factor will be reviewed as more information is available.

That makes the dairy industry even more nervous. Boccadoro raised the spectre of dairies being forced to invest in digesters only to have the air district decide later, with more research data, that they weren't necessary.

"It's critical to get this number right," Boccadoro said.

Stanislaus County Supervisor Tom Mayfield, who chairs the governing board of the San Joaquin Valley Air Pollution Control District, has problems with the 19.3-pound number.

"I'm not buying into it," he said of the air district staff's emissions estimate that puts dairies on top of the list of valley polluters.

"There's people, cars, subdivisions. I'm having a hard time believing cows are putting out that much pollution in the San Joaquin Valley," Mayfield said.

He asked the air district staff to put the issue on the Aug. 18 governing board agenda, so staff and the board can discuss the science that went into the emissions estimate.

The process of determining the cow emission number came about as a settlement of litigation between the air board and the dairy industry over the issue of air-pollution permitting of dairies.

But the two sides are still far enough apart that the issue may return to court.

"I hate for it to end back in litigation, but it might," Marsh said. "If farmers are asked to mitigate emissions that scientists say are not even there, I'm not sure what choice we have."

## Tallow plant protest slated

**Fed-up neighbors to greet state EPA at town hall meeting**
**By TODD MILBOURN - BEE STAFF WRITER**
**Modest Bee, Friday, August 5, 2005**

George Barajas says the stench from Modesto Tallow Co. attaches to curtains and couches, wakes him up in the middle of the night and makes it embarrassing to invite friends over.

"Your nose literally hurts," said Barajas, 28, who lives near Shackelford Elementary School, less than 1,000 feet from the Crows Landing Road rendering plant in southwest Modesto. "It takes the taste out of your mouth."

For decades, Modesto Tallow's processing of animal carcasses has made breathing miserable for Barajas and thousands of mostly low-income people living downwind.

But residents say the issue has reached a boiling point: They say Modesto Tallow should either be cleaned up or closed down.

To get that point across, they are planning a protest in downtown Modesto next week.

The protest is set for Tuesday outside a town hall meeting, sponsored by the California Environmental Protection Agency, on Central Valley environmental issues.

Cal-EPA Secretary Alan C. Lloyd is listed among the speakers for the public meeting, scheduled from 9 a.m. to 4 p.m. at Modesto Centre Plaza. The program calls for discussion of a host of environmental issues, including agriculture and growth.

Every month, Modesto Tallow collects, grinds and cooks more than 10,000 tons of dead cattle, chickens and turkeys. It turns the carcasses into pet food and livestock feed, providing a vital service to agriculture.

But over the past decade, Modesto Tallow has violated air quality standards at least 124 times, far more often than any other business in the Northern San Joaquin Valley, according to the San Joaquin Valley Air Pollution Control District.

The company also refuses to pay at least $765,000 in air district fines dating back to 2002.

Phil Jay, an air district lawyer in Fresno, said the district is considering legal action against Modesto Tallow. A decision on filing a case could come within weeks, he said.

"Right now, they're trying to button up some of the holes," said Jay, referring to odor controls that the company recently proposed. "But it seems we've been here before."

John Olson, hired last month to serve as Modesto Tallow general manager, said he is committed to improving the plant's environmental record and plans to reach out to the community. He said poor management in the past has led to some of today's problems.

"I absolutely care about people out there in the neighborhood," he said. "I want to be proud of what we're doing and being part of the community."

Modesto Tallow is owned by a group of Texas-based investors headed by longtime rendering executive Bill Shirley Jr. of Dallas. Shirley did not return calls Thursday seeking comment.

While plant officials have long promised that new technology would alleviate some of the odors, by some measures, the plant's odors are getting worse.

Residents filed more odor complaints with the air district during the first seven months of this year, 323, than during the first seven months of any year on record, according to the air district.

In June and July, the district received an average of almost three complaints per day.

David Johnson, 44, who has lived near the plant for 35 years, has the air district's phone number on speed dial. He said he is speaking up because government action is overdue. If the plant existed in a wealthier area, such as Del Rio or Village I, he said, something would be done.

"It's so incredibly frustrating, I have a hard time controlling my temper," said Johnson, who, along with activists Miguel Donoso and John Mataka, is helping to organize the protest. "We've got to do something now, or it might never happen."

**Incentives could junk polluting cars**
**Assemblymans plan would encourage drivers to buy greener vehicles**
**By Jennifer M. Fitzenberger, Reprinted in the Tri-Valley Herald, August 8, 2005**

SACRAMENTO - About
10 percent of cars in California pump out about half of all smog-forming emissions from vehicles, experts estimate.

For air quality to improve, California must make a bigger effort to get those high-polluting vehicles off the road, says Assemblymember Dave Cogdill, R-Modesto.

His idea: provide incentives for people to donate lower-polluting cars to the state. The state, in turn, would give those cars to owners who agree to give up their high-polluting cars.

The concept has received early support from air officials, although details still need to be worked out.

Its a very innovative idea, says Tom Jordan, special projects administrator with the San Joaquin Valley Air Pollution Control District. As with all

innovative ideas, making it a

reality is the challenge.

Cogdill envisions a pilot program that would operate alongside the state Consumer Assistance Program, which gives drivers two options if their cars fail a smog check.

If the car can be fixed, drivers who meet certain criteria are eligible to receive up to $500 from the state for repairs. Or, the state will give a driver

$1,000 to turn in the car. Under the latter option, the car either is dismantled or crushed, never to pollute the air again.

Since the Consumer Assistance Program began in July 2000, more than 35,000 high-polluting vehicles have been scrapped. Owners of more than 124,000 vehicles have received state money to fix their cars. On average, those people received about $325 each.

Most cars that qualify for the program are old and have high mileage. The average model year for scrapped cars is 1988. For cars that were repaired, the average model year is 1987. Cars built before 1976 dont have to be checked for smog-making emissions.

Cogdill doesnt think existing programs are taking enough high polluters off the roads. Policy-makers focusing on emissions from sources such as farms and dairies should pay more attention to pollution-belching cars, he says.

One of the main reasons they havent gone after the gross polluter is because of the social issue, Cogdill says. Are you going to take these peoples
cars away from them? Then what are they going to do?
Cogdills program would match donated cars with drivers of high-polluting cars who needtransportation but cant afford to buy another car. Cogdill says $1,000 doesnt go far toward purchasing a replacement car.

High-polluting cars would be replaced with lower-polluting cars of a similar model.

If Ive got a four-door car that will seat six, then thats what we need to find to swap them into, Cogdill says. Theyre not new cars, and theyre not going to last forever, but at least its better than what theyre driving and it allows us to get the gross polluter off the road.

Under the program, the state would offer owners financial incentive, possibly a tax break, to donate their lower-polluting cars. Rental-car companies and other businesses with multiple cars often use those cars only a few years before trading them in, and those cars could be a potential source of lower-polluting vehicles for the exchange program.

Cogdill doesnt want the program to cost taxpayers more money. He says the state could tap existing funds in the Carl Moyer Program or other places. The Carl Moyer Program provides incentives for farmers to get rid of high-polluting diesel engines.

Its my goal at this point not to make this an additional fee or a tax increase, but to make it a win-win situation for both those who donate cars and those who receive them, Cogdill says.

Rosemary Shahan, president of Consumers for Auto Reliability and Safety, likes the idea but worries about the safety of donated cars. She would like to see a safeguard barring cars that had been in crashes and not properly repaired from distribution.

Cogdill plans to work on his legislation, Assembly Bill 184, the rest of this year before presenting it to a legislative policy committee.

**THE SKINNY**
**The dirty side of China's growth**
**Los Angeles Times, August 7, 2005**

175,375,000 registered vehicles (2004)

74% of the country lives with air quality below gov't standards (2003)

30% of the country is "seriously affected" by acid rain (2003)

21.2 billion tons of industrial wastewater (2003)

23 billion tons of sewage (2002)

2.8 billion tons of carbon dioxide emissions (2000)

148.5 million tons of garbage (2003)

11.7 million tons of hazardous waste (2003)

1.3 million metric tons of pesticides used (2003)

Source: World Health Organization

## Valley poised to tie heat record

**Consecutive days of triple-digit temps are expected to continue.By Erin Kennedy / The Fresno Bee**
**Saturday, August 6, 2005**

If next week's weather turns out exactly as forecast, the Valley will tie the record for the most consecutive days of triple-digit heat. As of Friday, we're at 14 days of 100-plus temperatures, and we have seven more to go to shatter that longest heat-spell mark.

But that's not the kind of record that impresses National Weather Service meteorologist Gary Sanger, who has his eye on all-time record highs.

"We're not going to break any records actually," he says, rattling off a string of highest mercury readings for the first week of August, ranging from 110 to 113, going back as far as 1889. No, he said, the Fresno area will be a more manageable 106-107 today through Monday, then will start tapering off to the 102-101 range.

By Friday, the Valley should be back to 99.

"The average temperature for this time of year is usually 97 or 98, so we're not exceedingly hot," Sanger said Friday. "Now, my first year here it was 114 in Bakersfield, and then even we think it's hot."

The forecast higher temperatures have San Joaquin Valley Air Pollution Control District officials warning that ozone levels and air quality will likely be unhealthy this weekend for sensitive groups in Fresno and Tulare counties and will be unhealthy for all in most of Kern County.

Folks hanging out under the trees surrounding the Fresno County courthouse say the heat is relative. All could name places that would be worse in the summertime: Arizona, humid Florida, Mexico's southern states. And the 104 temperature at 4 p.m. Friday with a slight 8 mph breeze was almost bearable - in the shade. Friday's high topped out at 105.

Sanger said folks shouldn't look for weird weather theories or start talking about global warming: "We just have a high-pressure system sitting over the western U.S. right now, but it's not all that rare. It's only running four to five degrees above normal. In winter time, people would be happy with four or five degrees above normal."

Fresno usually gets 36 days of triple-digit temperatures yearly, according to the National Weather Service. So far, the tally is up to 27 days: one day in June, 22 in July and every day so far in August. With the exception of July 22, when the high temperature was 99, Fresnans have endured 100 degrees and hotter every day since July 12.

Even so, Sanger called this summer's weather normal. If people are looking for truly unusual weather, try Canada this summer with oppressive heat in southern Ontario, fog in Nova Scotia and heavy rains across the plains. David Phillips, senior climatologist for Environment Canada told newspapers there this week: "We're out of superlatives to talk about this summer."

But if Friday hits 100 or more, Valley folks could mark this heat spell as not normal - a record even.

## Court rejects effort to block EPA rules on mercury pollution

**By JOHN HEILPRIN, Associated Press Writer**
**in the S.F. Chronicle, Fresno Bee and other papers, Friday, August 5, 2005, 6:10 PM)**

WASHINGTON (AP) - An effort by environmental groups to block the Bush administration from implementing regulations on mercury pollution power plants was rejected by a federal appeals court.

Without comment, Judges David Sentelle and Janice Rogers Brown of the U.S. Court of Appeals for the District of Columbia denied a motion to halt immediately the regulations adopted in March by the Environmental Protection Agency.

The rules set a nationwide cap on mercury emissions from about 600 coal-burning power plants and puts a ceiling on allowable pollution for each state beginning in 2010. Individual plants, however, can avoid cleanups by buying pollution allowances from plants well under allowable limits.

Environmental and health advocacy groups plus 14 states have asked the appeals court to order EPA to rewrite the regulations to require that all plants install within the next three years the best available technology for cutting mercury pollution. In the meantime they asked the judges to set aside the regulations until the case can be heard.

Sentelle and Brown refused to do that in an order filed late Thursday.

"The court's denial in no way diminishes the strength of our appeal," said Peter Aseltine, a spokesman for the New Jersey attorney general's office. "We do expect to prevail on the merits."

Other states challenging EPA's rules are California, Connecticut, Delaware, Illinois, Maine, Massachusetts, Minnesota, New Hampshire, New Mexico, New York, Pennsylvania, Vermont and Wisconsin.

Advocacy groups Environmental Defense, National Wildlife Federation and the Sierra Club say EPA's regulations, written with the help of industry lobbyists, should force power plants to install technology to capture mercury emissions.

EPA officials maintain that the agency's approach will reduce mercury pollution from power plants in half by 2020, from 48 tons a year now to 24.3 tons, and eventually by 70 percent.

"Obviously, it's a big win for us and means we can proceed with our rule," said Jeff Holmstead, EPA's assistant administrator for air and radiation. "It's the first time any country has regulated mercury emissions from power plants."

EPA estimates 300,000 babies born each year may have more risk of learning disabilities because of mercury concentrations in the blood of their mothers from eating fish from all over the world.

"There's virtually no relationship between the number of children born with potentially elevated levels of mercury and U.S. power plants," Holmstead said. "It's only a very, very small number of people who are affected by local mercury depositions."

## Hot, Humid Summer Days Tough on Asthmatics

**By CANDICE CHOI, Associated Press Writer**
**S.F. Chronicle, Sunday, August 7, 2005**

Albany, N.Y. -- On soupy summer days when others are trekking to the beach, Paul Hartman makes it a point to stay indoors for the sake of his health. Hartman, a 34-year-old Albany resident, is among the legions of asthmatics avoiding the outdoors this summer as temperatures reach record levels in cities across the country.

"This summer's been particularly bad," said Hartman, whose asthma flares up when the weather is hot and muggy. "It almost feels like a cat is sitting on my chest."

The problem isn't just the heat, but the ozone levels produced by sweltering temperatures.

After seeing a decreasing trend in the past few years, the number of ozone advisory days in New York this year has spiked largely as a result of the weather, according to the state's Department of Environmental Conservation.

The agency last year issued 10 ozone advisories in one or more region of the state; as of Friday, there have already been 16 advisories for ozone levels throughout the state this year.

At the end of last month, the Northeast Regional Climate Center at Cornell University reported the hottest June-July in several upstate New York cities since it started tracking data half a century ago.

In New York, the ozone season lasts until mid-September.

Ground-level ozone - not to be confused with ozone in the upper atmosphere - is formed when emissions from vehicles and gasoline vapors mix under hot conditions. The DEC issues health advisories for people to stay indoors or restrict outdoor activities like exercise on days when levels are likely to exceed federal standards.

Wheezing, congestion, chest pain and itchy, burning eyes are the typical symptoms asthmatics suffer on such days. Studies have shown that high ozone levels can impair the lung function of even healthy adults.

"During hot and humid days, we see a lot of people coming to our offices complaining of chest tightness and wheezing," said M. Asghar Pasha, a physician with Albany Medical Center's division of allergy, asthma and immunology.

Winter usually brings on the most acute cases and hospital visits, as asthmatics suffer from the cold air and viruses, Pasha said.

On days when an advisory is posted, asthmatics risk an attack simply by walking outside, said Peter Iwanowicz, spokesman for the American Lung Association of New York State.

That means the state needs to move to reduce emissions that cause ozone, he said.

The EPA last year found that nearly nine out 10 New Yorkers live in areas that fail to meet the clean air standards for smog-causing ozone. The metropolitan regions of New York City, Buffalo, Rochester and Albany were among the areas listed nationwide that must develop new pollution controls to meet air quality standards.

New York state has until June 2007 to come up with a plan to reduce emissions from the major contributors to smog - notably motor vehicles, dirty power plants and diesel engines.

After being under strict emission controls for nearly 15 years, New York City is now experiencing fewer bad air days than many counties in upstate New York, Iwanowicz said.

Upstate New York is also more susceptible to pollution that drifts downwind from Midwest power plants, Iwanowicz said.

## Farmers urged to look toward the future

**Sustainability called key to food supply**
**DANA NICHOLS - Record Staff Writer**
**Stockton Record, Sunday, Aug 7, 2005**

Babylon is dust.

Broken mud walls and barren hardpan are all that remain where the Anasazi once farmed below mountains covered in cool pine forests.

Jungle swallows the empty palaces and pyramids of the Mayans.

All three civilizations -- in the ancient Near East, New Mexico and the Yucatan, respectively, -- vanished when they could no longer produce enough food. The University of California wants to make sure it doesn't happen here.

The university's Division of Agriculture and Natural Resources this summer announced that "sustainability" will be its guiding philosophy.

That means that both research scientists and the advisers who work with farmers through the University of California Agricultural Extension will make it a priority to maintain the state's ability to produce food now and forever.

To do that, the university will have to win the hearts and minds of California's farmers, many of whom associate sustainable agriculture with environmental regulation and efforts to ban pesticide use.

"Before, my knowledge of sustainable agriculture was a little negative "" as in, how do we get along without crop protection materials?" said Rick Veldstra, a hay and nut grower near Escalon. "In some ways, we can never get away from it. If the goal is to minimize its use, yes. We all do that because it is expensive."

Veldstra said that he'd welcome the sustainability effort if it addresses the squeeze on profits that threatens farms here.

"Everything else is secondary. If you don't have a profit, you will be out of business very shortly. If you have a profit, you have excess funds to address the environmental side, the water side, all the other regulatory problems."

California farm productivity is threatened by a huge array of problems, including simple soil erosion, depleted groundwater tables, salty irrigation water, air pollution, rising fuel costs, overseas competition and loss of farmland to housing and other development.

"Our plan is to maintain the long-term base of agriculture in California," said Rick Standiford, the university's associate vice president for Agriculture and Natural Resources.

"We just have to make sure that the economic, social and environmental aspects are addressed so we don't fall into the perils that previous economies have had."

Some farmers welcome the university's new philosophy, and many growers in the region have for years experimented with sustainable methods such as reducing how often fields are tilled by heavy tractors.

Others are uneasy that sustainability is really a pro-environment agenda that fails to acknowledge the financial and regulatory pressures squeezing farms.

"It is more than paving over, it is more than losing the soil," San Joaquin Farm Bureau President Mike Robinson said of the threats to farms here. "It is more economics."

Yet, sustainable practices are actually a way around some environmental and political problems such as the collision course between conventional farming and water pollution laws, some farmers and researchers say.

Researchers studying runoff from a tomato field between Davis and Woodland, for example, are finding that planting a winter cover crop improves the field's ability to hold water and reduces water pollution in both winter and the following summer.

"The pollutant load is really different," said Aaron Ristow, a University of California, Davis, graduate student studying the nitrogen, sediment and other pollutants in the runoff.

Mick Canevari, director of the UC cooperative extension office for San Joaquin County, said farmers are hard pressed now by a barrage of new rules restricting air pollutants such as dust or the amount of pesticides allowed to run off fields into rivers.

Rather than focusing on such problems individually, the sustainability approach looks at farms as complex systems and seeks to improve the health of those systems, Canevari said.

"You can't just say here's the 10 sustainability points you need to use for every farming operation," Canevari said.

Conservation tillage is a practice by which farmers reduce the number of times that tractors and other heavy equipment cross fields and disturb the soil. But the practice is complex and could require changes in everything from irrigation and cover cropping to the kind of tools attached to tractors.

"Our highest yield that we have ever produced was a no-till field, but it took us three years to figure out how to make the system work," said Topper van Loben Sels, who farms 3,000 acres of grapes, pears, corn, wheat, tomatoes and safflower near Walnut Grove.

Van Loben Sels said leaving stubble in no-till fields during the winter reduced water pollution running off his fields and created habitat for ducks, geese and sandhill cranes. Eliminating tilling also eliminated dust pollution, he said.

He thinks production is improving, because soil in the no-till fields is not repeatedly compacted by heavy equipment. That, in turn, allows more oxygen to get to plant roots.

And van Loben Sels said he saves money on diesel fuel, labor and equipment when he reduces or eliminates tilling.

He said he believes more farmers will begin experimenting with sustainable methods once they see the benefits.

"We want a system that increases production over time, rather than decreases it," van Loben Sels said. "It is a matter of education for a lot of people. Some of us know it works because we've done it.

"What we are trying to do is to lower our input costs and increase our production per acre. That is what is going to allow us to survive."

Canevari said he already has started planning for a field education day Oct. 13 on how farmers can plow their land less but still keep it productive.

He hopes to recruit an adviser soon to focus on serving farmers in the Delta, where peat soil subsidence threatens the area's long term viability for farming.

Standiford said he believes his agency's push to make sure California can sustain its food production will weather the suspicions of those who see a political agenda.

"We've been involved in lots of controversial topics. Our goal is to be a third party that is based on science" Standiford said. "We will certainly inform all sides, whether it is agricultural, political or environmental, involved in the process."

## RV emissions violations draw $345,000 fine

**Bee Metro Staff**
**Sacramento Bee, Saturday, Aug. 6, 2005**

SACRAMENTO - A recreational vehicle dealership with a Davis outlet and an RV manufacturer have agreed to pay $345,000 for selling motor homes to California residents that did not meet the state's emissions standards, the California Air Resources board said Friday.

The manufacturer, Forest River Inc. of Indiana, paid $333,000, and the dealership, La Mesa RV of San Diego, paid $12,000 as settlements for their violations, the air board said in a news release.

Forest River Inc. sold or assisted in the sale of 40 motor homes in California that were not certified as meeting the state's emission rules, the release states.

La Mesa RV sold or assisted in the sale of three new motor homes that were not California-certified, the release says.

"We hope this settlement sends a clear message to other businesses that we take this issue seriously," said ARB Executive Officer Catherine Witherspoon.

## Hybrids speed toward carpool lanes

**California ponders eligibility change**
**BY TIM MOLLOY - ASSOCIATED PRESS**
**in the Modesto Bee, Friday, August 5, 2005**

LOS ANGELES -- Hybrid car owners are fast approaching the day when they will be allowed to drive solo in California's carpool lanes.

State lawmakers passed a bill last year that gave some types of the high-mileage, low-emission vehicles access to the coveted lanes -- a privilege meant to encourage drivers to buy the environmentally friendly cars.

California's law was supposed to take effect Jan. 1 but first needed approval from the federal government. That permission was tucked into a $286-billion transportation bill Congress passed last week, meaning there is just one last strand of red tape keeping hybrids out of the high-occupancy vehicle lanes: State air regulators need to clarify which vehicles meet the mileage and emissions standards.

The policy's supporters hope hybrids will be allowed in the carpool lanes by year's end.

"Knowing that you're able to drive in that carpool lane would be huge, and I think it would attract others to say, 'Hey, I should have a car like this as well,' " said Andrew Werts, a 31-year-old marketing director from Redondo Beach who recently sold his SUV and bought a Toyota Prius.

Only two other models -- Honda Motor Co.'s hybrid Civic and Insight -- meet the eligibility standards of at least 45 miles per gallon and almost no smog-causing emissions, according to an aide to the author of California's bill, Assemblywoman Fran Pavley, a Democrat.

California Air Resources Board attorneys are reviewing the bills to determine officially what vehicles would qualify, said spokeswoman Gennet Paauwe.

Hybrids get better mileage by supplementing gasoline with electricity harnessed from the engine during braking and coasting, but some are more efficient than others.

California will become the second state to allow hybrids with just one person in the car to use carpool lanes. Virginia enacted the change in 2000, and Arizona, Connecticut, Georgia and Minnesota are considering it.

In Virginia, some drivers complain that opening the door to hybrids has led to a crush of cars and slowed once-speedy commutes.

The American Lung Association of California advocates hybrids but took no stand on the carpool bill for fear it might cut car pooling and lead to more pollution.

To prevent hybrids from clogging carpool lanes, Pavley's bill expires in 2007 and caps at 75,000 the number of hybrid vehicles that could participate. Owners would have to pay about $8 for decals identifying their vehicles as hybrids to police.

As of the end of June, there were 57,164 hybrids registered in California, though not all would be car pool-eligible, according to the Department of Motor Vehicles.

In a sign of the vehicles' growing popularity, nearly 24,000 hybrids were registered in the first six months of this year.

## Trading up to cars that pollute less

**An innovative idea would let drivers swap smog-belching cars for donated ones that run more cleanlyBy Jennifer M. Fitzenberger -- Bee Capitol Bureau**
**Sacramento Bee, Friday, Aug. 5, 2005**

About 10 percent of cars in California pump out about half of all smog-forming emissions from vehicles, experts estimate.

For air quality to improve, California must make a bigger effort to get those high-polluting vehicles off the road, said Assemblyman David Cogdill, R-Modesto.

His idea: Provide incentives for people to donate lower-polluting cars to the state. The state, in turn, would give those cars to owners who agree to give up their high-polluting cars.

The concept has received early support from air officials, although details still need to be worked out.

"It's a very innovative idea," said Tom Jordan, special projects administrator with the San Joaquin Valley Air Pollution Control District.

"As with all innovative ideas, making it a reality is the challenge."

Cogdill envisions a pilot program that would operate alongside the state Consumer Assistance Program, which gives drivers two options if their cars fail a smog check. If the car can be fixed, drivers who meet certain criteria are eligible to receive up to $500 from the state for repairs - or the state will give a driver $1,000 to turn in the car. Under the latter option, the car either gets dismantled or crushed, never to pollute the air again.

Since the Consumer Assistance Program began in July 2000, more than 35,000 high-polluting vehicles have been scrapped. Owners of more than 124,000 vehicles have received state money to fix their cars. On average, those people received about $325 each.

Most cars that qualify for the program are old and have high mileage. The average model year for scrapped cars is 1988. For cars that were repaired, the average model year is 1987.

Cars built before 1976 don't have to be checked for smog-making emissions.

Cogdill doesn't think existing programs are taking enough high polluters off the road. Policymakers focusing on emissions from sources such as farms and dairies should pay more attention to pollution-belching cars, he said.

"One of the main reasons they haven't gone after the gross polluter is because of the social issue," Cogdill said. "Are you going to take these people's cars away from them? Then what are they going to do?"

Cogdill's program would match donated cars with drivers of high-polluting cars who need transportation but can't afford to buy another car.

Cogdill said $1,000 doesn't go far toward purchasing a replacement car. High-polluting cars would be replaced with lower-polluting cars of a similar model.

"If I've got a four-door car that will seat six, then that's what we need to find to swap them into," he said. "They're not new cars, and they're not going to last forever, but at least it's better than what they're driving, and it allows us to get the gross polluter off the road."

Under the program, the state would offer owners financial incentive, possibly a tax break, to donate their lower-polluting cars. Rental-car companies and other businesses with multiple cars often use those cars only a few years before trading them in, and those cars could be a potential source of lower-polluting vehicles for the exchange program.

Cogdill doesn't want the program to cost taxpayers more money. He said the state could tap funds in the Carl Moyer Program or other places.

The program provides incentives for farmers to get rid of high-polluting diesel engines.

"It's my goal at this point not to make this an additional fee or a tax increase, but to make it a win-win situation for both those who donate cars and those who receive them," he said.

Rosemary Shahan, president of Consumers for Auto Reliability and Safety, likes the idea but worries about the safety of donated cars. She would like to see a safeguard barring cars that had been in crashes and not properly repaired from distribution.

She also is concerned about the effect on the state's treasury: "Given California's fiscal situation, you'd have to think about balancing getting people out of those cars vs. what it would cost the state to give people or a company a tax break."

Jordan of the Air Pollution Control District said California's air would benefit, but the degree would depend on how many people participate in the program. Air quality will not improve, Jordan said, if people try to take advantage of the car-exchange program by turning in high-polluting cars that are driven infrequently.

Cogdill is wary of scammers who might try to turn in a gross-polluting car from another state or sell a cleaner-emitting car for a profit.

"It will take a number of months to get those questions answered," he said.

He met Wednesday with representatives from several industries to discuss and refine his idea.

Cogdill plans to work on his legislation, Assembly Bill 184, the rest of this year before presenting it to a legislative policy committee.

Fresno Bee commentary
**Saturday, August 6, 2005**

# How cows affect Valley air quality

**David Lighthall / Research director for the Relational Culture Institute in Fresno**

As part of its mission to protect air quality and thereby reduce the childhood asthma rate in Fresno County (the highest in the state), the San Joaquin Valley Air Pollution Control District has made some tough choices about how the dairy industry must reduce ozone-forming volatile organic compounds or VOCs.

While the industry is complaining loudly, the district has adopted an emissions factor of 19.3 pounds of volatile organic compounds per cow, per year.

As a scientist who has been researching agro-environmental issues for the past 18 years, I believe there are several critical points that the public needs to hear, evaluate, and act upon:

First, the history of environmental regulation shows us that the environmental hazards from new technologies are usually underestimated at first and grow over time as the science of hazard assessment tries to catch up with the market forces that drive the adoption of the technology. The examples are numerous and include nuclear power, leaded gas, automobiles, X-rays, pesticides and fossil fuels.

There is substantial and mounting evidence that megadairies of 1,000 cows or more represent a classic example of this tendency due to:

The magnitude of concentrated waste.

The hundreds of gases released from cows and cow waste.

The multiple places where those emissions arise.

The numerous ways those pollutants can harm human health.

In addition, waste lagoons and field application of manure are well-documented sources of groundwater contamination.

Second, dairies are the largest and most rapidly growing source of ozone-forming VOCs and ammonia in the Valley. As of the 2004 USDA data, the Valley had more than 1.2 million milking cows - a 60% increase from 1992. Each milking cow produces about 140 pounds of liquid and solid waste a day totaling 168 million pounds of waste each day. The total waste of the cows exceeds the total waste from the entire human population of California.

Equally important, each large megadairy must dispose of more than 140,000 pounds of waste a day (25,500 tons a year) in lagoons and surrounding fields, creating numerous threats to the quality of our air, land and groundwater resources.

Third, the research conducted in California on VOCs emissions from dairies is very preliminary and fails to capture the full range of those sources within and around dairies. I was astounded to hear several of the scientists who have conducted this research criticize the district for its reliance on a British study that was published in a respected, peer-reviewed journal.

**Incomplete research**

Yet these same scientists have stated in various public forums that their own research is incomplete and would therefore not survive the test of peer review if submitted to a scientific journal. More to the point, the VOCs emissions factor adopted by the district does not yet include several important sources of these dairy pollutants, including the field application of manure and storage of solid manure. In other words, the 19.3 figure is a conservative estimate that will almost certainly rise as new sources of dairy VOCs are included.

Fourth, the debate about VOCs is just the first chapter in a long process of hazard assessment for megadairies. Megadairies are the major source of ammonia in the Valley, a key contributor to tiny airborne particles (or aerosols) in the PM2.5 category. These aerosols are particularly harmful compounds that are so small they pass through the lungs into the bloodstream, where they weaken heart tissue.

In addition, these facilities create high volumes of dust that contribute to our chronic problem of particulate violations (PM10). Unfortunately, the cumbersome process set forward by the Clean Air Act conducts the hazard assessment of these pollutants in a one-by-one process that makes it difficult for the public to understand the full extent of health threats created by megadairies.

And finally, because the Valley is surrounded on three sides by mountains, decisions about air regulation must take into account the Valley's extremely limited ability to safely absorb and disperse air pollutants. In effect, we have a very limited carrying capacity for air emissions. The clear epidemiological evidence of elevated asthma and heart disease in the Valley are compelling evidence that we currently exceed that carrying capacity. A moratorium on new dairies in the Valley is therefore critical, in addition to granting existing dairies a grace period to adopt more effective (and expensive) waste management systems.

*David Lighthall is the research director for the Relational Culture Institute in Fresno, a nonprofit organization focused on sustainable community development in the Valley.*

S.F. Chronicle commentary, Sunday, August 7, 2005

## Nuclear energy can't solve global warming

**Other remedies 7 times more beneficial**
**by Mark Hertsgaard**

During a public lecture in San Francisco last month, Jared Diamond, the mega-selling author of "Guns, Germs and Steel," became the latest and most prominent environmental intellectual to endorse nuclear power as a necessary response to global warming.

Addressing an overflow crowd at the Cowell Theater about why some societies fail and others don't (the theme of his most recent book, "Collapse"), Diamond three times cited global warming as a threat that could ruin modern civilization. During the question period, he was asked if he agreed with Stewart Brand, whose Long Now Foundation was sponsoring the lecture, that global warming posed such a grave threat that humanity had to embrace nuclear power.

It was a delicate moment, because Brand, the former editor of the Whole Earth Catalogue, was on stage with Diamond.

"I did not know that Stewart Brand said that," Diamond replied. "But yes, to deal with our energy problems we need everything available to us, including nuclear power." Nuclear, he added, should simply be "done carefully, like they do in France, where there have been no accidents."

"I did not expect that answer," Brand said.

Neither, it seemed, did much of the audience. Overwhelmingly white and affluent, they had nodded reverentially at everything Diamond said -- about the self-destructiveness of ancient civilizations that leveled forests (Easter Island) or eroded soils (the Mayans) in pursuit of short-term gain, about the need for America to rethink its "core value" of consumerism if it hopes to survive. They had applauded when Diamond mocked President Bush's see-no-evil approach to environmental protection. Yet here was Diamond urging an expansion of nuclear power, a technology most environmentalists regard as irredeemably evil.

"Deal with it," crowed Brand as the crowd sat in stunned silence. It was smug but useful advice, for this debate is bound to intensify. The Bush administration and much of Congress are pushing hard to revive the nuclear industry, which provides 20 percent of America's electricity but has not had a new reactor order since 1974.

In June, Bush became the first president in 26 years to visit a nuclear power plant, the Calvert Cliffs facility near Washington, D.C., where he endorsed nuclear as an "environmentally friendly" energy source. His administration's 2006 budget increased nuclear power funding by 5 percent, even as it cut overall energy funding.

Congress followed suit in its recent energy bill. Besides giving the nuclear industry $7 billion in research-and-development subsidies and $7.3 billion in tax breaks, the bill contains unlimited taxpayer-backed loan guarantees and insurance protection for new reactors.

Diamond may not agree with Bush about much, but their shared support for nuclear power hints at the other factor that will drive the future debate. As the United States experiences more killer heat waves and out-of season hurricanes like this summer's, more Americans will recognize what the rest of the world has long accepted: Global warming is here, it will get worse, and the costs will be enormous. As we cast about for alternatives to the carbon- based fuels that are cooking our planet, nuclear power seems to be an obvious answer.

As Vice President Dick Cheney observed in 2001 when defending the administration's energy plan, which urged constructing hundreds of new nuclear plants, fission produces no greenhouse gases.

But the truth is that nuclear power is a weakling in combatting global warming. Investing in a nuclear revival would make our global warming predicament worse, not better. The reasons have little to do with nuclear safety, which may be why environmentalists tend to overlook them.

Environmentalists center their critique on safety concerns: Nuclear reactors can suffer meltdowns from malfunctions or terrorist attacks; radioactivity is released in all phases of the nuclear production cycle from uranium mining through fission; the problem of waste disposal still hasn't been solved; civilian nuclear programs can spur weapons proliferation. But absent a Chernobyl-scale disaster, such arguments may not prove to be decisive.

In an atmosphere of desperation over how to keep our TVs, computers and refrigerators humming in a globally warmed world, economic considerations will dominate. This is especially so when dissident greens like Diamond and Brand say nuclear safety is a solvable problem. Diamond is correct that France has generated most of its electricity from nuclear power for decades without a major mishap.

Dissident greens concede there are risks to nuclear power. But those risks, they say, are less than the alternatives. Coal, the world's major electricity source, kills thousands of people a year right now through air pollution and mining accidents. Coal is also the main driver of climate change, which is on track to kill millions of people in the 21st century -- not in the sudden bang of radioactive explosions but the gradual whimper of environmental collapse as soaring

temperatures and rising seas submerge cities, parch farmlands, crash ecosystems and spread disease and chaos worldwide.

Fear of such an apocalypse led the British scientist James Loveluck to become the first prominent environmentalist to endorse nuclear power as a global warming remedy, in 2003. Patrick Moore, a co-founder of Greenpeace (who left the group a decade ago), soon echoed Loveluck's apostasy, as did Hugh Montefiore, a board member of Friends of the Earth, UK. All three were criticized by fellow greens. Likewise in the United States, the movement's major organizations remain adamantly anti-nuclear. But environmentalists on both sides of this argument are overlooking the strongest objection to nuclear power, even as the nuclear industry hopes no one notices it. The objection is rooted in energy economics, hence the oversight.

As energy economist Joseph Romm argued in a blog exchange with Brand, "It is too often the case that experts on the environment think they know a lot about energy, but they don't."

The case against nuclear power as a global warming remedy begins with the fact that nuclear-generated electricity is very expensive. Despite more than $150 billion in federal subsides over the past 60 years (roughly 30 times more than solar, wind and other renewable energy sources have received), nuclear power costs substantially more than electricity made from wind, coal, oil or natural gas. This is mainly due to the cost of borrowing money for the decade or more it usually takes to get a nuclear plant up and running.

Remarkably, this inconvenient fact does not deter industry officials from boasting that nuclear is the cheapest power available. Their trick is to count only the cost of operating the plants, not of constructing them. By that logic, a Rolls-Royce is cheap to drive because the gasoline but not the sticker price matters. The marketplace, however, sees through such blarney. As Amory Lovins, the soft energy guru who directs the Rocky Mountain Institute, a Colorado think tank that advises corporations and governments on energy use, points out, "Nowhere (in the world) do market-driven utilities buy, or private investors finance, new nuclear plants." Only large government intervention keeps the nuclear option alive.

A second strike against nuclear is that it produces only electricity, but electricity amounts to only one third of America's total energy use (and less of the world's). Nuclear power thus addresses only a small fraction of the global warming problem, and has no effect whatsoever on two of the largest sources of carbon emissions: driving vehicles and heating buildings.

The upshot is that nuclear power is seven times less cost-effective at displacing carbon than the cheapest, fastest alternative -- energy efficiency, according to studies by the Rocky Mountain Institute. For example, a nuclear power plant typically costs at least $2 billion. If that $2 billion were instead spent to insulate drafty buildings, purchase hybrid cars or install super-efficient lightbulbs and clothes dryers, it would make unnecessary seven times more carbon consumption than the nuclear power plant would. In short, energy efficiency offers a much bigger bang for the buck. In a world of limited capital, investing in nuclear power would divert money away from better responses to global warming, thus slowing the world's withdrawal from carbon fuels at a time when speed is essential.

Mainstream environmentalists do argue that energy efficiency, solar, wind and other renewable fuels are better weapons against global warming than nuclear is. But they will fare better if they go a step further and point out that embracing nuclear is not just unnecessary but a step backward.

Even so, a tough fight lies ahead. As the energy bill illustrates, the nuclear industry has many friends in high places. And the case for nuclear power will strengthen if its economics improve. The key to lower nuclear costs is to reduce construction times, which could happen if the industry

at last adopts standardized reactors and the Bush or a future administration streamlines the plant approval process.

On a more fundamental level, any defeat of nuclear power is likely to be short-lived if America does not confront what Diamond calls its core value of consumerism. After all, there is only so much waste to wring out of any given economy. Eventually, if human population and appetites keep growing -- and some growth is inevitable, given the ambitions of China and other newly industrializing nations -- new sources of energy must be exploited. At that point, nuclear power and other undesirable alternatives such as shale oil will be waiting. (For the record, that is Brand's rejoinder: future demand growth makes nuclear, as well as efficiency and renewables, necessary. Diamond did not respond to an e-mail request for comment.)

Environmentalists have been afraid to talk honestly about consumerism ever since a cardigan-clad Jimmy Carter was ridiculed for urging people to turn down their thermostats in the 1979 oil crisis. But now that our species, through our carbon-fueled pursuit of the good life, has turned up the planet's thermostat to ominous levels, it's time to break the silence. We don't have to freeze in the dark, but neither can we keep consuming as if there's no tomorrow.

*Mark Hertsgaard's books include "Nuclear Inc." and "Earth Odyssey."*

Fresno Bee editorial, Sunday, August 7, 2005

## Dairy dispute lingers

**New standard, old argument over emissions from Valley's cows.**

For some time scientists, the dairy industry, environmentalists and regulators have been kicking around the question: How much do cows pollute? We now have an answer, but the only thing certain about that answer is that it will change.

The San Joaquin Valley Air Pollution Control District has decided that a typical dairy cow hereabouts annually produces nearly 20 pounds of volatile organic compounds, which are components of the smog that taints Valley skies in summer. They react with other emissions to form ozone in the lower atmosphere, and ozone is known to be closely linked to asthma and other respiratory diseases so prevalent in the Valley

The industry disputes the district's figure, saying it's too high. Many environmentalists believe the figure is unacceptably low. Scientists tell us the data are incomplete. But the district had to come up with a number, and this one will do as well as any, until we know more about the production of these gases and their effect in the atmosphere.

The air district is required under state law to regulate dairies as a source of pollution. Dairies that produce emissions above a certain level are required to obtain permits and take mitigation measures to reduce their pollution. To determine who has to comply with the permit process, it's essential to know how much pollution cows create.

But for years the only data available on the issue came from studies done in the 1930s. That was clearly inadequate, and the dairy industry successfully sued the air district to force new research. That work led to the new and revised estimates.

But the industry, having forced the new research, is now unhappy with its results. So are some environmentalists, who think the district is low-balling the cows' contribution. And not all the votes are in. There is also the question of volatile fatty acids, whose role in the smog stew is much disputed.

So, this is what we know:

The 2.5 million cows in the Valley produce pollution. State law requires that pollution to be regulated. Under the standards now adopted, that means about 500 of the Valley's 1,500 dairy operations will have to get state permits. That may require them to spend more money on mitigation measures.

And we also know the numbers are a moving target, subject to change as more is learned. From all sides we hear the cries for "good science" -- which most often means "science that supports my interests and desires." But what we often need is "more science." These issues are not perfectly understood by any of the parties involved, but the consequences of pollution -- from all its sources -- are very vivid and real. This new rule will help us move a bit closer to having cleaner air, and that's what is important.

**S.F. Chronicle editorial, Sunday, August 7, 2005**

## Where are the smog police?

The verdant San Joaquin Valley lives with a dangerous contradiction: Its fertile fields and orchards grow amid some of the nation's dirtiest air.

The reasons for thick smog in this agricultural Eden are numerous: busy north-south highways, air-trapping geography, the effluent from 2 million dairy cows and fast-growth sprawl. Another key problem is the meek record of the smog police, exemplified by a regional air quality board that refuses to set limits and meet deadlines.

The San Joaquin Valley Air Pollution Control District, as much as any smoking exhaust pipe, bears blame for not curbing emissions and bowing to agriculture, developers and oil-company interests.

The district can't treat all that ails the region. It has no say, for example, over truck and car engines, a major pollution source. But it can crack down on "stationary sources" -- such as oil refineries, which cluster in Kern County, development projects in one of the state's busiest home-building markets and major agricultural activities. Through fees and permits, the board can play a role in clearing the skies.

But time after time, the board has fallen short, refusing to crack down on polluters or extending deadlines. Only lawsuits brought by environmentalists and tough directives from federal regulators made the air board enforce its rules. This foot-dragging has meant that pollution-generating activities, from farms to freeways, have built up to the point where the country's premier ag-land is also routinely listed among the nation's most polluted areas.

Upending this industry-friendly culture won't happen overnight, but an incremental change is before the Legislature that would be a useful step.

The measure, SB999 by state Sen. Mike Machado, a San Joaquin County Democrat, proposes a moderate change in the air board's make-up. The bill has already passed the Senate and is due to be voted on in the Assembly later this month. Valley residents -- and the rest of the state -- should expect Assembly members to vote on the bill -- and not duck a decision by "walking" off the Capitol floor when the time comes.

In keeping with its intent, the bill, Machado said, "will get some sunlight" into the rule-making process. It would add a medical doctor and scientist, both with experience in air pollution, to the air board. It would also ensure that the valley's three biggest cities -- Stockton, Fresno and

Bakersfield -- have permanent seats. At present, the 11-member board is dominated by county supervisors from eight counties, a mix that hasn't produced leadership to match the valley's problems.

On paper, SB999 is a mild, even wonkish, response to a severe health crisis. One in 6 children in some parts of the 240-mile-long valley has asthma. School sports contests are canceled if the pollution reaches unsafe levels --

and it regularly does.

These shameful numbers have jump-started a political revolution in the region. In 2003, a milestone package of bills was passed that, along with other inducements to cut emissions, removed farming's exemption from smog controls. Washington had threatened to withhold freeway construction money unless the changes were made.

This month the board has landed in a fresh controversy: Are cows bad for the environment? Outside the San Joaquin Valley, the dispute generated "got smog?" jokes, but in the dairy-dotted region, it's no laughing matter.

The air board issued a report saying that the region's 2 million-plus cows are the top source of ozone-producing gas, eclipsing cars and trucks. Put simply, cow tail-pipe emissions are a source of ammonia and methane that combine with other ozone-producing chemicals to clog up the skies. Hills of manure and polluted runoff ponds add to the problem, especially at ever-bigger factory farms with thousands of cows.

The air board is weighing permits that would impose pollution controls on up to a third of the 1,500 valley dairies. But milk-and-cheese producers have fired back, ridiculing the findings and offering studies that show a far smaller impact.

The dispute underlines the agency's power. But why did it take so long to study a problem that has been growing for years? And will the current panel follow through with controls and permits that reduce pollution?

The present air board has a record of delay and denial that must change. Often, there's little debate or discussion. The valley's Latino population, 40 percent of the total, has little representation but, due to a higher poverty rate, disproportionately suffers the health problems that come with dirty air.

Last year, on the eve of legislative elections, a similar plan to add new members to the air board died when business made clear its opposition.

This time, the odds may favor the bill. Business groups have reheated arguments that the measure undercuts a locally run body and allows unelected outsiders, such as the appointed doctor and scientist, to make important decisions.

But it's hard to fathom defending a system that has performed so poorly. It's time to broaden the voices and the debate over cleaning the valley's air.

**Pollution central**

The San Joaquin Valley rivals Los Angeles for a dubious distinction: the nation's dirtiest air. Valley residents are particularly vulnerable to the effects of air pollution because more residents are poor, afflicted with asthma and lack health insurance than in the state as a whole.

The Legislature should broaden the representation on the air pollution control board to include members representing community and public health concerns.

Bakersfield Californian, Letter to the Editor, Monday, Aug. 8, 2005

## No more studies, please

I had a good belly laugh. Will the madness never end? Will the studies ever cease. Now, we are being led to believe that cows are causing global warming.

Perhaps we could install catalytical converters. Then we could study the effects of the population explosion in Calilfornia. What about all the pollution created by all the people? Ooops! I may have just given scientists another idea.

**-- DAREN ENGSTRAN, McFarland**

Stockton Record, Letter to the Editor, Monday, Aug. 8, 2005

## Air regulators are milking a smelly theory

Now the air regulators say dairies are the No. 1 source of smog-producing pollution in the San Joaquin Valley.

This can be remedied in a sniff.

Create smog stations for cows. Farmers can take their cows to Bessie's Smog Station. Maybe the ladies can be milked at the same time, saving time and energy.

The bureaucracy of it all blows in the wind, and you'd better not be standing downhill.

Ann Christiansen
Stockton

Sacramento Bee, Opinion Column, Sunday, Aug. 7, 2005

## Think globally and go for the green, governor

**By Mark Baldassare -- Special To The Bee**

This has been a year in which partisan divisions and legislative gridlock have made a strong comeback in Sacramento, and the public is clearly unhappy about it. Gov. Arnold Schwarzenegger's approval ratings came in at an all-time low of 34 percent in the most recent PPIC survey - sharply down from a high point of 65 percent approval a year ago. The Democratic-controlled legislature is faring even worse - with approval ratings at 26 percent in our last poll on their job performance.

Only three in 10 state residents say that they can generally trust their state government to do what is right, and the majority of Californians think the state is headed in the wrong direction. Time and again, residents tell us in polls that they believe that voters should make choices at the ballot box, rather than leave important decisions to the governor and Legislature.

Is there any issue that Californians trust their state's elected officials to handle today? Surprisingly, most want their state government, quite apart from the federal government, to set its own policies when it comes to global warming.

Almost nine in 10 Californians have concluded that global warming will affect current and future generations, and nearly six in 10 believe the effects of climate change have already begun. Most residents consider human activities - such as burning fossil fuels for energy - to be the culprit in reports of rising global temperatures.

In addition, global warming is no longer viewed as a distant phenomenon of glaciers melting at the polar caps. Three in four Californians think that global warming will pose a serious threat to their state's economy and quality of life. Solid majorities are concerned that this global warming could lead to further problems such as increased air pollution, more severe droughts, increased coastal erosion and increased flooding. In sum, the public expects global warming to touch them personally, and they want the state government to assume an active response on this issue.

Yet, this raises an interesting question: How could state officials who are perceived as incapable of balancing a budget be given the complex task of finding a way to save the planet from rising temperatures? For such a complicated and far-reaching problem, one would expect the public to turn to the federal government.

But Californians have little faith in the federal government when it comes to environmental protection. Our polls show that residents are more likely to believe the state government, rather than the federal government, when it comes to providing accurate information about environmental conditions such as global warming. And while many Californians express a lack of confidence in state government, they are even less trusting of the federal government when it comes to protecting environmental quality.

This public desire for state action on global warming also has a political dimension. In this "blue" state with its Democratic leanings, solid majorities of Californians consistently say they disapprove of the Bush administration and its specific environmental actions. As for energy policy, the disconnect between the president's policies and residents' preferences is just as strong. Most oppose the federal government's plans to expand the domestic oil supply by drilling in environmentally sensitive areas. Instead, Californians want to see energy policies that increase auto fuel efficiency and encourage the development of non-fossil fuel energy sources, which will help reduce the greenhouse gas emissions that have been linked to global warming.

In spite of all the partisan bickering in Sacramento, the governor and Legislature have produced a unique package of state laws that address global warming, and the public seems to support these efforts. In fact, when it comes to solutions on global warming, California has bucked its usual trend in policymaking, favoring the legislative process of lawmaking over direct democracy through the citizens' initiative process.

Three in four residents support the state law, championed by Democratic legislators, that requires automakers to further reduce the emissions of greenhouse gases in new automobiles. Seven in 10 also favor the governor's proposal to reduce greenhouse gas emissions by industry, power plants, and cars by more than 80 percent over the next 50 years. As for the state's energy policies, there is also solid support for efforts that would help to reduce greenhouse gas emissions. Three in four residents want state policies that promote the use of more solar energy

in California's homes and businesses, and most favor a plan to have California lead the nation in hydrogen fuel cell technology by building a "hydrogen highway" with hydrogen fueling stations by 2010.

For Schwarzenegger, there do not seem to be any immediate political gains for taking steps to reduce global warming. He continues to be mired in low job approval ratings, and the general public is not giving him much credit for his serious efforts to address global warming. Yet, the governor's actions today could improve his chances for reelection in 2006. For instance, he would be able to point to a "green" environmental record as evidence of his independence from the policies of the Bush administration. His Democratic opponents would not be able to portray him as a Republican who is out of touch with public concerns about global warming. This would increase his reach to the two in three voters outside of his GOP base. In addition, if Schwarzenegger can continue to deliver on environmental issues, he may be able to reestablish his credentials as a governor who bridges the state's partisan divide.

To do so will require a willingness to forgive and forget on the part of the governor and the Legislature. They need to find a way to work together for a better future, even at a time when they are fighting in the here-and-now over a special election.

Can a GOP governor and Democratic Legislature rise above politics and still find common ground? That is what the voters expect, given their concerns about climate change.

The public's call for state action on global warming is an opportunity for state officials to show that representative government can be responsive and effective. And in a state where voters are longing for bipartisan agreement, and at a time when political backbiting at all levels of government is commonplace, the governor and legislators can point with pride to their accomplishments in addressing the issue of climate change. California can demonstrate to the rest of the nation, through the issue of global warming, that our representative system of democracy can still address today's complex issues.

Sacramento Bee, Editorial, Sunday, Aug. 7, 2005

## Editorial: Central Valley takes aim at a moo-ving target

**San Joaquin air board's figures may be wrong, but pollution from cows is real**

Wits its belches, flatulence and odoriferous manure, a typical dairy cow in the Central Valley emits 19.3 pounds of the smog-producing gases known as volatile organic compounds every year. So says the San Joaquin Valley Air Pollution Control District.

This is not merely a factoid to be squireled away for a gross-out trivia contest. This "emission factor," as the air quality experts call it, heralds a new era of regulating the dairy industry just as other polluting sectors of the economy are regulated. But one thing is nearly for certain. That 19.3-pounds-of-gas-per-cow-per-year number, one way or the other, is wrong.

State law has required the air districts to regulate the air pollution of the dairy industry. In the San Joaquin Valley, with some of the most polluted air in the country, no polluter deserves a pass. Dairy cows, it turns out, may or may not be a larger source of smog-producing gases than cars, depending on which expert you believe. But without question, dairies are a pollution source that should be regulated in an appropriate manner. That is easier said than done.

Although a dairy cow doesn't move as fast as a valley jack rabbit, the animal is proving devilishly difficult to follow in terms of its emissions. Research conducted inside a "bovine bubble" at the

University of California, Davis, for example, attempted to calculate the gases passed during the feeding cycle. Researcher Frank Mitloehner surprisingly found more gas coming from the mouth, via burps, than the other end, via flatulence or manure. Other research on the dairies, meanwhile, has attempted to track the gases wafting from lagoons used to store waste.

In this stew of stink, there is clearly some carbonyl, methanol, ethylamine and other volatile compounds. All these gases can react with other emissions in the atmosphere and create the pollutant that regulators are trying to limit - ozone.

What's clear as dairy mud, however, is what's going on with some other ingredients in this stew known as volatile fatty acids, or VFA's.

One VFA study says that cows emit just half a pound of these VFAs a year. Another says 17 pounds. The district's conclusion? Exactly 15.5 pounds.

That's a lot of gas. But is this particular gas a nasty pollutant? Mitloehner and others point out that VFAs have comparatively low reactivity in terms of producing smog. Translation: They may not be a prime target for regulation.

The air district seems to disagree, but then it wasn't in position for a protracted debate. It was under a deadline to come up with a cow pollution calculation. The deadline is met. And now comes the long process of second-guessing what is inevitably a wrong number.

Most people can claim no inside knowledge as to how much of any particular gas a cow produces. However, everyone who lives the Central Valley has a keen, vested interest in the quality of the air and in the valley's future. Regardless of the industry, it is vital to get the regulations right. The air district's effort to regulate the pollution produced by dairies is a good start, but it surely is not the last word on this subject.

Modesto Bee, Editorial, Saturday, Aug. 6, 2005

## Here's one way to spare the air by driving a car

Politicians in Washington, D.C., appeared to be doing something about air pollution last week. They passed an energy bill that had incentives for hybrid vehicles - including, in the fine print, some for hybrids that got only 15 mpg. Guess they missed the point.

The same bill excluded any mention of fuel-efficiency standards. Meanwhile, we continue to breathe air fouled by millions of vehicles using too much gas to get where they are going.

While politicians appear to be working on the problem, Michael Parker is getting something done. Like the rest of us, Parker can see the problem - air so hazy it looks like soup.

Working through the Turlock Adult School, Parker and five others on Friday completed a 10-day course to build a zero-emissions vehicle. Not just any vehicle, but a snappy, red convertible Volkswagen Cabriolet. It was refitted with an electric motor attached to 16 batteries that allows it to cruise at 70 mph for up to 350 miles.

When Parker returned to California in 1992, after 25 years out of state, he could barely see through the haze. He soon realized "the problem was me." More specifically, his car. He's been dedicated to working on electric cars ever since. Others are beginning to share his passion.

His class attracted auto-shop teachers from Castro Valley, Pitman High and San Diego. It also attracted two students who hope their experience will pay off with jobs working on cars with electric or hybrid motors. They converted the Volkswagen by using a $9,000 kit from a company called Electro Automotive.

Parker hopes the teachers will go back to their schools dedicated to converting more cars.

He'd also like some help building his next zero-emissions vehicle - a buyer would be nice. Parker envisions auctioning off the next car for enough to cover the cost of yet another. One zero-emission car at a time, he figures he can help the air.

Modesto Bee, Editorial (Short takes), Saturday, Aug. 6, 2005

The San Joaquin Valley Unified Air Pollution Control District needs people to sit on its three regional hearing boards. The boards meet monthly to decide on variance requests, permit applications, appeals and abatement orders. Some board seats are reserved for those with specific expertise - attorneys, medical professionals, engineers, etc. Others are open to anyone. It's an important board whose members can help clear up one of the valley's most vexing problems. Call 559-230-6038 by Friday.

Modesto Bee, Letter to the Editor, Saturday, Aug. 6, 2005

## Wider I-205 would hurt valley

Despite the cheerleading being published by The Bee and I-205's supporters ("Spreading I-205: Planners want 6 lanes by 2008," July 29, Page A-1), widening this roadway will diminish, not improve, our quality of life. Over the past 20 years, I've watched this same story repeat itself countless times -- improved traffic flow with the Bay Area leads to additional urban sprawl, which in turn destroys the rural quality of life we enjoy and simply re-congests the "improved" roadway.

Growth in Stanislaus County didn't explode until after the 120 Bypass connecting Highway 99 to I-5 was expanded in '95.

Growth in Turlock and areas south didn't accelerate until 99 was widened to six lanes in the late '90s. Since it was widened in 1999, 205 has accelerated our growth by making the region more accessible to the Bay Area.

I feel sorry for the people stuck in traffic for hours on end every day, but that's the lifestyle they chose when they began commuting. I simply cannot support adding more cars, more houses, more crime and more pollution to our valley simply because they want to trim 30 minutes off their commute times.

BRIAN HILL

Modesto

Modesto Bee, Letter to the Editor, Friday, Aug. 5, 2005

## Cow Pollution qestion going to far

I can't believe the cow-gas pollution problem has gone as far it has. Obviously, someone has too much time on their hands. Cows were here long before cars were, and there was never this kind of pollution before. It's this kind of thing that makes California the laughingstock of the nation.

Here's a prediction: California will find a way to collect fees on this by strapping a catalytic converter to each cow's butt and smog-checking them.

RANDY DEAN

Empire