

In The News 04-18-07

Warning is sounded on ethanol use

The fuel would create more ground-level ozone than gasoline if used heavily, a study finds. Critics disagree on the overall risk.

By Janet Wilson, Times Staff Writer
L.A. Times, Wednesday, April 18, 2007

Ethanol, widely touted as a greenhouse-gas-cutting fuel, would have serious health effects if heavily used in cars, producing more ground-level ozone than gasoline, particularly in the Los Angeles Basin, according to a Stanford University study out today.

"Ethanol is being promoted as a clean and renewable fuel that will reduce global warming and air pollution," said Mark Z. Jacobson, an associate professor of civil and environmental engineering and author of the study in the online edition of Environmental Science and Technology. "But our results show that a high blend of ethanol poses an equal or greater risk to public health than gasoline, which already causes significant health damage."

Ozone is a key ingredient in smog, and when inhaled even at low levels it can harm lungs, aggravate asthma and impair immune systems.

The health effects from ethanol use are the same whether it is made from corn or other plant products, Jacobson found.

The study determined that a 9% increase in ozone-related deaths would occur in Greater Los Angeles, and a 4% increase nationally, by 2020 if a form of ethanol called E85, were used instead of gasoline. In the Southeast, by contrast, mortality rates would decrease slightly.

The type of fuel used in the study - 85% ethanol, 15% gasoline - emits less greenhouse gases than other types, some researchers say.

"Today, there is a lot of investment in ethanol," Jacobson said. "The question is, if we're not getting any health benefits, then why continue to promote ethanol?"

He used a computer model to simulate air quality in 2020 - when ethanol-fueled vehicles are expected to be widely available in the United States - with a focus on Los Angeles. His study is the first to combine emissions data with multiple other variables, including climate, population density and current amounts of air pollution, he said.

"The chemicals that come out of a tailpipe are affected by a variety of factors, including chemical reactions, temperatures, sunlight, clouds, wind and precipitation," he said.

"Overall, health effects depend on exposure to these airborne chemicals, which varies from region to region.... Since Los Angeles has historically been the most polluted airshed in the U.S., the test bed for nearly all U.S. air pollution regulation and home to about 6% of the U.S. population, it is also ideal for a more detailed study," Jacobson wrote.

President Bush has made increased use of ethanol and other alternative fuels a centerpiece of his strategy to increase reliance on domestic fuels while reducing greenhouse gas emissions.

In his State of the Union address in January, Bush called for annual national production of 35 billion gallons of ethanol by 2017, up from 5 billion gallons in 2006 and nearly five times the target set by Congress. The president's deputy press secretary requested a copy of Jacobson's study Tuesday but had no immediate comment.

Kristen Hellmer, a spokeswoman for the White House Council on Environmental Quality, said she had not had a chance to review the study, but reiterated the administration's support for ethanol.

"I think there are pollutants that contribute to ozone which may slightly increase as a result of more ethanol use, which can be managed by tools which we have available under the Clean Air Act," Hellmer said.

Jennifer Wood of the U.S. Environmental Protection Agency echoed those remarks in an e-mail.

"While EPA has not fully reviewed the study, the agency's experience and analysis in developing renewable-fuel standards contradicts the underlying assumptions of the study," she wrote. "The increased use of renewable fuels, like E85, will significantly reduce greenhouse gas, benzene and carbon monoxide emissions while strengthening our nation's energy security and supporting American farming communities."

"The pollutants that contribute to ozone, which may slightly increase as a result of additional ethanol use, can be managed by the suite of effective tools available under the Clean Air Act."

California Air Resources Board spokeswoman Gennet Paauwe said staff researchers are redesigning their own study to examine potential effects of ethanol on air pollution and health.

Jacobson said there are already an estimated 5,000 premature U.S. deaths annually tied to ozone exposure, in spite of Clean Air Act regulations. He said that he had assumed large reductions in emissions by 2020 because of more stringent air regulations, but that even then, there were significant health risks.

Brooke Coleman, director of the Renewable Energy Action Project in San Francisco, said Jacobson was a respected air quality expert but criticized him for saying there would be increased deaths from E85 and smog.

"He is ignoring the fact that E85 greatly reduces emissions that are much more harmful to humans than smog, such as toxics and soot" particulates, Coleman said in an e-mail.

Jacobson replied that "there is no evidence available to indicate that particulate matter will decrease with the use of E85.... The effect of E85 on increasing mortality is firmly grounded in science based on information available today, and not misleading. What is misleading is the claims made to date that ethanol will improve air quality and health."

Thirty states, so far, have public E85 fueling stations. Most are in the Midwest. California has one, in San Diego.

Study warns of health risk from ethanol

Keay Davidson, Chronicle Science Writer
S.F. Chronicle, Wednesday, April 18, 2007

If ethanol ever gains widespread use as a clean alternative fuel to gasoline, people with respiratory illnesses may be in trouble.

A new study out of Stanford says pollution from ethanol could end up creating a worse health hazard than gasoline, especially for people with asthma and other respiratory diseases.

"Ethanol is being promoted as a clean and renewable fuel that will reduce global warming and air pollution," Mark Z. Jacobson, the study's author and an atmospheric scientist at Stanford, said in a statement. "But our results show that a high blend of ethanol poses an equal or greater risk to public health than gasoline, which already causes significant health damage."

The study appears in today's online edition of *Environmental Science & Technology*, a publication of the American Chemical Society. It comes at a time when the Bush administration is pushing plans to boost ethanol production and the nation's automakers are required by 2012 to have half their vehicles run on flex fuel, allowing the use of either gasoline or ethanol.

Jacobson used a computer to model how pollution from ethanol fuel would affect different parts of the country in 2020, when ethanol-burning vehicles are expected to be common on America's roadways.

He found that ethanol-burning cars could boost levels of toxic ozone gas in urban areas, but that Los Angeles residents would be by far the hardest hit because of the city's reliance on the automobile and environmental factors that tend to concentrate smog there.

His study showed that the city would experience a 9 percent increase in the rate of ozone-related respiratory deaths -- 120 more deaths per year -- compared with what would have been projected in 2020 assuming continued gasoline use.

Pollution from ethanol would be riskier than pollution from gasoline because when ethanol breaks down in the atmosphere, it generates considerably more ozone. Ozone is a highly corrosive gas that damages the delicate tissues of the lungs. In fact, it's so corrosive that it can crack rubber and wear away statues, Jacobson told *The Chronicle*.

Jacobson's study focuses on the health effects of an ethanol type called E85, a highly publicized fuel composed of 85 percent ethanol and 15 percent gasoline.

Last month, California Democratic Sen. Diane Feinstein, along with Sens. Susan Collins and Olympia Snowe, both R-Maine, introduced a bill to reduce carbon dioxide emissions from motor vehicles. The bill would "require fuel suppliers to increase the percentage of low-carbon fuels -- biodiesel, E85 ... hydrogen, electricity, and others - in the motor vehicle fuel supply" by 2015, according to a March 30 press release from Feinstein's office.

Reacting to Jacobson's study, Feinstein issued a statement Tuesday.

"We should proceed with caution," she said. "All of these fuels emit certain pollutants, and those pollutants have to be known and evaluated for their health effects. There can be no real rush to judgment about these fuels.

"We've got to find a way to develop low-carbon fuels that do not have adverse health effects."

A spokesman for the state Air Resources Board said officials there were still studying prepublication copies of the Jacobson paper and would have no immediate comment.

"This is the first we've heard of it," said board spokesman Dimitri Stanich. In the meantime, he said, "there are multiple avenues for reducing California's carbon 'footprint,' (with) hydrogen and ethanol being part of that plan. We consider (E85) as part of the strategy."

The study also attracted the attention of environmental scientists.

The basic principles of Jacobson's paper are sound, David Pimentel, an ecology professor emeritus at Cornell University, wrote in an e-mail.

"The burning of ethanol releases large quantities of ozone, a serious air pollutant," he said. "In addition, the use of ethanol as a fuel releases formaldehyde and acetaldehyde, plus benzene and butadiene. All of these are carcinogens and are a threat to public health."

Jacobson's study, however, concluded that the cancer-causing effects of ethanol would be roughly comparable to those of gasoline.

Chris Somerville, a Stanford professor who chairs the executive committee for the recently announced BP-funded Energy Biosciences Institute at UC Berkeley, Lawrence Berkeley National Laboratory and the University of Illinois, said the study was interesting and it "should be followed up with experimental work."

It is "possible that ethanol will not be the major biofuel in 2020," he said. "I see ethanol as a transitional fuel that will eventually be replaced by ... second-generation fuels. I am just uncertain whether it will be done by 2010 or whether it may take longer."

The institute is slated to develop a new generation of carbon-neutral biofuels, including ethanol.

Alex Farrell, a Berkeley professor of energy and resources, was also complimentary of the study.

"It's a good scientific paper that has taken the first look at the air-quality impacts of ethanol in a worst-case scenario," he said. "It is definitely my opinion that ethanol is not the only solution to air pollution."

Jacobson's computer model for Los Angeles is extremely high-resolution, as such models go. It breaks the Los Angeles atmosphere into a three-dimensional grid akin to 100,000 "boxes" stacked more than 10 miles high. Each box measures 3 miles wide and a few hundred feet deep.

He said he isn't surprised that no one previously tried to model the long-term health impacts of ethanol in such detail "because it's very complicated."

"The only reason I was able to do it is because I've been building this model for 18 years now," he said. "You really require a humongous model."

Study: Ethanol May Cause More Smog, Deaths

By SETH BORENSTEIN, AP Science Writer

In the N. Y Times, S.F. Chronicle, Sacramento Bee and other papers, Wednesday, April 18, 2007

WASHINGTON (AP) -- Switching from gasoline to ethanol - touted as a green alternative at the pump - may create dirtier air, causing slightly more smog-related deaths, a new study says.

Nearly 200 more people would die yearly from respiratory problems if all vehicles in the United States ran on a mostly ethanol fuel blend by 2020, the research concludes. Of course, the study author acknowledges that such a quick and monumental shift to plant-based fuels is next to impossible.

Each year, about 4,700 people, according to the study's author, die from respiratory problems from ozone, the unseen component of smog along with small particles. Ethanol would raise ozone levels, particularly in certain regions of the country, including the Northeast and Los Angeles.

"It's not green in terms of air pollution," said study author Mark Jacobson, a Stanford University civil and environmental engineering professor. "If you want to use ethanol, fine, but don't do it based on health grounds. It's no better than gasoline, apparently slightly worse."

His study, based on a computer model, is published in Wednesday's online edition of the peer-reviewed journal Environmental Science and Technology and adds to the messy debate over ethanol.

Farmers, politicians, industry leaders and environmentalists have clashed over just how much ethanol can be produced, how much land it would take to grow the crops to make it, and how much it would cost. They also disagree on the benefits of ethanol in cutting back fuel consumption and in fighting pollution, especially global warming gases.

In January, President Bush announced a push to reduce gas consumption by 20 percent over 10 years by substituting alternative fuels, mainly ethanol. Scientists with the Environmental Protection Agency estimated that could mean about a 1 percent increase in smog.

Jacobson's study troubles some environmentalists, even those who work with him. Roland Hwang of the Natural Resources Defense Council, said that ethanol, which cuts one of the key ingredients of smog and produces fewer greenhouse gases, is an important part of reducing all kinds of air pollution.

Jacobson's conclusion "is a provocative concept that is not workable," said Hwang, an engineer who used to work for California's state pollution control agency. "There's nothing in here that means we should throw away ethanol."

And Matt Hartwig, spokesman for the Renewable Fuels Association, the largest Washington ethanol lobby group, said other research and real-life data show "ethanol is a greener fuel than gasoline."

But Jacobson found that depends on where you live, with ethanol worsening the ozone problem in most urban areas.

Based on computer models of pollution and air flow, Jacobson predicted that the increase in ozone - and diseases it causes - would be worst in areas where smog is already a serious problem: Los Angeles and the Northeast.

Most of those projected 200 deaths would be in Los Angeles, he says, and the only place where ozone would fall is the Southeast because of the unique blend of chemicals in the air and the heavy vegetation.

The science behind why ethanol might increase smog is complicated, but according to Jacobson, part of the explanation is that ethanol produces more hydrocarbons than gasoline. And ozone is the product of hydrocarbons and nitrogen oxide cooking in the sun.

Also, the ethanol produces longer-lasting chemicals that eventually turn into hydrocarbons that can travel farther. "You are really spreading out pollution over a larger area," he said.

And finally, while ethanol produces less nitrogen oxide, that can actually be a negative in some very smoggy places. When an area like Los Angeles reaches a certain high level of nitrogen oxide, that excess chemical begins eating up spare ozone, Jacobson said.

Hwang agreed that that is a "well-known effect."

While praising Jacobson as one of the top atmospheric chemists in the nation, Hwang said he had problems with some of Jacobson's assumptions, such as an entire switch to ethanol by 2020. Also, he said that the ozone difference that Jacobson finds is so small that it may be in the margin of error of calculations.

Jacobson is also ignoring that ethanol - especially the kind made from cellulose, like switchgrass - reduces greenhouse gases, which cause global warming. And global warming will increase smog and smog-related deaths, an international scientific panel just found this month, Hwang said.

EPA proposing limits to lawnmower emissions to stem pollution

By ERICA WERNER, Associated Press Writer
In the S.F. Chronicle, Tuesday, April 17, 2007

WASHINGTON, (AP) -- Those polluting engine-powered mowers that are a staple of suburban lawn care would become much cleaner under emission limits proposed Tuesday.

The regulators' proposal follows a long-running dispute between California Democratic Sen. Dianne Feinstein and Missouri Republican Sen. Kit Bond, who has sought to block the change in order to protect a small-engine maker in his home state, Briggs & Stratton Corp.

Walk-behind and riding mowers and other garden equipment account for up to 10 percent of summertime smog-forming emissions from mobile sources in some parts of the country.

The Environmental Protection Agency's new proposal applies to engines under 25 horsepower, which power nearly all walk-behind and riding lawnmowers as well as small generators and other devices. The rule would cut smog-forming emissions from the engines by 35 percent; the reductions would probably be accomplished by adding catalytic converters that reduce pollution from exhaust.

The rule would take effect in 2011 for riding mowers and 2012 for push mowers and would apply only to new engines.

Adding catalytic converters will make mowers more expensive and some in the industry resisted the change. The California Air Resources Board has estimated that walk-behind mowers will cost 18 percent more under the new regulation, while the price of commercial turf care mowers will go up about 3 percent.

California already has enacted the rule. The nation's most populous state has unique authority under the Clean Air Act to establish its own pollution rules if it's granted a federal waiver. California got the small-engine waiver last December and began regulating walk-behind mowers on Jan. 1 with the restrictions for riding mowers coming Jan. 1, 2008.

Bond had initially sought to block California from instituting its regulation but backed off under pressure from Feinstein. He did succeed in blocking other states from being able to copy California's rule, something the Clean Air Act normally allows. Instead, he required EPA to write the national standard that was proposed Tuesday.

Bond had questioned whether mowers with catalytic converters could spark fires, but an EPA study last year found there was no safety problem.

"As the author of the statutory provision requiring EPA to issue a national rule, I am glad to see this day," Bond said in a statement. "Contrary to California's ready, fire, aim approach in this area, EPA's deliberate and thoughtful process has considered safety concerns."

The EPA's proposed rule is the same as California's in most respects except for the dates it takes effect, and California officials viewed it as a validation.

Laura Timm, director of corporate communications with Briggs & Stratton, which employs about 1,100 workers at two plants in Missouri, said the company welcomed a national rule instead of one which would apply just to one state.

The rule also would put new emission controls on powerboat and outboard engines starting with the 2009 model year that would result in a 70 percent reduction in smog-forming emissions from those engines, EPA said. Public comment is being accepted on the proposed rule until Aug. 3.

Overall, EPA said that the pollution sources being regulated by the new rule account for about 25 percent of all mobile-source hydrocarbon emissions.

"The bottom line is these standards are long overdue but they will be absolutely essential in order to help many parts of the country meet public-health standards," said Frank O'Donnell, president of Clean Air Watch, an environmental advocacy group.

EPA Offers Plan to Alter Mower Emissions

By ERICA WERNER, The Associated Press
The Washington Post Tuesday, April 17, 2007

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Nissan Plans Diesel For U.S. Market

Ghosn Moves Toward Fuel Efficiency

By Sholnn Freeman, Washington Post Staff Writer
The Washington Post, Wednesday, April 18, 2007

Carlos Ghosn said he will announce today that Nissan Motor will introduce its first diesel-powered vehicle in North America in the next few years.

Ghosn, chief executive of Nissan of Japan and Renault of France, will give details about Nissan's diesel strategy in a speech to the Council on Foreign Relations in Washington today.

Like other auto-industry leaders, Ghosn is struggling to satisfy a growing consumer appetite for fuel-efficient cars and demands in Washington that the industry do more to address global warming and oil-dependence issues.

In a meeting with editors and reporters at The Washington Post yesterday, he said the auto industry brought some problems on itself by fighting fuel-economy regulations over the years.

"The car industry . . . because it has been a little bit shortsighted, saying all the time" that a change in fuel-efficiency standards "is not possible, this is too expensive, this is not going to happen, put itself in a situation where everybody is focusing on the car industry," Ghosn said. "The carbon dioxide emitted by a car looks more damaging than the carbon dioxide emitted by everybody else."

Ghosn said any push for tougher fuel-economy rules -- known as corporate average fuel economy, or CAFE -- should be accompanied by tougher limits on other carbon-dioxide-emitting industries.

"If you take up CAFE for the car industry, just make sure that the other industries also have something similar," Ghosn said.

For its new diesel, Nissan is likely to use the diesel expertise of its alliance partner Renault. In 2005, 63 percent of Nissan's vehicles in Western Europe were equipped with diesel engines. Other automakers, including DaimlerChrysler, Volkswagen and Honda, are also planning more diesels.

As automakers compete to produce more-efficient vehicles, Ghosn urged lawmakers and regulators to make rules that don't favor one technology over another. "At the end of the day, it's about carbon dioxide emissions," Ghosn said. "Let's talk about performance, let's not talk about technology. The competition will be on technology."

Ghosn became famous largely for turning around Nissan, which was near bankruptcy in 1999. His rescue plan was built largely on catering to Americans' thirst for speed and horsepower during the craze for trucks and sport-utility vehicles in the 1990s.

Now Americans are demanding smaller vehicles with less powerful engines in the face of rising gas prices, global warming fears and the war in Iraq. The change has slowed Nissan's profits. The company is reevaluating global sales goals and has lowered its profit projections. In the United States, the company is in the midst of a restructuring. Nissan is still on track to earn about \$4 billion this fiscal year.

Ghosn said the company is in a "performance crisis," making it clear that Nissan's troubles are not on the scale of those of the Detroit's Big Three automakers.

While all automakers are scrambling to turn out smaller cars and more fuel-efficient models, Ghosn has kept Nissan on the sidelines as the company has pursued the higher-profit, power-oriented models.

In the past, Ghosn has derided hybrids, saying their high prices did not make good business sense. Yesterday, Ghosn said he wasn't convinced that hybrids were the answer to U.S. fuel-efficiency needs. "There are a lot of technologies on the table and we are working on a lot of them," he said.

Nissan is introducing its first hybrid this year -- a version of the Altima sedan. The vehicle will come nearly a decade after Toyota and Honda entered the market and will use technology licensed from Toyota.

EPA honors area groups, individuals for green work

Agency recognizes those who protect, preserve environment

By Douglas Fischer, STAFF WRITER

Tri-Valley Herald, Wednesday, April 18, 2007

Nearly three dozen individuals and organizations throughout the Pacific Southwest were lauded Monday by the U.S. Environmental Protection Agency for their efforts to protect and preserve the environment.

Among them were 14 Northern Californians, including an Oakland-based nail salon collaborative, a University of California purchasing manager, an East Palo Alto school nurse and a UC Davis researcher studying how gas and manure from dairy cows contribute to the state's smog.

"These organizations and individuals have applied creativity, teamwork and leadership in addressing many of the West's most sensitive and complex environmental challenges," said Wayne Nastri, the region's top EPA official, in a statement.

"The winners set an example for all of us to follow."

One of them also probably deserves our thanks: San Francisco's Bay Area Recycling Outreach Coalition, which has motivated more than 500,000 residents to take action to stop junk mail.

The group, a coalition of 110 cities and counties in the Bay Area, pooled funds to buy radio spots heard by some 8 million people, according to the EPA. The ads encouraged Bay Area residents to download the "stop junk mail" kit from the coalition's Web site, <http://www.stopjunkmail.org>. In 2006, 672,000 residents did so.

Other winners include:

-Laurie Bauer, a registered nurse for the Ravenswood City School District in East Palo Alto, for her efforts to improve the health of all the districts' students, particularly those with asthma.

-Frank Mitloehner of UC Davis, who established that manure and gas emissions from the Central Valley's 1 million dairy cows is the biggest contributor to the region's smog problem.

-The Port of Oakland's Clean Vehicle Partnership, led by the port, Pacific Gas & Electric, Clean Air Transport and Quality Terminal Services. The effort replaced 11 older diesel trucks with cleaner-burning natural gas vehicles, saving 5,000 gallons of diesel fuel and reducing emissions plaguing West Oakland.

-The California Healthy Nail Salon Collaborative, a group of public health advocates, nail salon workers and owners, and community groups that promotes the health of salon workers statewide. The group was instrumental in the 2005 passage of California's Safe Cosmetic Act, which requires manufacturers to disclose toxic ingredients in their products.

-Lesley Clark, the University of California's commodities manager, for her efforts to integrate "environmentally preferable purchasing standards" into the university's contracts, affecting from \$1.3 billion to \$2 billion in university purchases over the next five years.

For a complete list of winners, visit the EPA's Web site at <http://www.epa.gov/region09/awards>.

Guest Commentary in the Contra Costa Times, Wednesday, April 18, 2007:

Simple things can make a big difference

By Mark Ross

SCIENTIFIC EVIDENCE shows that a warming world will dramatically affect all of us here in the Bay Area.

An increase in the number of extremely hot days will cause smog levels to increase, eroding the great progress we have made in improving air quality during the past 50 years.

Last year, we had a record of 11 Spare the Air days due to hot weather, cooking our daily emissions into a noxious stew inhaled by Bay Area residents. The forecast this year is for another hot summer, and requests to engage in Spare the Air activities (such as taking transit and/or reducing car trips) will fill the air.

However, if we individually take action not just episodically during Spare the Air but continually, both locally and globally, we can help to mitigate the most damaging impacts.

A sustainable low-carbon diet would not only provincially help air quality on our smoggiest days, but help worldwide efforts at blunting climate change.

Successful diets have always had ancillary benefits, and there is no exception here: If you factor energy savings, gas prices, better health by walking/riding and other low-carbon activities, a multiplicity of benefits arise. A sampling of individual steps you can take can be found at www.sparetheair.org.

Government has its role to play; the state has passed ambitious climate change legislation, and the Bay Area Air Quality Management District is a leader in guiding local climate protection efforts. On June 1, 2005, our board created a climate protection program, and we became the first air district in the nation to take steps to reduce greenhouse gas emissions.

Later this year, our Climate Protection Foundation will announce the details of our \$3 million grant program, designed to tap the innovative minds of Bay Area individuals, companies and institutions in a regional effort to provide accessible action and answers to the climate change challenge.

The Bay Area has a great history of technological innovation, of environmental protection and of social leadership.

John Muir, founder of the environmental movement, and Bay Area resident, eloquently wrote of the benefits of living in harmony with our planet both individually and collectively, shedding the separateness of our existence from the biome from which we spring.

This Earth Day ("Earth-planet, Universe Day" as John Muir would likely say) it is time for each of us to consider a low-carbon diet and similar actions to improve air quality and protect the climate.

Simple things such as taking public transportation, using fluorescent light bulbs, and adjusting your thermostat can make a big difference.

Join me in practicing simple, everyday clean air choices, to not only Spare the Air for ourselves, but to spare the heirs of our planet.

Ross is chairman of the board of the Bay Area Air Quality Management District and a member of the Martinez City Council. He can be reached at markrcrmz@sbcglobal.net <<mailto:markrcrmz@sbcglobal.net>>.

[Opinion in the Merced Sun-Star, April 18, 2007:](#)

Our View: Saying no to LNG isn't a solution

California is confronted with an energy crisis and liquefied natural gas is a clean source

The defeat this week of a proposed liquefied natural gas (LNG) plant off the Southern California coast is not a victory for saner energy policy. Saying no to a single potential source for the cleanest-burning fossil fuel doesn't cool the planet. It doesn't lower demand. But it does one useful thing: It brings to the forefront the state's tough choices. If California wants to keep saying no to LNG, the state must say yes to something else and embrace all its consequences.

Natural gas is the fuel of choice for electricity production in California. Coal means too much pollution. Nuclear power? It appears off the table until a permanent site for radioactive waste is available. Hydropower has its limits. Renewable sources are increasing, but the goal at the moment is they will meet just 20 percent of the total demand by 2010. That leaves natural gas as the "bridge" fuel between now and that day when fossil fuel is no longer necessary to keep the lights on.

It's true, the "bridge" is shaky. Domestic production of natural gas is flat despite drilling all over the place. And demand is up. Dramatic price increases are a real possibility, particularly if supplies from the Gulf of Mexico get knocked out by hurricanes.

To tap into natural gas supplies that originate overseas, a liquefied natural gas plant somewhere along the coast would be necessary. The gas is chilled overseas, pumped aboard a ship and then gasified once at a terminal here. The questions are how many terminals (if any), and where. One of the best proposals, a terminal off the coast of Ventura County, came before the State Lands Commission and California Coastal Commission last week. Both commissions said No. Air pollution was a stated concern. Hmm.

Let's review reality: California is on borrowed time. It is importing roughly a quarter of its electricity from states such as Arizona and Washington that will need more power for their growing populations. California will either have to produce a lot more electricity or reduce demand, likely both. If the concern is air pollution, the worst thing for the air would be to say No to LNG plants here, and let Mexico and Oregon build them. (That would just increase transportation and pollution problems.) The environment doesn't win by exporting the problem to a neighbor. Saying Yes to LNG -- as a necessary part of an overall energy strategy that maintains California as a leader against climate change -- would be a saner course than saying no and somehow feeling good about it.

[Letter to the Fresno Bee, Wednesday, April 18, 2007:](#)

Use Earth Day as a catalyst for new behavior

With Earth Day approaching [April 22], I challenge everyone who is concerned about climate change to make a renewed commitment to the earth. We can each make one major change in our lives this year or make one small change each month. Just make sure you choose something that you are sure to do.

What about buying solar panels for your home? What about a new evaporative cooler for your home instead of air conditioning? What about a new bike to ride to work?

Need something simpler? How about changing to earth-friendly cleaning products? How about hanging the sheets to dry on a clothes line? How about buying used items whenever you can?

Not convinced human activity is contributing to climate change? Make the changes for the money you will save.

I'm going for one change a month. This month I started buying milk in returnable glass bottles. In May I plan to buy a pressure gauge to regularly check the tire pressure on my car. We can always do more.

What will you do?

Liza Robinson, Fresno