

# Energy Policy Update

## Energy and Environmental News

### September 2004



ARIZONA DEPARTMENT OF COMMERCE  
*Our Job is JOBS!*

Janet Napolitano, Governor  
Gilbert Jimenez, Director, Arizona Department of Commerce  
George Seitts, Director, Arizona Department of Commerce Energy Office

---

This newsletter is published by the Arizona Department of Commerce Energy Office and is provided free of charge to the public. It contains verbatim excerpts from international and domestic energy and environment-related publications reviewed by the Education and Community Outreach personnel. For inquiries, call **(602) 771-1137** or toll free **(800) 352-5499**.

Compiled and Edited by Mark Hope, Energy Research Coordinator

---

To send your questions or comments, or to register to receive this newsletter electronically, contact: [markh@azcommerce.com](mailto:markh@azcommerce.com).

For additional program information, access: <http://www.azcommerce.com/newenergy/publications.html>.

**FOR YOUR CONVENIENCE, ARIZONA-RELATED TITLES ARE HIGHLIGHTED IN GRAY**



## Alternative Energy & Efficiency

### Alt-Fuels Car Plans Face Curbs

[*Arizona Republic web site, Aug. 16*] **Cities, police departments and other municipal fleets that use alternative-fuel vehicles to meet Arizona's clean-air mandates could face a cloudy future.** Ford and General Motors [GM], the two major suppliers of cars and trucks that run on compressed natural gas [CNG] or propane, are discontinuing their production after the 2004 model year to focus on gas/electric hybrid vehicles and hydrogen-fuel research. This leaves government fleets in the lurch for meeting air-quality goals. Federal law requires state governments to buy alternative-fuel vehicles, and state law says that at least 75 percent of government fleets in urban areas must run on clean-burning fuel, although there are no penalties for non-compliance. The end of Ford and GM's production of CNG vehicles could spell the end of CNG as an alternative fuel, said Mike Brennan, fleet support services manager for Mesa, which runs 72 percent of its fleet on CNG. "Compressed natural gas' time has come and gone," Brennan said, adding that the city effectively has dropped its alternative-fuel program. Phoenix operates 1,179 alternative-fuel cars, mostly CNG, including a number of police patrol cars. The city owns 11 CNG fueling sites and used 1.4 million equivalent gallons of CNG in fiscal 2004. About 71 percent of the city's alternative-fuel fleet is made by Ford, so the city expects to be hit hard by the automaker's decision.... The state statute "is not achievable now and will become even less achievable." The cities and agencies that use natural-gas or propane vehicles can continue using them as long as they run, but after the vehicles are retired, there will be no replacements available. Phoenix officials have hired consultants to study the situation, Leonard said, and in the fall, expect to hear a report from them, which will help them decide in which direction to go.....

### Movement Down Under to Drive Cleaner Cars

[*Environmental News Network web site, Aug 6*] Sydney, Australia – **The Australian government is urging consumers to give up their love affair with hefty four-wheel drive vehicles and opt instead**

Individuals with disabilities who need the information contained in this publication in an alternate format may contact the telephone number above to make their needs known. Requests should be made as soon as possible to allow sufficient time to arrange for the accommodation.

**for more environmentally friendly models.** At the launch [on Aug. 5] of a web site designed to inform consumers about the environmental impact of new cars, Transport Minister John Anderson told potential buyers to consider the environment when choosing a vehicle.... Many Australians depend on four-wheel drive vehicles for transport in remote Outback areas with few or no roads. But in recent years, an increasing number of people are also driving the gas-guzzling vehicles in town.... The web site ranks about 1,200 new cars available for sale in Australia by fuel efficiency, air pollution, and greenhouse gas emissions....

## **Prius Is Put on Fast Track**

[*Los Angeles Times web site, Aug. 5*] **Customers at Longo Toyota in El Monte face a seven-month wait to take delivery of the Toyota Prius, the gas-stingy, hybrid-powered sedan.** It's like that at many dealerships in California and around the country – a surge in popularity that caught Toyota Motor Corp. by surprise. Now, Toyota is responding: It aims to boost worldwide sales of gasoline-electric cars next year, partly by increasing production of the Prius by 50 percent, President Fujio Cho said [on Aug. 4]. Although the Japanese automaker hasn't decided how many of the additional vehicles will reach California – the nation's largest hybrid market – some dealers said the production boost would be insufficient to satisfy all the Prius orders. “The demand just keeps getting higher and higher,” said Fred Kabir, Longo Toyota's new-car sales manager. He said the dealership had only one Prius on the lot – a light-blue one reserved for test drives.... Currently, Toyota makes the Prius in Japan at a rate of 120,000 vehicles a year. The plan is to boost worldwide production early next year to 180,000 vehicles annually.... Hybrid vehicles combine a gasoline engine and an electric motor to attain better fuel economy and reduced emissions compared with conventional internal-combustion gasoline engines. They have caught on with green-minded buyers, in part because of their dramatically improved fuel economy. The 2004 Prius earned an [Environmental Protection Agency] EPA rating of 60 miles per gallon [mpg] city and 51 mpg highway, though in real-life tests the mileage is closer to the mid-40s....

## **Wind Soars to Top of Federal Energy Push**

[*Arizona Daily Sun web site, Aug. 9*] **Developing energy from biomass materials still has a way to go on transportation costs, and solar energy's future is bright but still needs work.** But proponents of wind energy aren't just full of air, according to Assistant Secretary of the Interior Rebecca Watson. Watson was in Flagstaff [on Aug. 4] to speak at the Southwest Renewable Energy Conference to let attendees know what the Department of the Interior was doing to develop renewable energy markets, especially in Arizona. While statewide, renewable energy development efforts have focused mainly on solar, wind energy's potential has caught interest at the federal level. The Bureau of Land Management [BLM], which falls under the authority of the Interior Department, has granted permits near Kingman and Safford for wind rights of way. The permits allow users to establish windmill farms on BLM land. The agency has approved four permits covering 60,000 acres so far, with two more in the approval process that will cover 42,000 acres. “Wind is the much better story to tell,” Watson said. Improvements in wind-power technology have made the cost for this power to be competitive with those of natural gas and coal-generated power. That's sweet news to Andy Kruse, vice president and co-founder of Southwest Windpower, based in Flagstaff. The trick to renewable energy is developing systems that pay for themselves in five to seven years. Large and small wind systems are now paying that initial investment back in about seven years, Kruse says. A typical wind system for a house now runs about \$12,000, but Kruse says new technology just around the corner will drop that cost closer to \$4,000. Kruse points to California as one of the best states for developing wind power. He credits that state's buy-down programs as an aggressive way California is pushing that renewable energy market.... “The (solar) technology is there and it's getting better,” said Donald Garrett, of Danneypat Solar in Flagstaff. A typical solar-power system for a home runs \$16,000 to \$18,000 and will take care of all electrical needs for a northern Arizona home without air conditioning, Garrett said. But a homeowner can cut that cost nearly in half through a state tax credit and [Arizona Public Service] APS' [Environmental Portfolio Standard] EPS Credit Purchase program....



## **Legislation & Regulation**

### **California EPA Wants to Spur Solar-Home Development**

[*Environmental News Network web site, Aug. 6*] Sacramento - **California officials are proposing that half of all new homes in the state be running on solar energy in 10 years, an effort spurred by \$100**

**million in annual incentives paid for by electricity consumers.** The move comes three years after the state suffered through an energy crisis that left utility customers paying off billions in debts incurred when wholesale electricity rates hit record-high levels. The plan proposes that the state give rebates to home builders who install solar panels on new homes, and incentives for installing panels on existing homes, according to a copy of the California Environmental Protection Agency [EPA] draft. The program would be paid for with a new monthly utility bill surcharge of about 25 to 30 cents per household, projected to raise \$1 billion before the surcharge ends in 10 years. But homeowners would be free to sell excess solar energy back to electricity companies, leaving them with no net cost. "Each month, the homeowner would save more money in reduced electricity charges than the homeowner would have to pay on the solar mortgage," according to the draft presented by EPA Undersecretary Drew Bohan. Environmental groups said the proposal would once again make California a national trendsetter while encouraging technical advances that would help make solar power more affordable worldwide.... The solar power installations would be the equivalent of 36 new, 75-megawatt natural gas plants and would avoid pumping 50 million tons of carbon dioxide into the air from the accompanying combustion, the EPA estimated. The incentives should be enough to get solar panels on 40 percent of new homes by 2010 and 50 percent by 2013, the EPA projects. If the incentives aren't enough, the proposal would require panels on five percent of homes by 2010 and half of new homes by 2020. Proponents estimate 1.2 million homes would be producing solar energy by 2017, including 884,000 new and 313,000 older houses. Gov. Arnold Schwarzenegger, who ran on a pledge of getting California homes to use solar power, has not endorsed the plan.... Many environmentalists also are backing solar home incentives in pending legislation. A solar incentive bill, approved by the Senate and pending in an Assembly committee, would require that 15 percent of new homes come with solar panels by 2006. The requirement would increase by 10 percentage points a year until it would mandate that 55 percent of homes come solar-equipped by 2010. The building industry opposes the legislative solar homes bill, but said the incentives proposed by the energy commission are the way to encourage technological and economic improvements that will make widespread use of solar energy more realistic....

## **California Review Urges Mileage Tax**

[Calstart web site, Aug. 10] Sacramento - **Another recommendation of the California Performance Review (CPR) is replacing the gasoline tax with a tax based on mileage driven since the last fueling, reports *The Sacramento Bee*.** That scenario was among the most notable recommendations this week from a select group of transportation advisers participating in the CPR process for reforming state government. A computer in your car, connected to your odometer, would transmit the computed mileage to a computer in the pump, which calculates the fee and adds it to your gas bill on the spot. Transportation task force leader Joan Borucki said her group is suggesting the idea to help the state increase or maintain important gas pump revenues even as vehicles become more fuel-efficient. Oregon has laid the technological groundwork to launch a pilot program [in 2005] in which volunteer motorists in the city of Eugene will pay a fee based on the miles they drive instead of paying the state's gas tax. If implemented, the new scheme would apply only to new vehicles. Gas pumps would continue to charge the tax to older cars, and if a vehicle left the state, a [Global Positioning System] GPS system would shut off the odometer tracking for miles driven outside the state. Some transportation and financing experts called the mileage fee idea cutting edge and technologically doable, but also politically tricky and likely to be controversial. It has merit, said Mike Lawson, head of Transportation California, a business and labor group advocating infrastructure financing. However, the proposed system would not only require additional technology for automobiles (adding at least incrementally to their cost) but would also require the development of a system and refitting of thousands of gas pumps. Also, one goal of the gas tax should be to encourage responsible driving habits. A flat mileage fee could actually penalize fuel-efficient vehicles; and while the tax supports roads, the fuel efficiency of the vehicle needs to be factored in. With the state facing a multi-billion dollar deficit, a less hi-tech approach may make more sense: raise the level of the gas tax, then award a tax credit to drivers of more fuel-efficient vehicles. This would not require the substantial technological and infrastructure costs, while preserving revenue for transportation needs and rewarding social behavior consistent with State goals to lessen dependence on oil imports. Governor Arnold Schwarzenegger declined to comment last week on any of the recommendations in the report, but said he intends to decide by fall which ones he would like to pursue.

## **Dept. of Energy on Long-Delayed Appliance Efficiency Standards**

[Alliance to Save Energy web site, July 29] Washington, D.C. - **"After delays of up to 12 years, the Alliance to Save Energy is pleased that the U.S. Department of Energy (DOE) has begun the formal**

process for issuing energy-efficiency standards for major residential and commercial appliances and equipment,” said Alliance President Kateri Callahan about today’s Advanced Notice of Proposed Rulemaking (ANOPR). “We urge DOE to follow through with prompt publication of proposed regulations that will take maximum advantage of energy-efficiency technologies, so that our nation can reap the multiple benefits for our economy, environment, and energy security. The Alliance stands ready to help DOE move forward. “The wasted energy and money and the unnecessary environmental degradation during the years of delay cannot be recouped,” Callahan noted, “and until the new rules go into effect in 2009 or 2010, inefficient equipment that can last for 20 to 30 years will be sold and installed in homes and businesses.” The ANOPR for residential furnaces and boilers, commercial air conditioners and heat pumps, and electric distribution transformers comes just a week after two U.S. senators – Government Affairs Committee Chair Sen. Susan Collins (R-ME) and Ranking Member Sen. Joseph Lieberman (D-CT) – sent a letter to Energy Secretary Spencer Abraham sharply criticizing the department’s foot-dragging and quantifying the eventual energy savings from the new standards. After multiple postponements, [the July 27th] ANOPR means DOE should soon publish proposed regulations setting minimum energy-efficiency standards for the three categories of equipment. “The amount of electricity saved with these critical standards will be enough to meet the annual needs of about six million typical American households, and the natural gas savings will be enough to heat one out of every 10 U.S. households that use natural gas heat,” said Sen. Collins, also a vice-chair of the Alliance. “We cannot delay any longer.” “We agree with Sens. Collins and Lieberman that ‘with the nation facing the prospect of sustained high energy costs, serious concerns about electricity reliability, ongoing public health problems linked to power sector air pollution, and a need for greater energy independence, improved energy efficiency makes more sense than ever,’” Callahan said.

## **New CARB Regs Address Emissions, Efficiency**

[Calstart web site, Aug. 9] Sacramento - **California air regulators have released a final proposal on regulations limiting greenhouse gas emissions from passenger cars and light trucks beginning in 2009, reports the Associated Press.** California Air Resources Board (CARB) staff submitted a series of technology packages that regulators said could result in reduced emissions – 25 percent for cars and light trucks, 18 percent for larger trucks and sport utility vehicles in the initial phase – and more efficient vehicle operation when used together. Among the technologies the board staffs cited as providing significant reductions in emissions at favorable costs were improvements in air conditioning systems, more efficient transmissions and smaller engines. All automakers use these technologies today in Japan and in Europe, said Jerry Martin, a spokesman for the Air Resources Board. While the proposed regulation sets the emissions level for new cars, there is no requirement for automakers to comply with any of the suggested changes, said Russell Long, executive director of Bluewater Network, a San Francisco-based environmental group. The proposal stems from a bill sponsored by Assemblywoman Fran Pavley, signed into law by former Governor Gray Davis in 2002, that requires the board to set emission standards limiting carbon dioxide and other greenhouse gases. Proponents hope the first-in-the-nation global warming regulations will prompt similar steps in other states, but automakers have threatened to sue over standards they say should be set by the federal government. Governor Arnold Schwarzenegger has expressed support for the law, and has pledged to fight any lawsuits brought by automakers. Environmentalists say it could also be challenged by the federal government, which has jurisdiction over setting fuel efficiency standards.



## **Arizona & Western Power**

### **DOE to Award Arizona \$280,000 for Two Energy Savings Projects**

[U.S. Dept. of Energy web site, Aug. 9] Washington, D.C. - **Secretary of Energy Spencer Abraham announced [on Aug. 9] that the Department of Energy (DOE) will provide \$280,000 to the State of Arizona for two energy efficiency and renewable energy projects.** Funding is being provided through DOE’s State Energy Program Special Projects competitive grants.... “These important projects will greatly help in achieving the energy efficiency goals our administration has set.” State energy offices will use these funds to improve the energy efficiency of schools, homes and other buildings; promote energy-efficient industrial technologies; and support renewable energy sources such as solar, wind, and biomass. Some projects will create opportunities for distributed energy resources. States, territories and the District of Columbia competed for these DOE awards which provide specialized funding in addition to

annual formula grants given to each state energy office. While actual award dates will vary, DOE anticipates making the awards in September.

## **Goddard Accuses Gas Firms of Gouging**

[*Arizona Republic web site, Aug. 12*] **Arizona Attorney General Terry Goddard on [Aug. 11] accused gasoline refiners of using government-mandated deadlines for switching gas blends twice a year to gouge consumers.** But he said he and attorneys general from 10 other states are making progress in an effort to take away the refineries' justification for raising prices. They have asked the U.S. Department of Energy to step in and stagger the changeovers from winter to summer fuel blends so they don't occur at the same time, which causes shortages and price spikes. The changeover also occurs at the beginning of winter, but the price jumps aren't as severe. Refiners made \$1.06 million a day in additional profits in Arizona during March and \$1.43 million a day in April because of the changeovers, according to research by Goddard's office. The government should not be facilitating the additional profit, he said. "If these profits are the result of a government policy, then the policy should be changed," he said. John Felmy, chief economist for the American Petroleum Institute, agreed that the changeover periods are an enormous problem for the industry, but he opposes any government intervention. "They're proposing a return to the 1970s, when they tried to replace market forces with government regulation," Felmy said. "It didn't work."

## **Kiosks Will Spread Word About Light Rail**

[*Arizona Republic web site, Aug 5*] **An artistic collection of six light-rail informational kiosks was unveiled [on Aug. 4] by Valley Metro Rail, the final products of a Valley-wide design competition.** The seven-foot-tall structures, which were designed, built and donated by Phoenix-area architectural and sign firms, will stand in six strategic locations along the future 20-mile route of Metro light rail, supplying maps, brochures and construction schedules. Installation is set to begin [on Aug. 9].... The kiosk contest was organized by the Society of Marketing Professional Services, which approached the transit authority with the idea for the kiosks, said Claudia Bullmore, current president of the local chapter and director of marketing for the architecture firm of Gould Evans Associates. "We wanted members of the society to get involved in the largest construction project in the city," Bullmore said. Gould Evans built one of the prize-winning kiosks, which will stand outside Burton Barr Central Library on Central Avenue. Other winners were Smith Craft, Circle West Architects, Leo A. Daly, Baker Engineering & Energy/All Signs System, and s.e.a.d. architecture construction. "Each one is an interpretation of what light rail means and what it represents," Bullmore said. "They're designed to provide information about light rail and get people excited about it." Besides the central library, the kiosks will be installed at Spectrum Mall, Phoenix Plaza at Thomas Road and Central, the Tempe Main Library, Escalante Community Center in Tempe and the Mesa Public Library. After the presentation, Spectrum shoppers checked out the kiosks, some tracing their fingers over the light-rail route maps through Phoenix, Tempe and into Mesa. The mall, at 19th Avenue and Bethany Home Road, will be at the northwest end of the 20-mile "starter" line once the system is completed in December 2008....



## **Energy-Related Environment**

### **Eastern U.S. May Face More Bad Summer Air - Report**

[*Reuters, Aug. 5*] Washington, D.C. - **The number of summer days when air quality fails federal health standards could nearly double by mid-century for people living in 15 eastern U.S. cities, medical experts said in a study released [on Aug. 4].** Summer days when smog levels hit unhealthy levels could rise to almost 20 from 12 in cities in the eastern half of the United States, including Atlanta, Baltimore, Chicago and Pittsburgh, according to the study published by the Natural Resources Defense Council [NRDC], an environmental group. Rising earth temperatures spurred by a buildup of heat-trapping gases in the atmosphere will cause smog levels to rise, the study said. Smog, or ground-level ozone, is formed when pollutants from vehicles, factories and other fossil fuels react with sunlight. It is linked with human respiratory problems including asthma, emphysema and bronchitis. The number of "red alert" days on a color-coded federal air-quality index, when the air is deemed unhealthy for all, would double in many of those cities, the report said. Atlanta, plagued by traffic congestion, would see "red alert" days rise to 16 per summer from 11 currently, it said. The data was compiled by medical experts at the Johns Hopkins University, Columbia University, University at Albany-SUNY [State University of New York], Yale University

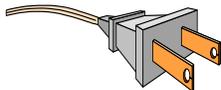
and University of Wisconsin-Madison, the NRDC said. "Smog is a persistent air pollution problem for millions of Americans," said Patrick Kinney, an associate professor at Columbia and one of the report's authors. The National Association of Manufacturers [NAM] dismissed the report as "yet another attempt to mislead the public and the media during a hotly contested election campaign." Since 1970, precursors to ozone formation have fallen substantially while population and energy consumption rose, NAM said in a release. "Activists don't dare acknowledge that we've made tremendous environmental progress during the past 30 years out of fear that their funding might dry up," NAM air quality director Jeffrey Marks said. The Environmental Protection Agency in April found that 159 million Americans in 31 states live in counties where smog levels exceed federal standards. Unhealthy air means that children will have to spend more time indoors, with more serious consequences for asthmatic children and people with cardiovascular problems.

## Global Warming Heat Waves Predicted to Continue

[*Calstart web site, Aug. 13*] **Climate researchers at the National Center for Atmospheric Research (NCAR) predict that heat waves like those that have hit Paris and Chicago in recent years are likely to get worse, reports Reuters.** Hotter weather may affect crop and drive up fuel prices, as well as kill the old and weak. It happened in France last year, killing an estimated 15,000 people. A similar heat wave hit the U.S. Midwest last year damaging corn and soy crops, and an estimated 739 people died in a heat wave that broiled Chicago in 1995. Writing in the journal *Science*, researchers Gerald Meehl and Claudia Tebaldi of NCAR in Boulder, Colorado found heat waves might become more common as global warming heats the Earth. Using a new computer model – one that takes into account increasing levels of greenhouse gases such as carbon dioxide – they used data from 1961 to 1990 to predict future weather patterns in 2080 to 2099. Regions already prone to heat waves, such as the U.S. Midwest and Southeast and Europe's Mediterranean areas, will suffer even more, and longer, the model predicts. The average Paris heat wave lasting eight to 13 days, they predict, will last 11 to 17 days. "But other areas (e.g. northwest United States, France, Germany and the Balkans) could see increases of heat wave intensity that could have more serious impacts because these areas are not currently as well adapted to heat waves," the researchers wrote. Another team of scientists said that governments can turn this pattern around right now, if they choose to. Stephen Pacala and Robert Socolow of Princeton University identified 15 technologies, from wind, solar and nuclear energy to conservation techniques, that could each help reduce global warming....

## World's Most Environmentally Responsible Skyscraper

[*Planetizen Newswire web site, Aug 9*] **"Bank of America Tower will be the world's most environmentally responsible high-rise office building and the first to strive for the U.S. Green Building Council's Leadership in Energy & Environmental Design (LEED) Platinum designation...** With an emphasis on sustainability, water efficiency, indoor environmental quality, and energy and atmosphere, the Bank of America Tower will be constructed largely of recycled and recyclable building materials. It will feature a wide range of sophisticated environmental technologies, from filtered under-floor displacement air ventilation to advanced double-wall technology and translucent insulating glass in floor-to-ceiling windows that permit maximum daylight and optimum views. It also will include a state-of-the-art onsite 4.6-megawatt cogeneration plant, providing a clean, efficient power source for the building's energy requirements."



## Energy/General

### City Joins Suit Against Five Power Companies

[*New York Times web site, Aug. 11*] **New York City officials, evoking an apocalyptic vision of Manhattan's tunnels flooded and Kennedy Airport under water, joined a federal suit brought [on Aug. 10] by New York and seven other states against five of the country's largest power companies in an effort to curb global warming.** New York was the only city to join the suit, which was brought by states dissatisfied with the Bush Administration's policies on controlling emissions of carbon dioxide, a greenhouse gas that has been linked to the significant warming of the earth in recent decades. Painting a scenario that could have come from "The Day After Tomorrow," the city's top lawyer, Michael A. Cardozo, detailed the "extraordinary impact" he said global warming could one day have on New York. It could bring a sharp increase in asthma cases, he said, as well as erosion of beaches in Queens and the

Bronx and flooding of Staten Island wetlands. "And it can mean, to put this most dramatically, flooding of the Holland and Lincoln Tunnels and on the landing strips at La Guardia and Kennedy Airports," Mr. Cardozo said. While city officials did not suggest that any of those calamities were imminent, they accepted Attorney General Eliot Spitzer's view that the scientific evidence was "rock solid" that carbon dioxide concentrations contributed to global warming. Mayor Michael R. Bloomberg decided to participate in the suit – a clear challenge to President Bush's approach to pollution control – because he believes that the city should not delay action on the issue, Mr. Cardozo said. The companies named in the suit, which was filed in Federal District Court in Manhattan, are the American Electric Power Company, the Southern Company, the Tennessee Valley Authority, Xcel Energy and the Cinergy Corporation. The other states participating are Connecticut, New Jersey, Rhode Island, Vermont, Wisconsin, Iowa and California. The companies, the largest emitters of carbon dioxide in the United States, do not, for the most part, operate in the Northeast.... The lawsuit divided environmental groups, dismaying some who had been working with big power companies, including several of the defendants, to get them to reduce emissions.... The real question is, does this help you get there? It's not clear to me that this lawsuit will help. In a new approach, the suit charges that the utilities are creating a "public nuisance," global warming, that harms residents in the states bringing the action. The suit seeks a court order requiring the companies to reduce their emissions by at least three percent per year for 10 years, said Richard Blumenthal, the Connecticut attorney general. No monetary damages are sought. "We're here because the federal government has abdicated its responsibility and has in fact resisted our court action," Mr. Blumenthal said. During his 2000 campaign, Mr. Bush promised to restrict carbon dioxide emissions from power plants, but abandoned that pledge early in his term. The Bush Administration has called for voluntary measures to slow the growth of emissions. Most scientists now agree that most of a decades-long warming trend is caused by rising atmospheric concentrations of carbon dioxide and other greenhouse gases. Yet scientific projections of the possible local impacts have remained laced with caveats. One of the hardest things to predict is the potential impact of shifting climate conditions on health. In a 2001 report, for example, the National Research Council of the National Academies said projections of health impacts were "highly uncertain."

## **Developing World Poses Biggest Energy Threat**

[*Calstart web site, July 29*] Glasgow - **While global terrorism grabs headlines, a greater and more inevitable threat to the world's economy may be found in the growing appetite of the developing world, reports *The Sunday Herald*.** Citing the example of China – a population of 1.3 billion, with domestic consumption on the order of one 100-watt light bulb per person, per year – the scenario of an energy horror story is not hard to imagine. John Constable, senior UK [United Kingdom] economist of ExxonMobil says that example is only household consumption, and doesn't include the rapidly growing energy appetite of commerce and industry. Although China has vast reserves of coal – which accounted for 75 percent of China's total energy in 1994 – its steadily growing vehicle population will need huge amounts of oil, and it is today one of the world's biggest oil importers. That could have an astounding impact on the economies of the developed nations, as the competition for energy resources ramps up. The ecological impact of this rapid growth is equally staggering: Elizabeth Economy, an author and China expert on the U.S. Council for Foreign Relations, estimates that "China's reliance on low quality, high sulfur coal is responsible for roughly half of all sulfur dioxide emission," adding that "China is one of the world's largest contributors to ozone depletion, biodiversity loss and climate change." Despite encouraging signs on environmental and technical fronts in China, it seems clear that developed nations would be wise to focus on development of renewable resources while assisting developing nations in managing their needs.

## **DOE Awards University of Arizona a \$100,000 Nuclear Energy Grant**

[*U.S. Dept. of Energy web site, Aug. 16*] Tucson – **The Department of Energy [on Aug. 16] awarded the University of Arizona a \$100,000 Nuclear Engineering Education Research grant to support nuclear energy technology education and infrastructure....** The 47 Nuclear Engineering Education Research grants will be awarded to 28 U.S. universities which will allow professors and students to conduct innovative and state-of-the-art nuclear engineering research. Of the total \$5 million to be awarded, approximately \$2.7 million is for 26 new awards in FY [Fiscal Year] 2004 and \$2.3 million for 21 continuing awards from prior years. This award is one of \$22 million in awards to 37 universities nationwide to support the development of a new generation of technical specialists that will serve the Nation's requirements in areas such as energy, medicine, scientific research, national defense, nonproliferation, and environmental protection.

## Drivers Irked as Mileage Fails to Add Up

[USA TODAY web site, Aug. 18] **Those fuel-economy estimates posted on new cars and trucks are baloney.** The government agency in charge of them doesn't mean them to be; in fact, the U.S. Environmental Protection Agency [EPA] seems unusually scrupulous about its fuel-economy testing. But it's using 30-year-old tests that assume nobody drives faster than 60 mph [miles per hour], or turns on the air conditioning, or accelerates hard, or drives in cold weather, or runs a mile up the road for milk and bread at the convenience store and doesn't get the engine warmed up. The result: a groundswell of complaints from people whose mileage isn't as good as they thought it would be. Spurred by those complaints and a formal petition filed more than two years ago by environmental group Bluewater Network of San Francisco, EPA finally, reluctantly, is considering the first change since 1984 in how it calculates the fuel-economy numbers pasted on new vehicles. How far off are the numbers? No one knows for sure. When the Energy Information Administration calculates its yearly forecast of national energy consumption, it shaves about 10 percent off the EPA numbers. Even Bluewater, the little-known, eight-year-old environmental group whose petition got the government going, says there's no definitive source of real-world fuel-economy data. If the EPA's study leads to lower fuel-economy estimates, that could cool sales of fuel-thirsty sport-utility vehicles [SUVs] and other trucks these days of high gas prices. It also could prod automakers to speed development of fuel-efficient models, such as gas-electric hybrids and diesel cars, that are less profitable than SUVs and pickups. Automakers, not surprisingly, think no change is needed. "Consumers for the most part understand that the numbers listed (on window stickers) vary based on driving habits, based on terrain, based on a number of factors," says Charlie Territo, spokesman for the Alliance of Automobile Manufacturers. The fuel-economy labels on new cars and trucks say that "actual mileage will vary," and they give a range of fuel-economy estimates for similar vehicles. But that's in fine print. And it hasn't stopped the gripes, heightened by the popularity of hybrid vehicles. While they achieve better fuel economy than gasoline-power vehicles do, hybrids seem to miss their EPA numbers by bigger gaps. "Sometimes I think, 'Sucker,'" says an unhappy MaryJo Meer, 37, of Chula Vista, Calif. She bought a Honda Civic gas-electric hybrid May 19 expecting close to the 47 mpg [miles per gallon] EPA rating. Instead, she's getting 34 mpg, even though most of her driving is on the highway, where Honda's type of hybrid does best. "They're actually charging us more for a car to save the environment and all that crap, and we're not saving anything at all," she says. "If I'd have known that, I'd have kept my SUV."

## Iraq Set to Resume Normal Oil Production

[Reuters, Aug. 10] London - **Iraq has enough oil available in storage tanks to continue exporting crude until production in its vast southern oil fields returns to normal, possibly within one or two days, an Iraqi oil official said [on Aug. 10].** Iraq's South Oil Co. sharply curtailed production after supporters of radical Shiite cleric Muqtada al-Sadr threatened to attack oil pipelines unless the government halted exports. Iraq has the world's second-largest proven crude reserves, most of them in the southern region, and oil is the country's only major source of export earnings needed to rebuild its devastated economy. In spite of reducing output and shipments of crude to storage tanks on the southern Faw peninsula, Iraq has been able to use crude already in storage to load tankers waiting at offshore terminals in the Gulf. One tanker was loading crude [on Aug. 11] at the rate of 15,000 barrels per hour, said the official, speaking from Baghdad on condition of anonymity. "Loading is more or less normal, but production was reduced substantially," the official said. "Hopefully within 24 to 48 hours, production will resume back to normal." Iraq was producing 1.75 million barrels a day before the South Oil Co. curtailed production, said the official, who was unable to quantify the current, lower volume of output....

## Most U.S. Oil, Gas Leases Unexplored

[Reuters, Aug. 13] Washington, D.C. - **Despite soaring oil and gas prices, oil companies and individuals who own nearly 30 million acres of non-producing federal oil and gas leases have made little effort to transform them into energy producers, federal records show.** An *Associated Press* analysis of Bureau of Land Management [BLM] records obtained under the Freedom of Information Act found that 98 percent of the more than 33,000 leases still considered non-producing by BLM have never had an exploratory well drilled. Ninety-seven percent have never had a single application for a permit to drill filed with the BLM. Industry officials argue that those numbers are misleading because many non-producing leases have been joined with other leases into larger production units where active exploration is under way, and in many such cases the units already are producing oil and gas. But even after discounting such leases, there is no indication in BLM records of any oil or gas exploration on 26 million acres of federal land currently under lease, or two-thirds of all federal leased acreage. A little over 10

million acres of federal oil and gas leases are listed as producing; another four million acres have been explored to some degree, but are still not producing. Environmentalists say the lack of exploration belies the Bush Administration's push to open even more federal land to oil and gas development, particularly in environmentally sensitive areas. A recent Wilderness Society analysis of new BLM management plans in Utah, Wyoming, Montana and New Mexico concluded that 80 percent of the six million acres of environmentally sensitive land covered by the plans would be opened to oil and gas leasing. Pete Morton, a Wilderness Society economist, said the administration's push for more oil and gas leasing of federal lands is more about boosting the financial prospects of oil companies than producing more oil and gas. "Share prices are based on rational expectations of future earnings potential," Morton said. "If companies can increase that potential, the expectations, and hence share price, by leasing more acres, then it may make economic sense to lease more acres regardless of whether the wells will ever be drilled and/or whether the wells drilled become economically viable." Industry officials contend that large inventories of undeveloped leases are normal and necessary to protect their investment in energy exploration. And they dismiss suggestions that unproductive leases boost their financial standing. Oil and gas companies "don't make money and profits by sitting on leases," said William F. Whitsett, president of the Domestic Petroleum Council. "They go after their best prospects. The acreage drilled first is a function of expectation of what they believe they can discover and produce." Federal leases are good for 10 years and require an annual rent of \$1.50 an acre during the first five years, and \$2 an acre after that. If the lease is not producing paying quantities of oil and gas by the end of 10 years, it reverts back to the government, unless the owner assigns it to a larger block of leases that include some with productive wells. Oil companies and other owners of non-producing leases are paying the government more than \$40 million a year in rent. "They're actively studying those leases and trying to determine the best course of action in terms of timing to develop those leases," said Mark Smith, executive director of the Independent Petroleum Association of the Mountain States. "You wouldn't spend that kind of money just to hold on to them. It doesn't make sense." Smith said the lack of development is caused by permitting delays, a shortage of skilled labor and equipment, and pipeline infrastructure deficiencies that make it uneconomical to explore in some areas. Under the Bush Administration, however, processing of drilling permit applications has sped up significantly. It took the BLM just 61 days on average to make a final decision on drilling permits filed this year, according to BLM records, compared with 104 days in 2003, 167 days in 2002 and 215 days in 2001. Some oil and gas analysts say soaring oil prices may dampen exploration because increased production would tend to drive down prices. "Why should the industry go and risk more capital, bring more oil and gas to the market and risk the much lower price?" said Fadel Gheit, an oil and gas analyst for Oppenheimer & Co. Michael Scialla, an oil and gas analyst with A.G. Edwards and Sons, said he doesn't think the high prices are stalling exploration on federal leases. But he said a large inventory of unexplored leases can make a company a more attractive takeover target, particularly if the leases are near areas that already are producing.

## **Saudi Says it Can Pump More Oil**

[USA TODAY web site, Aug. 11] Dubai - **Top oil exporter Saudi Arabia on [Aug. 11] confirmed it had raised output sharply over the past three months in a bid to prevent high prices damaging world economic growth.** Saudi Oil Minister Ali al-Naimi said Riyadh had averaged 9.3 million barrels per day (bpd) of crude during that period in a bid to cool world prices and vowed to raise supplies to meet any extra demand. In a statement carried by the state press agency SPA, Naimi said that represented an increase of one million barrels daily. He said demand for Saudi crude in September would be "more than 9.3 million barrels daily and it will be met in full with no exclusions or reductions." "The kingdom of Saudi Arabia, in collaboration with the other OPEC [Organization of Petroleum Exporting Countries] countries, endeavors to ensure the stability of the international oil market and prevent prices from escalating in a way that may negatively effect the world economy or oil demand," the minister's statement said. In addition to the 9.3 million of crude, Saudi was also pumping 700,000 bpd of light condensates and gas liquid, he added. Those extra volumes are not counted under OPEC quota restrictions. Naimi said the kingdom could immediately tap spare production capacity of more than 1.3 million bpd if needed.... Oil inventories fell 4.3 million barrels to 294.3 million barrels in the week ended Aug. 6, but remained 10.3 million barrels above last years level, the U.S. Energy Information Administration (EIA) said. Imports fell 827,000 barrels to 9.52 million barrels per day (bpd), but imports from Saudi Arabia were high for the second week in a row, the EIA said. Gasoline stocks fell 1.8 million barrels to 208.3 million, but remained near the upper end of the average range, up 8.1 million from a year ago...

## Start Saving Now to Pay Winter Heating Bills

[USA TODAY web site, Aug. 12] Washington, D.C. - **The majority of U.S. households will see their heating bills jump by 10 percent to 20 percent this winter, the Energy Department said [on Aug. 10] in its first look at the upcoming season.** Users of natural gas, which is the heating source in 55 percent of U.S. homes, will pay an average \$1,049 this winter. That's up 20 percent from the 2003-2004 winter season, which the Energy Department defines as October through March. Heating oil costs are expected to rise 10 percent, and propane bills 18 percent. The government did not provide estimates for electricity, which is used to heat 29 percent of U.S. homes. Data from the Energy Department's Energy Information Administration [EIA], however, show prices are expected to rise more than three percent this winter. That does not factor in potential changes in household demand. Heating demand is expected to rise in the Midwest and fall in the Northeast, the EIA said, based on weather forecasts. "Higher overall heating expenditures are likely this winter unless above-normal temperatures prevail," the agency said. Calling the government estimates conservative," Mark Wolfe, executive director of the National Energy Assistance Directors Association, says, "If it's cold and miserable, then we're in real trouble." His organization represents administrators of a government program that aids low-income households with their energy bills. The higher heating costs come on top of already inflated prices for gasoline. Both are a result, in part, of elevated oil prices, which have been lifted by tight supplies, rising demand and fears about production in the unstable Middle East. The price of a barrel of crude oil is above \$44, up more than \$4 from a month ago and \$12 higher than a year ago. Natural gas prices have also been high, in part because of tight supplies and rising demand, but also because of the oil price gains. Because natural gas can be swapped for oil in some industrial uses, natural gas costs tend to follow oil. Federal Reserve policymakers [on Aug. 10] cited energy costs as a big reason for an apparent slowing in the economy in recent months. When consumers pay more to fill their gas tanks or to heat their homes, it means they have less money to spend in other parts of the economy....



## Industries & Technologies

### Commercial Fuel-Cell Scooter Unveiled

[Hydrogen and Fuel Cell Investor web site, Aug. 5] **With a host of leading car manufacturers assuring that zero-emission fuel cell powered vehicles will be commercially available by 2010, U.S.-based Vectrix is to fill the time gap with the launch of a fuel-cell-equipped prototype scooter.** The Rhode Island outfit first showcased the battery-powered scooters at the November 2003 Fuel Cell Seminar in Miami Beach, when it was confirmed that the eco-friendly vehicles would be available on the road by 2006, according to *Fuel Cell Today*. Vectrix's partner, Cleveland-based Parker Hannifin, recently launched its own Fuel Cell Systems business unit and will provide engineering collaboration from ten of its plant locations in the project. The prototype scooter integrates a methanol-powered fuel cell with a hybrid system, replete with battery pack to drive an electric motor and a self-charging configuration. According to Peter Hughes, vice president of technology at Vectrix, the scooter will accelerate from 0 to 50km [kilometers] in 3.6 seconds, with a top speed above 100 kmph [kilometers per hour]. Several types of fuel cell produce electricity by combining hydrogen and oxygen over a platinum catalyst.

### Energy Security Should Prompt Alt-Fuel Support

[Calstart web site, Aug. 16] Pasadena - **With the impetus for manufacturing alternative-fueled cars expanding from lowering emission to addressing energy security, it's time to add lanes to plans for a hydrogen highway, reports *The Pasadena Star-News*.** California led the way in getting fleets running on compressed natural gas, and now, the smaller battery/gasoline-powered hybrid cars on the market. Higher gasoline-pump prices are being blamed on higher crude-oil prices, driven in part by the increased competition for oil with China and other developing nations, a new dynamic that's driving up wholesale oil prices here in the States. But California cannot pull Detroit and Washington along, particularly with legal challenges to its efforts by not only automakers but also by the government itself. Alternative-fueled cars are attractive not just to environmentalists looking for cleaner tailpipe emissions, but also to those who want to see America's addiction to foreign oil conquered. Since the beginning of the Iraq war, American's appetites have begun to shift from gas-eating behemoths to smaller, more fuel-efficient vehicles. The list of reasons for increasing our research and development into clean energy and transportation keeps getting longer....

## Stationary Fuel Cell Applications Ramping Up

[Calstart web site, Aug. 9] **While much of the focus on fuel cells in the press has been on cars, that market is probably the farthest away, reports *The Toronto Star*.** Within the next couple of years portable product laptops, PDAs [Personal Digital Assistants], and mobile phones will come to market that use tiny methanol-based fuel cells as replacements for batteries. Also, using natural gas as a source of hydrogen, fuel cells will provide stationary power to homes, businesses and industrial sites will be a reality years before the first commercial fuel-cell cars put rubber to road. Running stationary fuel cells on hydrogen produced from natural gas makes a great deal of sense and seems likely in the near future, wrote Joseph Romm, executive director of the Center for Energy and Climate Solutions of Arlington, Va., in his recently released book *The Hype About Hydrogen*. Because stationary fuel cells can simultaneously generate both usable power and heat, they can achieve much higher over-all efficiency when used on-site. A Canadian company, Kingston-based Fuel Cell Technologies Ltd., is leading the field with a five-kilowatt system capable of supplying the average residence with all of its electricity, hot water and space heating in one unit. The company has maintained a low profile to avoid over-hyping its product, but that is changing, says Vikram Varma, director of corporate development. We have to raise people's awareness and show them it's a viable technology. [On Aug. 2nd] the company took a big step in that direction by announcing it will supply four of its five kW [Kilowatt] fuel-cell systems to a student residence at the University of Toronto's Mississauga campus. Ontario Power Generation, Technology Partnerships Canada and the U of T [University of Toronto] are helping sponsor the \$1.9 million project. The systems will be ready for operation by July 2005. This is not to suggest that Fuel Cell Technologies can sell you an affordable solid-oxide fuel cell today. Varma points out that today the cost would be about as much as a mortgage on a small home. Assuming methods will be available to finance the purchase of a solid oxide fuel cell over a long period, he says early adopters of the systems could emerge between 2008 and 2010. After 2010, he predicts the price will be low enough and financial mechanisms sufficiently available to attract mainstream homeowners and more importantly, home developers with the hope that return on investment would be four years or so.

## Toyota May Offer Diesel and Natural Gas Hybrids

[Calstart web site, Aug. 19] **According to a senior executive, Toyota may market diesel or natural gas hybrid automobiles, reports *Bloomberg News*.** In an interview in Tokyo, senior managing director Hiroyuki Watanabe said Toyota is "developing hybrid systems that can be used for gasoline, diesel, natural gas and fuel cells, which will be the most fuel-efficient." Carmakers are spending billions of dollars to develop fuel-cell vehicles to meet tougher emissions laws and as population growth spurs auto demand. In the near term, gasoline electric hybrids such as the Toyota Prius and Honda Civic are making an important impact in both emissions and fuel efficiency. Toyota makes at least 10 kinds of diesel engines worldwide, fitting them in vehicles such as the Yaris and Corolla compact cars, Avensis sedans, RAV4 and Land Cruiser sport-utility vehicles, and Hilux pickup trucks. Diesel-powered cars are very fuel efficient, and account for more than 40 per cent of the European auto market. Natural gas fuels have been shown to work well in both conventional internal combustion and diesel engines, with much lower toxic exhaust and particulate matter emission levels. Merging fuel efficient hybrid technology with cleaner, more efficient engines is viewed by many as a necessary next step to meeting increasing energy and emissions constraints, and provides a step toward fuel cell transportation.