Energy Policy Update

Energy and Environmental News

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ARIZONA DEPARTMENT OF COMMERCE
Our Job is JOBS!
ENERGY OFFICE

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Compiled and Edited by Mark Hope, Energy Research Coordinator

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Alternative Energy & Efficiency

Arizona Public Service to Construct Solar Trough Plant

[*Business Briefs web site, April 6*] Red Rock - **APS [Arizona Public Service] broke ground on Arizona's first commercial solar trough power plant, the first such facility constructed in the United States since 1988**. Located at the company's Saguaro Power Plant in Red Rock, about 30 miles north of Tucson, the APS Saguaro Solar Trough Generating Station will have a one-megawatt generating capacity, enough to provide for the energy needs of approximately 200 homes. The plant is expected to come online in April 2005. Solar-trough technology uses mirrors to concentrate the sun's rays to heat mineral oil, which is passed through a heat exchanger to vaporize a secondary fluid. The vapor is used to spin a turbine, making electricity, then is condensed back into a liquid to be vaporized again.

First FedEx Express Hybrids Hit the Streets

[*Calstart web site March 31*] Sacramento - **FedEx Express has put the first two of its new, low-emission, hybrid electric-powered delivery vehicles into service in concert with the Sacramento Metropolitan Air Quality Management District, Environmental Defense and Eaton Corporation**…. According to a Federal Express release, The FedEx OptiFleet E700 hybrid electric vehicle will decrease particulate emissions by 90 percent, reduce smog-causing emissions by 75 percent and travel 50 percent farther on a gallon of fuel, reducing fuel costs by one-third. The two hybrid electric vehicles have been tested in Sacramento since late February, following an agreement with the Sacramento Metropolitan Air Quality Management District (AQMD) to demonstrate the commercial viability of the lower-emission powertrain in heavy-duty vehicles. The project was made possible in part by a grant provided by the

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AQMD. FedEx Express will place 18 additional hybrid electric diesel delivery trucks into service in selected cities throughout 2004. New York City, Houston, Washington, D.C., Denver and several other cities are possible locations for future rollouts of the hybrid electric trucks….

Global Diesel vs. Hybrid Battle Heating Up

[*Calstart web site, April 15*] **American auto companies like Ford and General Motors are caught in the middle of a global battle over vehicle propulsion technology, reports *SupplierBusiness*.com**. As global players, American automakes are forced to develop diesels in Europe, which they each do in partnerships with European carmakers, and now they also must develop hybrids. They lag behind both their Asian and European competitors in both arenas, and face an uphill battle with American customers, who have consistently disdained noisy, dirty diesels, and who resist paying a premium for gas-saving technology such as hybrid propulsion. However, because the battle is global, Europeans with international ambitions also can't ignore hybrids. Just as Toyota and Honda have developed diesels for Europe, the Europeans are forced to develop hybrids….

Los Angeles Int'l Airport Home to First Public Hydrogen Station

[*Calstart web site, April 14*] Los Angeles - **The nation's first compressed-hydrogen fueling station for public use will be built at Los Angeles International Airport (LAX), reports *Sustainable Business News*.** As the result of a lease approved [on April 7] by the Los Angeles Board of Airport Commissioners, Praxair, Inc. of Danbury, Conn., will design, engineer, equip, construct and operate a 600-square-foot facility that will be a prototype of a commercial automobile fueling station. The $1,580,048 state-of-the-art fueling station will be the first facility in the United States to showcase the generation, compression, storage and dispensing of compressed-hydrogen fuel in a limited-production capacity, retail-friendly environment. Praxair is funding construction by spending $550,000 of its own funds, and will receive grants of $351,000 from the South Coast Air Quality Management District, of $499,048 from the U.S. Department of Energy, and $180,000 from British Petroleum…. The new fueling station will be built on a portion of an on-airport, alternative-fuel vehicles site on World Way West, where facilities for dispensing liquefied and compressed natural gas (LNG/CNG) already exist.

Narrow Natural Gas Vehicle Designed to Cut Emissions, Congestion

[*Calstart web site, April 9*] **European scientists are developing a new urban vehicle designed to address issues of road and parking congestion as well as air quality**. A Univ. of Bath release described the Compact Low Emission Vehicle for Urban Transport – nick-named CLEVER – a narrow, three-wheeled tilting vehicle combining the comfort and protection of a small car with the maneuverability and compact size of a motorcycle. At just over three feet wide, it is 20 inches less than a micro-car, and several feet less wide than a medium sized conventional car. This reduced width means more efficient parking bays can be created, and brings the possibility of narrower lanes for such vehicles. The vehicle is different from previous attempts to create a small urban vehicle in that it is stylishly designed and much safer, with a passenger compartment fully enclosed in a metal framework. Its roof is as high as conventional cars, and it carries one passenger in tandem behind the driver. The hydraulic active tilt system is electronically controlled, keeps the vehicle upright at low speeds and allows car-like steering at high speeds. Running on compressed natural gas, the vehicle would help reduce oil consumption and vehicle emissions…. Fuel consumption should be equivalent to 188 miles per gallon, a fifth of most cars. A prototype CLEVER vehicle will be built as part of this project in late 2005, and, if put into production, it should be cheaper than a conventional car.

OPEC Cuts: A Boost for Alt Fuels?

[*Calstart web site April 2*] **Middle East oil ministers and their colleagues in OPEC [Organization of the Petroleum Exporting Countries] agreed [on March 30] to carry out plans to cut their daily oil production by one million barrels**. With gasoline prices in the U.S. approaching $1.80 a gallon – the highest in recent history – oil imports could become an issue in the presidential election between incumbent President George W. Bush and Democratic challenger John Kerry. Expressions of concern from the Bush Administration did not deter the cartel from taking action to curtail supplies. Meanwhile, Kerry has suggested suspending shipments to the strategic oil reserve until prices break; but independent analysts question whether that would have anything more than a psychological impact. One sector that might actually benefit from this, with the energy and transportation bills still in limbo, is the alternative fuels

market, including natural gas, ethanol and biodiesel. And while sales of sport utility vehicles and pickup trucks seem to be maintaining their strength, hybrid and other fuel-efficient vehicles may get a boost as they did in the 1970s, when then–President Richard Nixon launched an ambitious campaign to reduce the nation's dependence on foreign oil imports. It would be refreshing to see a substantive proposal combining meaningful upward revisions to the CAFE [California Air Resources Board] standard; energy conservation and stabilization of supplies to bring the market back to its senses and address issues of dependence on foreign oil.

Solar is Solid, Competitive

[*Arizona Republic web site, April 25*] **Interest in solar energy in Arizona continues to increase**. Thousands are living off-grid in Arizona, primarily on photovoltaic power with wind backup at suitable locations. Thousands of domestic hot water and pool-heating systems are enjoyed. Wind is also a solar-generated form of renewable energy. A diesel, propane or gasoline generator costs in excess of $0.80 per kilowatt-hour [kWh] for the energy used, while remote solar power systems cost about $0.25/kWh including the periodic recycling of batteries. The cost of solar systems the past 25 years has come down an amount that is very impressive, giving returns on investment that are competitive with most alternatives today. The energy "payback" on the Palo Verde Nuclear Plant is around 14 years. The energy involved in the manufacture and delivery of a photovoltaic module is returned in 18 months or less, even shorter for a wind turbine in a good location…. When counting the off-grid families and other applications (estimated at 10,000) and the installations planned, Arizona is close to one percent of power generated in the state. Low usage is not the fault of solar, since it is growing faster in Japan and Germany than in Arizona. The worldwide renewable-energy industry is growing at about 35 percent per year, and the word minuscule no longer applies to a $6 billion world market. The answer to the all-too-familiar question, "Why don't I see more solar in Arizona?" does not lie with the technology or the numerous solar companies in Arizona, but with our political and economic climate…. We need to compare renewable energy with today's new plant options. A new gas-fired power plant is in the area of $0.05/kWh with the high risk of climbing natural gas prices. Coal may even be more risky because of the pollution. Also, we do not have enough long-term water in the state for sustainable cooling of new nuclear or coal-fired plants. If the indirect costs of emissions and water usage are considered, renewable energy is competitive today at comparable plant size. Some people criticize solar by saying that the panels take up a lot of space. Solar is competitive per square foot considering the fenced-in space for Palo Verde or the large affected area for coal mines. Normally, one half of the south-facing roof provides all the power needed for a reasonably insulated home with efficient appliances. Some critics say inverters needed to convert solar energy to appliance power have been unreliable. This is like saying that air-conditioners or automobiles are unreliable and therefore not practical. The time lapse before they fail is better for today's home inverters than for an air-conditioning unit or an automobile. Five-year warranties are now common for inverters. Other critics say that the extreme summer heat in Arizona makes the solar units less efficient. This is not true for a properly designed system…. The state's largest solar plants are being built in Prescott and Springerville not because of the lower temperatures but because land costs and availability are lower outside the cities. Most of the higher output in Springerville comes from the elevation and the clear skies…. Solar energy is reliable. Photovoltaics have been used to power almost all satellites for more than 30 years with unprecedented reliability….

Legislation & Regulation

Bill Supports High Occupancy Vehicle Lane Access for Hybrids

[*Calstart web site, April 9*] Sacramento - **Gov. Arnold Schwarzenegger's Administration, … has come out in support of legislation allowing solo drivers of some hybrid-electric vehicles to use car pool lanes, reports *The Los Angeles Times***…. Currently, carpool lane access is allowed only to vehicles carrying two or more people, motorcycles, and zero-emission electric vehicles (EVs) and compressed natural gas vehicles (NGVs)…. Opening HOV [High Occupancy Vehicle] lanes to hybrids is controversial, because even though hybrids are more environmentally friendly than most conventional vehicles, they still rely on conventional fuels and infrastructure, whereas EVs and NGVs promote alternative fuel and infrastructure….

House Bill Includes Funds for Fuel Cell Bus Project

[*Calstart web site, April 9*] Pasadena - **The recently passed House of Representatives version of the $275 billion transportation bill included $65 million for the development and demonstration of fuel cell and hydrogen bus technology**. The House language calls for the establishment [of] the nation's first fuel cell bus technology development program, with the goal of making fuel cell buses commercially viable. The $65 million would be allocated over the six-year life of the federal transportation bill (TEA-LU). The House and Senate Conference Committee is expected to convene later this month to resolve differences in the two versions of the transportation bill. The inclusion of this language was seen as a significant victory for the coalition of transit operators, fuel cell developers, bus manufacturers, and technology companies led by WestStart-CALSTART that are supporting the National Fuel Cell Bus Technology Initiative….

Top Execs Turn to Tax Code to Boost Fuel-Efficient Sales

[*USA TODAY web site, April 8*] New York - **Senior auto executives said [on April 8] that they favor a gasoline tax along with tax breaks to encourage consumers to buy more fuel-efficient vehicles**. They hinted that their fleets could achieve a fuel-economy average as high as 36 miles a gallon in the next decade if the government gives consumers more incentives to buy fuel-efficient vehicles. Ford Motor Chairman Bill Ford and General Motors Vice Chairman Bob Lutz were among those complaining that their companies' attempts to increase fuel economy are being thwarted by consumers' desire for larger vehicles and the lack of government help in making smaller vehicles more financially attractive. There is a disconnect between what society says it wants (more fuel-efficient vehicles) and what the individual consumer is lining up to buy, Ford said. In the first quarter of the year, sport-utility vehicle [suv] sales were up 20 percent over last year, and full-size pickups set a sales record. Ford said a 36-mile-a-gallon fuel-economy average, in the past favored by environmentalists but opposed by the auto industry, is achievable. But it should be driven by consumer demand rather than government regulation, he said. Ford said he has long favored both tax breaks and a gas tax to push sales of fuel-efficient vehicles. We need to put the customer's pocketbook in the middle of this debate, as they did in Europe, he said. In Europe, the largest SUVs are rare and smaller vehicles are the norm because taxes push gasoline to around $5 a gallon. Ford also said the government should consider replacing a tax break for businesses and the self-employed who buy the biggest SUVs with one aimed at gas-electric hybrids and other fuel-efficient vehicles. Ford made the comments as his company prepares to introduce its first hybrid, the Escape SUV, this summer. It will add a hybrid Ford car and a hybrid Mercury SUV by 2007. A tax deduction this year of $1,500 for alternative-energy vehicles such as hybrids phases out by 2007. Aproposed $3,000 tax credit for such vehicles was part of the Bush Administration's energy bill that failed to pass last year. Lutz, noting that higher gas prices haven't hurt demand for big trucks, agreed that a tax to drive prices even higher is the way to spur consumer demand for more fuel-efficient vehicles. When fuel is cheap, people buy bigger vehicles, and you can't regulate yourself out of that. But you can tax yourself out of it, he said. If you want to change the trend, the only way is through dramatically higher gas prices, said Joe Eberhard, the Chrysler Group sales and marketing chief who came to the U.S.A. last year from a stint in Great Britain. But even then, it will take years of much higher prices to change people's buying habits.

Arizona & Western Power

Drought Worsens Across West and Threat of Wildfires Grows

[*New York Times web site, April 12*] Reno - **From the brittle hillsides of Southern California to the drying fields of Idaho, from Montana to New Mexico, a relentless drought is worsening across most of the West, with water supplies dwindling and the threat of wildfires rising**. “Most of the West is headed into six years of drought and some areas are looking at seven years,” said Rick Ochoa, weather program manager at the National Interagency Fire Center in Boise, Idaho. Arizona is facing its worst drought on record. Two enormous reservoirs on the Colorado River are only half full. Some farmers in southern Idaho might not get any irrigation water this summer, and irrigators in western Nevada are threatening war with a country club that wants green grass for a national golf tournament. The mountain snowpack, a crucial reservoir that in a good year holds water until it is needed, was at half or less of the normal March level in many areas. The mountains of Colorado and northern New Mexico got more than a foot of snow [on April 10 and 11], and meteorologists said the Albuquerque area could be looking at

record rainfall this [April]. But this is only a start toward recovery…. The United States Natural Resources Conservation Service says there could be water restrictions and widespread crop and pasture losses in central Nevada, southern Idaho, most of south-central Montana and eastern and southwestern Utah. Most of southern Idaho and parts of southwest Montana are in "exceptional drought," the Department of Agriculture said. That's a step worse than "extreme drought," which the department said best described the situation in other parts of Montana and in Utah, Wyoming, Arizona, New Mexico, Nevada, Oregon and Colorado. With dry trees raising the risk of wildfires, it is not just farmers who will be hurting. Already this year, 10,000 acres have burned in Arizona, along with 8,500 acres in Colorado….

Refiner Moves to Avoid Gas Shortage in Flagstaff

[*Arizona Republic web site, April 14*] **Scottsdale-based Giant Industries said [on April 13] that it boosted production at Bloomfield refinery near Farmington, N.M., to avert gasoline-supply problems in Flagstaff**. Giant's Ciniza refinery near Gallup, N.M., which produces gasoline for the Flagstaff market, was shut down after a fire April 8. The refinery can produce more than one million gallons of gasoline per day and is not expected to be back in production until mid-May. Giant would not say how much of Ciniza's gas is sold in Flagstaff. But so far there are no signs of shortages in the Flagstaff market. The price of non-leaded regular there increased two cents a gallon, to $1.97, following the fire. Prices have now settled back to $1.95.

Western Summit Urges Focus on Clean

[*Reuters, April 15*] Albuquerque - **Western states should take the lead in renewable energy production to meet growing power demands and help establish a balanced energy policy for the nation, New Mexico Gov. Bill Richardson said**. At the opening of an energy summit organized by the Western Governors' Association [WGA], Richardson and leaders of other Rocky Mountain states and a Canadian province said there was a need to expand the production of so-called clean power, such as electricity generated by wind, solar and biomass. "The thing that is intriguing about this conference is that it takes that notion that you're to have multiple sources of energy, that you're going to try to develop them in some orderly fashion over time so that at the end of the day you've actually addressed the problem instead of sort of responded to a near-term crisis," Wyoming Gov. Dave Freudenthal said [on April 14]. Richardson, the chairman of the governors group and a former Energy secretary during the Clinton Administration, also urged Congress to approve legislation to provide for mandatory reliability standards for the electricity grid. He warned that the nation remained vulnerable to blackouts such as an outage in August 2003 that cascaded from Michigan to New York. "I am concerned that we're setting ourselves up for other blackouts in the summer, especially with high temperatures, high heat," Richardson said at a news conference. "This is why it's essential that … Congress pass an energy bill with a mandatory reliability standard that prevents utilities from overloading their systems, that has mandatory fines. Right now they're voluntary. That isn't working." Energy legislation is stalled in Congress and Richardson expressed doubt that it could be approved this year because of election-year disputes. However, he recommended that Congress move ahead with several critical provisions, such as the grid reliability and extension of a federal renewable energy tax credit, and pass those as separate measures…. Colorado Gov. Bill Owens, vice chairman of the WGA, said Western leaders were "united by a common vision ... that energy production and exploration can be, in fact, carried out with an environmentally sensitive ethos." Richardson, Fruedenthal and the premier of Alberta, Ralph Klein, said coal also should be a component of future energy supplies. "We want to concentrate on developing clean coal technology to make it environmentally friendly and acceptable," said Klein. Wyoming has coal-bed methane production. Wells extract gas by pumping water off coal seams. In remarks prepared for a speech to the summit's opening dinner, Richardson said the nation needed a "balanced, innovative energy policy" to end problems such as blackouts and high gasoline and natural gas prices. "The American West — where the wind blows and the sun shines — has the potential to be a major part of our energy solution," Richardson said in remarks. "We could become the nation's energy storehouse — and the economic impacts could be extraordinary." He stressed the need to expand clean energy production. A law enacted this year in New Mexico requires that 10 percent of the state's electricity come from renewable sources by 2010. Richardson pointed out that Schwarzenegger has suggested raising California's renewable energy standard above 20 percent. "That kind of change makes your ears perk up when you are a governor from an Intermountain state, sitting on a mother lode of wind, biomass and solar potential. There are 36 million customers in California," said Richardson. Arizona, New Mexico, Nevada and southern California are considered by many as the "Saudi Arabia of solar energy potential," Richardson said….

What Role Will Wind Power Play in Our Energy Future?

[*Environmental News Network web site, April 13*] **Wind energy is zero-emissions energy, a renewable resource that many environmentalists and alternative energy proponents feel is one of our last, best hopes for staving off devastating climate change**. According to the American Wind Energy Association (AWEA), the average wind turbine can prevent the emission of 1,500 tons of carbon dioxide each year. Globally, wind energy has grown 500 percent since 1997. In 2003, 8,133 megawatts of wind-generating capacity were installed worldwide, according to a recent joint announcement from AWEA and the European Wind Energy Association (EWEA). This brought the world's total wind power generating capacity to 39,294 megawatts, enough to power 19 million European households, according to EWEA. World wind leaders include Germany, the United States, Spain, Austria, and India, each with more than 1,000 megawatts. A number of other countries, including the Netherlands, Italy, Japan, and Great Britain, are nearing the 1,000-megawatt mark. In the United States, there are now wind energy installations in almost every state west of the Mississippi and in many Northeastern states. California leads with more than 2,000 megawatts of installed wind energy, followed by Texas with nearly 1,300 megawatts. In total there were nearly 6,400 megawatts of wind power in the United States as of January 2004, enough to power 1.6 million U.S. homes, and up 50 percent from the installed capacity in the United States at the end of 2001, said AWEA. Offshore wind has enormous growth potential as well. Germany, for instance, recently finalized an agreement to build a 350-megawatt project (with 70 five-megawatt turbines) anchored on the ocean floor off the island of Rügen. In the United States in Massachusetts, the Cape Wind Project hopes to construct a $700 million, 420-megawatt, 130-windmill development that would stretch for five miles off Cape Cod, though it has drawn opposition from some residents, as has the German project, for fears that it will be an eyesore and could harm migrating birds.

Energy-Related Environment

El Nino Can Be Predicted Further Ahead, Scientists Say

[*Reuters, April 15*] London - **The hugely damaging El Nino weather pattern can be predicted further ahead than previously thought, giving farmers crucial time to prepare for its devastating effects, new research shows**. But economists say it will still be difficult to avoid the billions of dollars in damage caused by the phenomenon, when the eastern and central Pacific Ocean heats up, playing havoc with agriculture and causing flooding and drought around the globe. The last severe El Nino took place between 1997 and 1999, causing massive forest fires in southeast Asia and more than $20 billion of damage worldwide. In the past, scientists believed they could predict an El Nino only nine months in advance. But a study published [on April 12] found that previous El Ninos gave warning signs as far ahead as 24 months before they struck. "We conclude that throughout the past century, El Nino has been more predictable than previously envisaged," said the study, published in the journal *Nature*. Back-testing weather data from the past 20 years, Dake Chen of Columbia University in New York and his colleagues were able to forecast El Ninos in 1982 and 1997 accurately two years in advance. In a commentary published with the paper, David Anderson of the European Center for Medium Range Weather Forecasts said the team were able to make better predictions by correcting for errors in previous models used to predict future weather. "If (El Nino) events can be predicted, steps can be taken to mitigate the losses," he wrote. But economist Jay Bryson of U.S. bank Wachovia Corp said more advanced warnings of a looming El Nino might not be enough to lessen its effects, especially on emerging economies which may depend on a single crop. "Even though you know there is an El Nino coming, does it mean that we can really stop its effect?" he asked. "If you had research that could predict the timing and exactly what parts of a certain area would be hit, that would be more helpful."

EPA Plan Would Improve National Park Vistas

[*Reuters, April 20*] Washington, D.C. - **The Environmental Protection Agency [EPA] on [April 16] said it plans to require dozens of states to cut haze that impairs views at U.S. national parks including the Grand Canyon, Yellowstone and the Great Smoky Mountains**. The EPA said it wants to improve shrinking vistas at 156 national parks and wilderness areas by ordering states to submit plans by January 2008 on how they will reduce emissions from coal-fired power plants, metal smelters and 25 other pollution sources responsible for the haze. The tougher air pollution measures would not take full effect until 2018. A federal appeals court in 2002 required the EPA to propose rules by April 2004 and finalize them a year later. The plan, which must undergo public review, takes aim at older, dirtier coal-fired plants built before 1977 that were exempted from previous regulations. Older plants emit more than 250 tons a year of

visibility-impairing pollution, the agency said. The plan would give states options to reduce haze that range from installing emission-reduction devices to adopting emission-trading programs. Such programs allow utilities to swap rights to emit sulfur dioxide and nitrogen oxides while reducing overall levels. Pollution largely from coal-fired power plants reduce summertime vistas in the Great Smoky Mountains by nearly 80 percent, the National Parks Conservation Association said. The Smokies, which straddles the borders of Tennessee and North Carolina, is the nation's most visited national park and the most polluted, according to the association. "Air quality is one of the greatest threats to all of our national parks," said Jill Stephens, an air quality expert at the association. Environmental groups praised the EPA plan but questioned whether states would take sufficient action….

Nearly One in Five U.S. Counties Have Unhealthy Air - EPA

[*Reuters, April 16*] Washington, D.C. - **Americans living in nearly one in five counties nationwide are breathing unhealthy air, according to new ozone rules the Bush Administration unveiled on [April 15**]. The new standards are generally supported by environmental groups, which have bitterly criticized President Bush's White House for relaxing other pollution rules to benefit various industries. The Environmental Protection Agency [EPA] said that 474 of the nation's 2,700 counties in 31 states have unacceptable levels of ground-level ozone, a major ingredient in smog, up from 221 under the previous guidelines. About 159 million Americans live in counties that violate the new standards, the agency said. Ozone is formed when fumes from automobiles, factories and other fossil fuels react with sunlight…. EPA Administrator Mike Leavitt said the agency notified governors of the 31 states about the violations, which require them to submit smog reduction plans in three years…. The agency set compliance deadlines based on the severity of the smog. Areas with marginal to moderate pollution have until 2007 to 2009, while highly polluted counties in California get more time. EPA gave smog-ridden Los Angeles and surrounding counties until June 2021 to comply. The new ozone test stems from 1997 EPA rules delayed by numerous court challenges. The U.S. Supreme Court upheld the rules in early 2001. The new rules allow less ozone – 85 parts per billion down from 120 parts per billion – and require more frequent tests. Violating counties would have to spend more on pollution controls such as requiring cleaner-burning gasoline and power plants and more frequent automobile inspections. The changes mean that about 100 metropolitan areas are in violation of the standards for the first time. They include San Francisco, Denver and many previously compliant suburban and rural areas, the EPA said. Large swaths of Southern California around Los Angeles and the Northeast corridor between Washington and New York have long been out of compliance. Some 19 states pass the test, including large swaths of the West around the Rocky Mountains along with Florida, Iowa, Minnesota, Mississippi and Vermont. Business leaders said the rules could cost states billions of dollars and scare away new industry. "A non-attainment designation could put a black mark on all of these communities, reducing their business opportunities, investment and competitiveness," said Jeffrey Marks at the National Association of Manufacturers….

Operators of Gas Tanks Get Cleanup Aid Last Call

[*Arizona Republic web site, April 14*] **Lawmakers on [April 13] issued a two-year "last call" for gas-tank operators who want the state to help them pay for cleaning up environmental contamination**. Any owner who reports a leaking tank by July 1, 2006, would be able to tap a state fund to cover the first $500,000 of costs related to leaks from underground storage tanks. After that, the tank owners would be on their own, expected to rely on private insurance or other resources to clean up future spills. Senate Bill 1306 also would end the penny-a-gallon tax on gasoline that feeds the fund by 2011. House Majority Leader Eddie Farnsworth, who has been championing the fund's phase-out, said the legislation builds in time for the state to amass $60 million in a fund to pay for the cleanup of so-called "orphan" tank sites, whose owners are dead or otherwise unknown. The bill passed the House Appropriations Committee on a 9-7 vote. Committee Chairman Russell Pearce acknowledged that the bill has flaws, but said it's important to get the state out of the cleanup business. "These are the taxpayers' dollars, and there has to be an endgame," said Pearce, R-Mesa. The Arizona Department of Environmental Quality, which administers the State Assurance Fund, is not opposing the bill. But agency officials are worried the $60 million may not be enough to cover orphan sites.

Valley Not Meeting New Ozone Standard

[*Arizona Republic web site, April 14*] **The Phoenix metro area, including northern Pinal County, is among the estimated 500 areas nationwide that do not meet a new, more-restrictive air pollution**

standard for ozone. That could lead to more rules for residents and businesses, ranging from different fuel blends for summertime drivers to tighter emission standards on recently constructed power plants. The U.S. Environmental Protection Agency [EPA] on [April 15] will announce where areas nationwide stack up when measured against an eight-hour standard for ozone, a largely colorless, odorless pollutant that is linked to a variety of respiratory problems. EPA officials, in Phoenix on [April 13], said that although the metro area doesn't meet the new standard, it is close. That will give local air-quality planners more flexibility in deciding what steps to take to further cut the pollutants that form ozone, said Deborah Jordan, air-division director for the U.S. Environmental Protection Agency's Pacific Southwest region. Power plants could be among the targets. The Phoenix area has had a waiver for years that has precluded planners from taking steps to control nitrogen oxides that come from power plants and contribute to ozone formation. That waiver does not apply to the new standard. "As you know, they've built a lot of new power plants in this area in the last few years," said Colleen McKaughan, state EPA director. Failure to meet the new ozone standard could result in restrictions on business expansion and, ultimately, the loss of federal highway funding. But those deadlines are years off, ranging from 2009 to 2024, depending on the severity of a region's ozone classification. The EPA officials would not comment on how the Phoenix area will be classified. But they indicated that the designation will extend to all areas already subject to various air-pollution controls, ranging from a requirement to take the vehicle-emissions test to using reformulated gasoline. That will include the urbanized area of Maricopa County, including New River and extending almost to Wickenburg. It also will take in parts of northern Pinal County, including Apache Junction and developing areas south of the city. Gov. Janet Napolitano last year recommended that the EPA include only Maricopa County in the pollution-control boundary. But EPA officials in December indicated they would push the boundary into Pinal County to better control areas that contribute to ozone creation. In 2001, the Phoenix metro area met the old ozone standard, which measured the pollutant over one hour, after years of being rated "serious." That progress, Jordan and McKaughan said, is reason to be optimistic about the region's ability to eventually meet the new standard….

Energy/General

Average Annual Cost of Driving a Vehicle Rises

[*Chicago Tribune web site, April 8*] Chicago - **The cost of a owning a car is more than simply the amount of the payment mailed to the lending institution each month**. In its yearly "Your Driving Costs" study, AAA [American Automobile Association] calculates what it costs to own and operate a vehicle for 10,000 miles of annual driving and five years of ownership before trading it in. AAA says motorists pay an average of 68.9 cents a mile, or $6,890 a year, for a 2004 model car, up from 64.2 cents a mile, or $6,420 a year, for an '03. That takes into account gas, oil, maintenance and tires as well as insurance, depreciation, financing charges, license, title, taxes, registration and plates. The 68.9 cents a mile/$6,890 a year is the national average for all vehicles. Costs vary depending on the size of the vehicle. AAA says it will cost you: • 56.8 cents a mile for a compact car such as a Chevrolet Cavalier, up from 55.3 cents a mile for an '03. That translates into an annual cost of $5,680 to own and operate a compact for '04, up $150 from $5,530 for an '03. • 71 cents a mile for a midsize car such as a Ford Taurus, up from 62.1 cents for '03. That's $7,100 a year, an $890 increase from $6,210 for an '03. • 79 cents a mile for a full-size car such as a Mercury Grand Marquis, up from 75.2 cents a mile for a full-size 2003. That's $7,900 for the year, a $380 increase from $7,520 for the '03. • If, like so many others, you've opted for a sport-utility vehicle [suv], the cost per mile for a midsize '04, such as a Chevrolet TrailBlazer, will run 72.7 cents, or $7,270 a year. That's up $730 from $6,540 for an '03. A full-size SUV wasn't included in the study, but AAA calculated the cost and found that for an '04 Ford Expedition, it would be 65 cents a mile, or $6,500 a year, up from 63 cents a mile or $6,300 a year for an '03. The full-size SUV cost is less than the midsize because of depreciation, said John Nielsen, director of automotive repair for AAA, headquartered in Heathrow, Fla., near Orlando. "Full-size SUVs hold their value much better than midsize SUVs," he said. Those who choose minivans will spend 64 cents a mile, or $6,400 a year, to own and operate a Dodge Caravan, for example. That's a $430 increase from 59.7 cents a mile and $5,970 a year for an '03. AAA said actual costs will be a little higher now because the study was conducted when gas was priced at $1.51 a gallon…. All costs were based on two-wheel-drive, not four-wheel-drive vehicles, which consume more fuel…. "New vehicle prices were slightly higher for '04, which, in turn, affected financing costs, vehicle insurance, repair and maintenance costs, as well as taxes, title and registration fees," he said.

Bush's Science Aide Rejects Claims of Distorted Facts

[*New York Times web site, April 4*] **The White House issued a detailed rebuttal [on April 3] to accusations by an advocacy group and 60 prominent scientists that the Bush Administration had**

distorted or suppressed scientific information to suit its politics. In a letter to Congress, which had requested a White House response, Dr. John H. Marburger III, science adviser to President Bush, said most of the accusations were false and in some cases "preposterous." In February, the advocacy group, the Union of Concerned Scientists, which has long criticized administration policies on issues like biotechnology, global warming and nuclear power, released a 38-page report, finding, "There is significant evidence that the scope and scale of the manipulation, suppression and misrepresentation of science by the Bush Administration is unprecedented." The report was endorsed by 60 influential scientists, including 20 Nobel laureates and people who had served in past Republican administrations. [On April 1], Dr. Marburger rejected almost every point. "The accusations in the document are inaccurate, and certainly do not justify the sweeping conclusions of either the document or the accompanying statement," he wrote. In a few places, he said, the administration had erred, but he added that the mistakes had nothing to do with a lack of scientific integrity…. One significant accusation in the group's report was that the administration, in dealing with a wide array of scientific advisory panels, had often dismissed experts, or selected others, because of their views on contentious subjects. Dr. Marburger said that the White House was determined to maintain balance on such committees and that asking for experts' views on issues was a way to achieve diversity. But he said, "The accusation of a litmus test that must be met before someone can serve on an advisory panel is preposterous." He noted that he himself was "a lifelong Democrat." The scientists' group also accused the administration of revising scientific reports to make them mesh better with White House policy. A notable example was a heavily edited section on climate change in a draft E.P.A. [Environmental Protection Agency] report on the environment last year: the White House removed almost any finding pointing to a human link to warming global temperatures. After a battle with the White House, the agency dropped the entire section, leaving a hole in what was supposed to be an overview of environmental trends. [On April 3rd], Dr. Marburger said the section was dropped because more voluminous reports on climate change were in the works. After a quick review of the White House rebuttal, which was released in the afternoon with no notice, Dr. Kurt Gottfried, an emeritus professor of physics at Cornell who is chairman of the Union of Concerned Scientists, said the group would take a fresh look at all the issues. "It's possible there are things we got wrong," Dr. Gottfried said. "We're not infallible, like the Vatican or the White House. But I don't think there's any reason to think we got the big picture wrong. In fact, our case is stronger now than when we produced that report." He did not back down from the group's contention that science was more abused by the current administration than by its predecessors. "I think the average age of those who signed the letter is well over 60," Dr. Gottfried said. "We've seen many an administration come and go, and many have served in those administrations. When we say that this pattern is, in extent, unprecedented we mean that."

Energy Demand, Security Needs in Conflict

[*Calstart web site, April 6*] **The threat of terrorism and the demand for clean energy puts the Bush Administration in a bind, according to *The Christian Science Monitor***. After the 9/11 attacks, Richard Clarke, then America's top counter-terrorism official, rushed to get the U.S. Coast Guard to close Boston Harbor because of the potential threat to liquefied natural gas (LNG) tankers in transit. But LNG shipments resumed weeks later, even though Boston officials filed suit to ban LNG tankers from local waters. A federal judge ruled there was no evidence of a credible threat. The administration appears to be siding with energy firms, who argue the threat is overblown. But communities from Maine to California are pressing for a change in policy, as are some industry experts. "If you locate LNG terminals close to residential areas, urban areas, they become a major terrorist target," says Gal Luft, director of the Institute for the Analysis of Global Security in Washington, an energy security policy think tank. "It's not just terminals, but the whole LNG infrastructure from tanker, to the terminal, to the truck." Because U.S. supplies of natural gas are in short supply, more than 30 LNG terminals are under consideration, including some near densely populated areas like Fall River, Mass., Long Beach, Calif., Logan Township, N.J., and Providence, R.I. But opposition is growing, especially after an explosion at an LNG terminal in Algeria killed 22 and injured 74 in January. Two controversial studies since 9/11, one for the U.S. Department of Energy (DOE) and another for the industry, suggest LNG tanker fires would be a smaller threat than many fear.

Feds Want Air Conditioning Units 30 Percent More Efficient by 2006

[*Tucson Citizen web site, April 5*] Washington, D.C. - **The government agreed [on April 4] to require new central air conditioners and heat pumps to be 30 percent more efficient beginning in 2006**. The Energy Department said it would not challenge a January court ruling stopping it from replacing a Clinton Administration rule with one requiring a less stringent standard. Energy Department officials said they

would enforce the tougher standard, although they previously had tried to roll it back to 20 percent. The 30 percent increase will save consumers about $3.4 billion and avoid construction of 150 power plants in 2020, when new units should be in wide use, said the Alliance to Save Energy.

Gas Forecast for Summer: Up, Up, Up

[*Arizona Republic web site, April 8*] **Phoenix gas prices are headed in the same direction as the Valley's unrelenting summer temperatures: higher**. The price of a gallon of gasoline in Phoenix, which jumped six cents in the past two days, is expected to bounce around through Memorial Day. Then it likely will settle into some uncomfortably high numbers. “It's going to be up a nickel, then down a nickel, but slowly we are working our way to higher costs for the summer,” said David Crowley, AAA Arizona's public-affairs manager. Crowley didn't want to estimate where summer gas prices would level off but believed they would remain under $3 a gallon….

Schools Brace for Arizona Public Service Rate Hike

[*Arizona Republic web site, April 8*] **If APS [Arizona Public Service] receives a rate hike it has requested, school districts will see a 10 to 15 percent increase in utilities bills, which could mean layoffs and program cuts, schools advocates said [on April 7]**. School officials came out in force before the Arizona Corporation Commission to argue against the proposed 9.8 percent average increase. “Higher utility expenses mean less dollars available for instruction,” said Chuck Essigs of the Arizona Association of School Board Officials, who spoke on behalf of 20 school districts. Rates would vary by district, depending upon use, district size, and the energy management system. Every district would have to dip into its own pockets to cover costs. The Paradise Valley School District, whose 45 campuses depend on APS, spent $6.1 million on utilities last year, Assistant Superintendent Jim DiCello said. A 10 percent increase in rates is the equivalent of 16 teaching positions, he said. In 1984, when utilities costs were escalating rapidly, the Legislature allowed school districts to levy local property taxes in excess of their normal budget growth. But the state capped excess utilities during the 2001-02 school year. With districts facing skyrocketing costs in health care and retirement, a utilities rate hike would be one more hardship, particularly for districts with declining enrollment, school officials said. Bill Johnson, chief of facilities and operations for Scottsdale schools, said utility bills would increase 16 percent under the proposed rate hike, according to projections provided by APS. “Scottsdale enrollment declined by 500 last year,” said Johnson, “which means our revenues are going down. We've already trimmed everything we have to the bone.” APS officials said that the company has seen huge increases in operations costs over the past decade, with the cost of natural gas rising by 500 percent in many of their power plants. “And we have not had a price increase since 1990,” said Alan Lee Bunnell, APS media relations manager. The Corporation Commission is recommending an across-the-board decrease in utilities costs of about eight percent….

Industries & Technologies

Experts: U.S. May Be Losing Fuel Cell Race

[*Reuters, April 18*] Latham, N.Y. - **The United States could fall behind in using fuel cells because it already has an extensive infrastructure for other energy sources and spends fewer government dollars on alternatives, industry officials and analysts said**. Countries like China and India, which have rapidly expanding economies but not large-scale electricity distribution networks, could eclipse U.S. efforts to adopt what is called the “hydrogen economy,” free of dependence on fossil fuels for electricity and transportation. “It's a little too early to tell on the U.S.,” said Roger Saillant, chief executive officer of fuel cell developer Plug Power, based in Latham, outside Albany. “There is a risk we're becoming a laggard.” China and India both have ample supplies of coal gas or other fuels to take hydrogen from, making the use of fuel cells easier. Japan, which faces high energy demands and steep oil prices, may also be among the first to embrace the technology, industry observers say. Fuel cells are battery-like devices that combine hydrogen and oxygen to produce electricity without combustion. Under ideal conditions, they release no harmful emissions. David Jollie, editor of *Fuel Cell Today*, a London-based Web site that tracks the industry, agreed that fuel cells will likely take hold first in areas without competing technologies, just as cellular phones have become dominant in many developing countries. “Anywhere there is not an established grid structure or infrastructure there will be more opportunity to get in there,” Jollie said…. “We see the rest of the world as having greater interest in clean energy and energy security

than the United States," Schoenwald said. "A good part of the world is part of the Kyoto treaty and are interested in protecting the environment. This is going to require a fair amount of government support to reduce costs and help development, and the current administration isn't as supportive as we would like." The international climate treaty negotiated in Kyoto, Japan, required industrial nations to reduce by 2012 greenhouse gas emissions blamed for global warming to levels below what they were in 1990. The U.S. did not ratify the treaty. The United States is spending about $200 million this year on hydrogen research, compared to $260 million in Japan, according to the U.S. Department of Energy. Canada is spending $400 million, while the European Union is investing two billion euro ($2.43 billion) over the next several years. David Garman, the Energy Department's assistant secretary of energy efficiency and renewable energy, defends the Bush Administration's commitment to new energy technologies. He cited the president's plan to spend $1.7 billion on hydrogen research and development over the next five years….

Research: Pig Manure Can Become Crude Oil

[*Reuters, April 13*] Urbana, Il. - **A University of Illinois research team is working on turning pig manure into a form of crude oil that could be refined to heat homes or generate electricity**. Years of research and fine-tuning are ahead before the idea could be commercially viable, but results so far indicate there might be big benefits for farmers and consumers, lead researcher Yanhui Zhang said. "This is making more sense in terms of alternative energy or renewable energy and strategically for reducing our dependency on foreign oil," said Zhang, an associate professor of agricultural and biological engineering…. The thermochemical conversion process uses intense heat and pressure to break down the molecular structure of manure into oil. It's much like the natural process that turns organic matter into oil over centuries, but in the laboratory the process can take as little as a half-hour…. Converting manure is sure to catch the attention of swine producers. Safe containment of livestock waste is costly for farmers, especially at large confinement operations where thousands of tons of manure are produced each year. Also, odors produced by swine farms have made them a nuisance to neighbors…. Zhang and his research team have found that converting manure into crude oil is possible in small batches, but much more research is needed to develop a continuously operating reaction chamber that could handle large amounts of manure. That is key to making the process practicable and economically viable. Zhang predicted that one day a reactor the size of a home furnace could process the manure generated by 2,000 hogs at a cost of about $10 per barrel. Big oil refineries are unlikely to purchase crude oil made from converted manure, Zhang said, because they aren't set up to refine it. But the oil could be used to fuel smaller electric or heating plants, or to make plastics, ink or asphalt, he said. "Crude oil is our first raw material," he said….

Schwarzenegger Seeks to Boost Hydrogen-Fueled Cars

[*Reuters, April 20*] Davis, CA - **California Gov. Arnold Schwarzenegger signed an executive order on [April 20] aimed at making California the leader in introducing environmentally friendly hydrogen-fueled cars in the years to come**. Well known for his gas-guzzling Hummers, the former action film star drove a Toyota hydrogen SUV [Sport Utility Vehicle] to refuel at a special station at the University of California Davis. He then signed an order about the fuel cells that produce power through a chemical reaction with only water vapor as a byproduct. "I will sign an executive order creating a public-private partnership creating hydrogen highways all over the state of California by the year 2010," he said. "Hundreds of hydrogen fueling stations will be built. And these stations will be used by thousands of hydrogen-powered cars and trucks and buses. This starts a new era for clean California transportation." Although industry experts say it will be at least a decade or longer before hydrogen cars could become common, backers said Schwarzenegger was helping to prod their gradual introduction…. California already has 22 hydrogen refueling stations; Schwarzenegger hopes there will soon be enough such stations across the state to encourage motorists to drive fuel cell cars. "If you space them roughly every 20 miles, just to make sure a consumer can find the fuel easily, that pencils out to roughly 200 stations," California Environmental Protection Agency secretary Terry Tamminen told *Reuters*. The stations "will send the signal to carmakers that there is going to be a fueling infrastructure ... that they can begin to send vehicles to the showrooms with confidence to break that chicken-and-the-egg situation." Hydrogen stations cost about $500,000 and would be funded by private and federal funds, not state money, he said. President Bush has sought a 43 percent increase in federal spending to develop fuel cell cars and related service stations…. Automobile and energy companies have already invested billions of dollars in hydrogen powered cars. On [April 20], officials showed off about a dozen such vehicles, which looked like regular cars except for their internal machinery. One Sacramento firm, Anuvu, is already selling fuel cell cars for about $100,000 each and expects about a dozen orders this year, said company president Rex Hodge.