Arkansas Renewable Energy News

ARKANSAS Energy Office

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"Clearly, we need more incentives to quickly increase the use of wind and solar power; they will cut costs, increase our energy independence and our national security and reduce the consequences of global warming."

— Hillary Clinton

Little Rock Students Retrofit Bus to Use Biodiesel

Members of the Chemistry Club at Parkview Magnet High School successfully retrofitted a bus to run on a blend of biofuel and ultra-low sulfur diesel "just to show how easily it can be done," according to a recent report on NWAnews.com.

The club raised money to purchase the 35-seat school with a goal of making it "the most environmentally friendly bus that we can," said club President Kundan Das.

The students then took to modifying the bus during their spare time, and even made their own biodiesel from used vegetable oil.

The five liters of biodiesel the students made will be combined with ultra-low sulfur diesel for use in the bus. This biodiesel blend, which creates fewer nitric oxide emissions than 100-percent biodiesel, can be used in an unmodified diesel engine.

In addition to the fuel retrofit, the project team gave the bus a new paint job and tinted the windows to create a cooler interior.

The team also plans to install a special crankcase exhaust-purification system to further reduce emissions.

The bus was displayed at the Earth Day Festival last month at the Clinton Presidential Center in Little Rock.

The club plans to donate the bus to the Little Rock School District at the end of this school year.

Report: Four Key Renewables Markets Increased 40 Percent in 2007

Global clean-energy markets are expanding rapidly, with revenues in four benchmark sectors — biofuels, wind power, solar photovoltaics, and fuel cells — up 40 percent from $55 billion in 2006 to $77.3 billion in 2007, according to the *Clean Energy Trends 2008* report, recently released by clean-tech research and publishing firm Clean Edge, Inc.

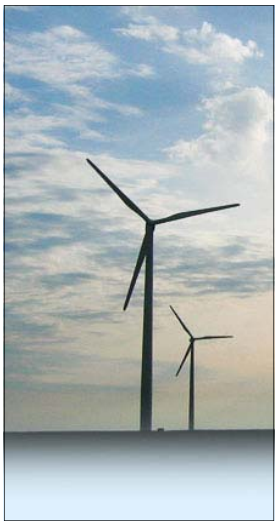
The four sectors are projected to more than triple over the next decade, growing to $254.5 billion by 2017.

The annual *Clean Energy Trends* report can be downloaded free at www.cleanedge.com/reports/reports-trends2008.php.

The 2008 report finds that for the first time three leading clean-energy technologies each surpassed $20 billion in revenue.

According to Clean Edge:

- Biofuels (global production and wholesale pricing of ethanol and biodiesel) reached $25.4 billion in 2007 and are projected to grow to $81.1 billion by 2017. In 2007 the global biofuels market consisted of more than 13 billion gallons of ethanol and 2 billion gallons of biodiesel production worldwide.
- Wind power (new installation capital costs) is projected to expand from $30.1 billion in 2007 to $83.4 billion in 2017. Last year's global wind power installations reached a record 20,000 MW, equivalent to 20 large-size 1 GW conventional power plants.
- Solar photovoltaics (including modules, system components, and installation) will grow from a $20.3 billion industry in 2007 to $74 billion by 2017. Annual installations were just shy of 3 GW worldwide, up nearly 500 percent from just four years earlier.
- The fuel cell and distributed hydrogen market will grow from a $1.5 billion industry (primarily for research contracts and demonstration and test units) to $16 billion over the next decade.



Report Says Wind Can Be Major Contributor to Energy Mix

Wind power is capable of becoming a major contributor to America's electricity supply over the next three decades, according to a new report from the U.S. Department of Energy.

The groundbreaking report, *20% Wind Energy by 2030: Increasing Wind Energy's Contribution to U.S. Electricity Supply*, looks closely at one scenario for reaching 20% wind energy by 2030 and contrasts it to a scenario of no new U.S. wind power capacity.

"DOE's wind report is a thorough look at America's wind resource, its industrial capabilities, and future energy prices, and confirms the viability and commercial maturity of wind as a major contributor to America's energy needs, now and in the future," DOE Assistant Secretary of Energy Efficiency and Renewable Energy for the U.S. Department of Energy Andy Karsner, said.

Included in the report are an examination of America's technological and manufacturing capabilities, the future costs of energy sources, U.S. wind energy resources, and the environmental and economic impacts of wind development. Under the 20% wind scenario, installations of new wind power capacity would increase to more than 16,000 megawatts per year by 2018, and continue at that rate through 2030.

Learn more at the project website at www.20percentwind.org/.

"In these times where working families are paying more than ever at the pump, developing alternative energy will help alleviate our dependence on expensive, foreign oil while creating more, better paying jobs to boost our economy."— Senator Marion Berry

Phillips Community College to Recieve $1.98 Million Grant for Biofuels Training

U.S. Senators Blanche Lincoln and Mark Pryor and Representative Marion Berry recently announced that Phillips Community College of the University of Arkansas has been awarded a $1,986,735 competitive grant from the U.S. Department of Labor. The funding is part of the Community-Based Job Training Grants Initiative designed to help community colleges equip workers with the skills needed by growing local industries.

The grant will allow Phillips Community College to lead a strategic partnership to train at least 550 workers for jobs in the growing renewable energy industry.

In the Arkansas Delta, six bio-refineries are in production or under construction, and more refineries are in the planning stages. The region's continued economic development is tied to the ability to train and educate a workforce. Currently, community colleges lack the capacity to support the development of this much-needed workforce.

"I applaud Phillips Community College and its partners for obtaining this grant to address the Arkansas Delta's education needs and employment opportunities," Lincoln said. "Their proactive efforts are a great example of public and private entities working together to strengthen our state and invest in our fellow Arkansans."

"This grant helps Arkansas establish a highly-skilled workforce in the emerging biofuels industry," said Berry. "With this initiative, we can continue to grow our local economies and make our state the example for others to follow in this new field. In these times where working families are paying more than ever at the pump, developing alternative energy will help alleviate our dependence on expensive, foreign oil while creating more, better paying jobs to boost our economy."

Phillips Community College and its key partners seek to raise the skill level of the workforce by:

- Creating the Center for Excellence for Renewable Energy Technology to produce training materials and programs of study, provide region-wide support to the renewable energy industry, and create career pathways in renewable energy technology;
- Creating a pool of funds for tuition and training fees;
- Creating capacity to train workers in each of the Arkansas Delta's five community colleges; and
- Developing partnerships between community colleges and the workforce investment system to facilitate enrollment of participants and tracking of common measures.

Phillips Community College is one of 69 community colleges awarded a competitive grant from the Community-Based Job Training Grants Initiative. Awardees were chosen from among 341 applications.

Record Oil Prices Spur More Increases in Projected Energy Costs

From *EERE Network News*

With crude oil prices reaching $120 per barrel in April, oil prices for 2008 are now expected to average $110 per barrel. DOE's Energy Information Administration (EIA) also projects that oil prices will remain high in 2009, averaging $103 per barrel, up from $92.50 per barrel in last month's forecast.

EIA's *Short-Term Energy Outlook*, released yesterday, expects gasoline prices to continue rising in response to the high oil prices, with regular-grade gasoline reaching a peak of $3.73 per gallon in June. EIA previously expected gasoline prices to peak in spring. Prices for regular gasoline are projected to average $3.66 per gallon for the summer driving season (April through September) and $3.52 per gallon for the year as a whole. Diesel fuel prices are expected to average $3.94 per gallon for 2008, declining to $3.67 per gallon in 2009.

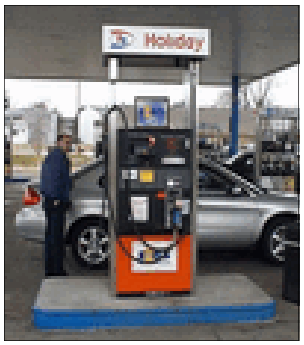
EIA blames the latest price increases on supply disruptions in Nigeria and the North Sea and warns that the global oil system is operating near its capacity, remaining vulnerable to both actual and perceived supply disruptions. The agency expects crude oil production capacity to increase by early next year, providing some spare capacity to ease the upward pressure on oil prices.

Meanwhile, the American Automobile Association's *Daily Fuel Gauge Report* notes that motor fuels again set record prices on May 1, at $3.623 per gallon for regular gasoline and $4.251 per gallon for diesel fuel. See EIA's Short-Term Energy Outlook, and for the latest prices on oil and motor fuels, see the New York Mercantile Exchange website and the American Automobile Association's Daily Fuel Gauge Report website.

Given the latest trends, what will the future hold? Shell's latest visit to its crystal ball concludes that the world is facing an unprecedented energy challenge, which the company sums up succinctly as "more energy, less carbon dioxide." The company has developed two scenarios to describe how the future may unfold, the first being "Scramble," in which global policymakers pay little attention to efficient energy use until supplies are tight.

The policymakers also avoid addressing greenhouse gas emissions until there are "major climate shocks." The near-term result is a global scramble for energy resources, followed by draconian measures to cut energy use, resulting in severe economic impacts.

The second scenario, which Shell describes as "the best hope for a sustainable future," is labeled "Blueprints" and starts with local and regional actions to address energy challenges. These actions eventually link together to form national and international energy policies. Shell declines to say which scenario is more likely, but aspects of both scenarios can be found in recent world energy news. See the Shell scenarios.



Going on a trip and wondering where you can buy alternative fuel along the way? Arkansas Biofuels Suppliers is just what you're looking for! Developed by the Arkansas Farm Bureau, this handy tool identifies refueling stations across Arkansas. The list is searchable by county and updated often. Check it out at www.arfb.com/commodity_marketing/biodiesel/. If you're traveling outside of Arkansas, also see DOE's Alternative Fuel Route Mapper, which can map a route between a start and end point of your choice. It creates a map showing alternative fuel stations along the entire route and displays driving directions for the route. http://afdcmap2.nrel.gov/locator/routepane.asp

Funding Opportunities
Renewable Energy and Energy Efficiency Grants and Loans

The U.S. Department of Agriculture is requesting proposals for Renewable Energy Systems and Energy Efficiency Improvements Grants and Guaranteed Loans.

This initiative supports the purchase of renewable energy systems and energy efficiency improvements for agriculture producers and rural small businesses in eligible rural areas.

Examples of energy efficiency projects include dairy pumps and cooling systems, weatherization of poultry houses, efficient lighting and ventilation, insulation, irrigation equipment, industrial motors, and supermarket refrigeration systems.

Renewable energy systems can include small and large wind turbines, active or passive solar energy systems, geothermal heating and cooling, anaerobic digesters using food or livestock waste, systems using biomass fuels, or facilities producing ethanol or biodiesel.

Some $15 million is expected to be available, with up to 250 awards anticipated. Proposals can be for grants only, for guaranteed loans, or for a combination of both. Applications are due June 16, 2008. For more information, visit www07.grants.gov/search/search.do?mode=VIEW&oppId=41021.

This newsletter is a bi-monthly feature of the Arkansas Renewable Energy website, which features solar, wind, biomass, and other renewable energy sources.

We're on the web: arkansasrenewableenergy.org

You have received this e-mail because you visited the Arkansas Renewable Energy website or expressed an interest in receiving information about renewable energy in Arkansas. Please forward the newsletter to others who may be interested in renewable energy issues in Arkansas.

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ARKANSAS Energy Office

Mark Your Calendars

Here's a sample of the many upcoming events focusing on energy issues. For a more complete list, see our Events Calendar.

Windpower 2008
June 1-4, 2008
Houston, TX
Whether you are an established industry veteran or a newcomer to this exciting and explosive industry, Windpower 2008 has much to offer including three days of conference sessions, an interactive tradeshow of wind energy products and services, and numerous networking opportunities.

Solar Electric Design 102 Workshop
June 5-6, 2008
Hudson, MA
This two-day workshop is the second course in the Solar Electric series and will build upon the introductory concepts presented in Solar Electric Design 101. The event will explore, in greater depth, everything involved in PV system design and installation. Academic and hands-on mini labs will be interspersed throughout, giving participants some practical experience working with actual system components.

Photovoltaic Design for Engineers & Designers: A 3-Day Course on Producing PV Design Documents
June 9-11, 2008
San Francisco, CA
This workshop is for design professionals on the skills needed to produce high-quality PV system designs, feasibility reports, drawings and specifications that are currently in high demand by architectural design teams, engineering firms, developers, and discerning property owners. This class covers grid-tied PV systems. Off-grid system design and bulk power plants for remote distribution are not covered.

Tip of the Month: Develop Green Driving Habits

The way you drive can have a big impact on how much fuel you use and how much greenhouse gas emissions you create. Consider these tips to reduce your fuel consumption, save money, and reduce the environmental impact of driving an automobile. For more information, see "Green Driving Tips," at www.greenercars.org/GreenDrivingTips.pdf

- Drive the speed limit. You'll use 10 percent more fuel driving 75 miles per hour instead of 65.
- Combine trips whenever possible, instead of taking several short trips for errands and other tasks. Engines that are warmed up create less pollution.
- Use fresh air from the windows to cool down instead of the air conditioner ,which increases fuel consumption.
- During the hot weather, park in the shade to keep your car cool and reduce the need for air conditioning.
- Reduce your load. Each 100 pounds that you carry will increase fuel consumption by about 1 percent.
- Make sure your tires are properly inflated. For every 3 pounds that your tires are under-inflated, your fuel consumption will increase by about 1 percent.
- Keep your car tuned up according to the manufacturer's recommended maintenance schedule. A properly tuned car will use less fuel.
- Consider using motor oil labeled as "energy conserving." These contain friction-reducing additives that can save 1 to 2 percent of your fuel.
- Avoid idling whenever possible. Modern cars don't need to be warmed up like their older counterparts.
- Carpool, use mass transit, or walk or bicycle as much as possible. Many companies now offer incentives for employees to reduce their automobile use.