



AIChE® American Institute of Chemical Engineers

THE AIChE ENERGY INITIATIVE

The primary forum for
chemical engineers to discuss,
learn about and impact energy issues.

AIChE®

September 2008

Energy News

- **Integrated Fuel Technologies gets worldwide license for Argonne-developed diesel DeNOx catalyst**

Scientists at the U.S. Department of Energy's (DOE) Argonne National Laboratory have developed a new catalyst to reliably and economically reduce 95 to 100 percent of the nitrogen oxide (NOx) emissions from diesel-fueled engines.

http://www.anl.gov/Media_Center/News/2008/news080701.html

- **New farm bill speeds commercialization of advanced biofuels**

The new bill provides grants covering up to 30% of the cost of developing and building demonstration-scale biorefineries for producing advanced biofuels.

http://www1.eere.energy.gov/biomass/news_detail.html?news_id=11789

- **Researchers generate hydrogen without the carbon footprint**

A greener, less expensive method to produce hydrogen for fuel may eventually be possible with the help of water, solar energy and nanotube diodes that use the entire spectrum of the sun's energy.

<http://live.psu.edu/story/33620>

- **World energy consumption is projected to increase by 57 percent from 2004 to 2030**

The 2008 International Energy Outlook predicts that world marketed energy consumption will grow by 50% by 2030 if current laws and policies remain unchanged, despite sustained high world oil prices.

<http://www.eia.doe.gov/oiaf/ieo/highlights.html>

- **Spent fuel reduction technology**

Scientists have made the first mixed-oxide pellets from recycled spent nuclear fuel in a process that doesn't produce a separate plutonium stream. The process could reduce proliferation concerns associated with spent nuclear fuel. http://www.ornl.gov/info/press_releases/get_story_tip.cfm?ID=92#Article1

AIChE's Energy Initiatives

Explore Alternative Biofuels in August's Issue of CEP

August's issue of Chemical Engineering Progress will include a supplement "Biofuels: Where are We Headed?" regarding developing bioenergy technologies. In the first featured article "Producing Fuels and Chemicals from Lignocellulosic Biomass," authors Rocio Sierra, Aaron Smith, Cesar Granda and Mark Holtzapple describe how lignocellulose from plant roots, stalks and leaves may become a viable feedstock for the chemical and fuel industries due to its advantages over corn such as low resource requirements and high productivity. In the article, "Metabolic Engineering of Next-Generation Biofuels," authors James Liao and Wendy Higashide address how metabolic engineering can synthesize higher-chain alcohols. The alcohols may have greater compatibility with conventional gasoline and may also have better economics than corn ethanol. Finally, Ron Cascone provides insight into one of these higher-chain alcohols, biobutanol, in an article that explains how it can be made via well-known commercial technology and thus could be more rapidly produced. When CEP is published, be sure to look at this supplement at <http://www.aiche.org/cep/>.

AIChE's Annual Meeting in Philadelphia

November 16 - 21, 2008 - Loews Philadelphia Hotel, Philadelphia Marriott Downtown & Pennsylvania Convention Center, Philadelphia, PA

The 2008 AIChE Annual Meeting in Philadelphia will offer a unique focus on the range and diversity of the Chemical Engineering profession with several energy topics on the agenda.

These energy sessions include:

- Alternative Liquid Transportation Fuels: Technology Opportunities, Risks, and Tradeoffs
- Design of Sustainable Processes
- Energy Systems Design and Alternative Energy Sources
- Environmental Applications of Nanotechnology and Nanomaterials
- Environmental Aspects of Biofuels from Farmed Algae
- Fusion Energy Environmental Impacts
- Progress toward Energy Sustainability and Security

Find out more about these sessions here:

<http://aiche.confex.com/aiche/2008/preliminaryprogram/index.html>

**Become more involved in AIChE's energy initiatives.
Email us at energy@aiche.org regarding numerous opportunities.**

www.aiche.org/energy

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