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**FUEL CELL CONNECTION – August 2004 Issue**  
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## News on U.S. Government Fuel Cell Programs

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### 1. DOE Says No-Go to On-Board Fuel Processor R&D

The Department of Energy (DOE) has decided to not continue funding R&D for on-board fuel processing technologies. The DOE says it will continue funding fuel processing technologies for stationary applications, but that it did not feel current technologies for vehicles would meet their commercialization timeline's needs.

[http://www.eere.energy.gov/hydrogenandfuelcells/news\\_fuel\\_processor.html](http://www.eere.energy.gov/hydrogenandfuelcells/news_fuel_processor.html)

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### 2. Savannah River National Lab to Get Center for Hydrogen Research

Government, industry and university leaders broke ground on Aiken County's \$9.2 million Center for Hydrogen Research, which is located on the campus of the Savannah River National Laboratory. The Center is scheduled to open in 2005, and will allow for technology transfer between researchers and industry.

<http://www.edpsc.org/newslist.php?all=0&id=12>

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### 3. DOE Announces STARS Initiative to Boost Student Interest in Science & Math

DOE announced the Scientists Teaching and Reaching Students (STARS) initiative designed to help foster the next generation of American scientists and engineers. The initiative targets students and teachers in grades K-12. The initiative's efforts will include Science Appreciation Days and Career Day programs at national laboratories, the creation of the Office of DOE Science Education, and a yearly "What's Next?" Expo to bring together scientists and corporate innovators to demonstrate breakthrough science technologies expected to become commonplace in the future.

[http://energy.gov/engine/content.do?PUBLIC\\_ID=16145&BT\\_CODE=PR\\_PRESSRELEASES&T\\_CODE=PRESSRELEASE](http://energy.gov/engine/content.do?PUBLIC_ID=16145&BT_CODE=PR_PRESSRELEASES&T_CODE=PRESSRELEASE)

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### 4. International Methane to Markets Partnership to Reduce Methane Emissions

U.S. Environmental Protection Agency Administrator Mike Leavitt announced the U.S. will join the international Methane to Markets Partnership, which will focus on deploying cost-effective technologies in landfill gas-to-energy projects, methane recovery projects at coal mines, and improvements in natural gas systems. The U.S. will commit up to \$53 million over the next five years to facilitate the development and implementation of methane projects in developing countries and countries with economies in transition.

<http://www.epa.gov/methane/international.html>

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### 5. DOE Hydrogen Project Wins R&D Magazine Technology Awards

A hydrogen transport membrane developed at DOE's Argonne National Laboratory has received one of this year's R&D 100 Awards, sponsored by R&D Magazine to recognize the most outstanding technology developments with the greatest commercial potential.

[http://energy.gov/engine/content.do?PUBLIC\\_ID=16320&BT\\_CODE=PR\\_PRESSRELEASES&T\\_CODE=PRESSRELEASE](http://energy.gov/engine/content.do?PUBLIC_ID=16320&BT_CODE=PR_PRESSRELEASES&T_CODE=PRESSRELEASE)

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*6. DOE Building Technologies Program Revamps Site, Creates Fuel Cell Section*

The DOE Building Technologies Program's web site has been redesigned and now features a section under "Choose Building Components" for fuel cell technology.

[http://www.eere.energy.gov/buildings/news\\_detail.html/news\\_id=8126](http://www.eere.energy.gov/buildings/news_detail.html/news_id=8126)

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**New Government Publications Posted**  
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*7. U.S. CRS Report Examines Congressional Role in Hydrogen Economy*

A new report by the U.S. Congressional Research Service, "A Hydrogen Economy and Fuel Cells: An Overview" includes an examination of the role Congress can play in supporting the move to a hydrogen economy.

[http://trb.org/news/blurb\\_detail.asp?id=3994](http://trb.org/news/blurb_detail.asp?id=3994)

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*8. IREC Releases 4<sup>th</sup> Edition of Interconnection Guide*

The Interstate Renewable Energy Council (IREC) has release the 4<sup>th</sup> edition of "Connecting to the Grid: A Guide to Distributed Generation Interconnection Issues." A major addition to the latest version of the Guide is the inclusion of the latest model interconnection applications and agreements. The guide is expected to be available for download from the IREC web site soon.

[http://irecusa.org/articles/static/1/1092081104\\_987096450.html](http://irecusa.org/articles/static/1/1092081104_987096450.html)

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*9. NREL 2003 Research Review Published*

DOE's National Renewable Energy Laboratory has published its 2003 Research Review, which contains a special section entitled "New Horizons for Hydrogen."

<http://www.nrel.gov/docs/fy04osti/36178.pdf>

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**RFP/Solicitation News**  
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*10. Army Issues Market Survey for Fuel Cell APUs*

The Army's Tank-Automotive and Armaments Command (TACOM) is conducting a market survey to identify companies and partnerships that can perform modeling and simulation, laboratory testing, reformation R&D, and fuel cell integration for a military environment. The initial target is development and testing of a 5-20 kW APU prototype for the military within 3-5 years. Deadline for response to the survey is September 23, 2004. No funding is available to compensate responses to the survey, which are voluntary.

<http://www.eps.gov/spg/USA/USAMC/DAAE07/MARKET-SURVEY-TAR-FC-04-1/listing.html>

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*11. IFC Extends Deadline for Fuel Cell Financing Initiative Proposals*

The International Finance Corporation has extended the deadline for responses to its Fuel Cell Financing Initiative RFP. The new deadline is September 30, 2004.  
<http://www.ifc.org/ifcext/enviro.nsf/Content/FuelCell-2004>

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*12. CEC Accepting Proposals for Energy Innovations Small Grant Program*

The California Energy Commission is accepting proposals for the Energy Innovations Small Grant Program. Approximately \$2.4 million is available for projects related to Environmentally-Preferred Advanced Generation, Renewable Generation, and other categories. Deadline for grant applications is September 30, 2004.  
<http://www.energy.ca.gov/contracts/smallgrant/index.html>

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*13. Pennsylvania Opens Alternative Fuels Incentive Grant Program Solicitation*

Pennsylvania is now accepting applications for grants to pay up to 20 percent of the eligible costs of purchasing alternative fuel vehicles, constructing alternative refueling stations and performing advanced technology vehicle research and development. Since the program was created in 1992, the state's Department of Environmental Protection has awarded close to \$20 million to fund 291 projects in 44 counties. Deadline for applications is October 1, 2004.  
<http://www.dep.state.pa.us/newsletter/default.asp?NewsletterArticleID=8994>

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*14. DOE Coal Technologies and Capabilities Grant Notice Features Hydrogen Area of Interest*

The DOE's National Energy Technology Laboratory issued a grant notice to support applications in the Coal and Environmental Systems Program. One of the four Program Areas of Interest is "Coal Fuels and Hydrogen" which features subtopics on Hydrogen Storage and Advanced Solid Separation Technologies, among others. Deadline for responses is October 5, 2004.  
<http://www.fedgrants.gov/Applicants/DOE/PAM/HQ/DE-PS26-04NT42249-0/Grant.html>

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**Contract / Funding Awards**  
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*15. DOE Announces University Coal Research Competition Winners*

DOE is awarding \$3.4 million to 22 universities through the annual University Coal Research Competition. Topics of winning projects include Materials for Hydrogen Storage, Novel Hydrogen Separation Technologies, and Membranes for Methane Reforming.  
[http://www.fossil.energy.gov/news/techlines/2004/tl\\_ucr\\_awards\\_04.html](http://www.fossil.energy.gov/news/techlines/2004/tl_ucr_awards_04.html)

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*16. Raytheon Awards Fuel Cell APU Contract to Hydrogenics*

Raytheon Integrated Defense Systems has awarded a contract to Hydrogenics to supply an integrated fuel cell auxiliary power unit for use in military applications.  
[http://www.hydrogenics.com/ir\\_newsdetail.asp?RELEASEID=140603](http://www.hydrogenics.com/ir_newsdetail.asp?RELEASEID=140603)

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*17. DOD Awards \$2.5 Million for Nanotech Fuel Cells*

The Department of Defense has awarded \$2.5 million to Nanomaterials Discovery Corporation for its work with the Army Material Command at Picatinny Arsenal to use nanotechnology to produce a new class of portable fuel cells for soldiers and munitions.  
[http://www.nanomaterialsdiscovery.com/news\\_82404.asp](http://www.nanomaterialsdiscovery.com/news_82404.asp)

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*18. Lynntech Receives Funding from NASA for Fuel Cell, Electrolyzer*

Lynntech has been awarded a \$1.33 million contract from NASA Glenn Research Center for a 5-kW fuel cell and electrolyzer.

<http://prod.nais.nasa.gov/cgi-bin/eps/synopsis.cgi?acqid=111955&type=award>

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**State Activities**  
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*19. Pennsylvania Park Project to Include Fuel Cell-Powered Ice Rink*

Pennsylvania Governor Edward Rendell and Community and Economic Development Secretary Dennis Yablonsky presented a \$1 million check to The Venango Park and Natural Resource Authority for creation of "The Treehouse Village" at Two-Mile Run County Park. Plans for the project include an ice rink powered by the park's own fuel cell.

<http://www.fuelcelltoday.org/FuelCellToday/IndustryInformation/IndustryInformationExternal/NewsDisplayArticle/0,1602,4839,00.html>

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*20. New York Launches Renewable Energy Incubator*

Leaders of the New York State Energy Research and Development Authority, High Tech Rochester, Greater Rochester Enterprise and Rochester Institute of Technology announce the formation of the Renewable Energy Network of Entrepreneurs in Western New York (RENEW NY). The Network's goal is to create a cluster of renewable energy companies in Western New York. [http://www.rit.edu/~930www/News/inthenews/2004-07/070604\\_yahoo\\_news.pdf](http://www.rit.edu/~930www/News/inthenews/2004-07/070604_yahoo_news.pdf)

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**Industry Headlines**  
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*21. Honda Develops Fuel Cell Scooter*

Honda has developed a scooter powered by its own fuel cell stack which is capable of starting at sub-freezing temperatures. [http://world.honda.com/news/2004/2040824\\_03.html](http://world.honda.com/news/2004/2040824_03.html)

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*22. New Study on Safety of Garages for Hydrogen Vehicles*

California Fuel Cell Partnership has released a new study entitled "Support Facilities for Hydrogen-Fueled Vehicles: Conceptual Design and Cost Analysis Study." The report is expected to be helpful for facility designers and code developers regarding important commercialization scenarios for hydrogen-fueled vehicles and supporting infrastructure.

[http://www.cafcp.org/news\\_releases-04/2004\\_08\\_16\\_FacilityStudy.html](http://www.cafcp.org/news_releases-04/2004_08_16_FacilityStudy.html)

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*23. New Simulation Tool for SOFC Design*

CD adapco Group has developed a new Expert System, es-sofc, which works with the Computational Fluid Dynamics solver STAR-CD as a specialized virtual design, prototyping and testing environment. <http://www.cd-adapco.com/news/releases/es-sofc.htm>

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**University Activities**  
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24. *Innovative Program to Teach University Students About Fuel Cell, Energy Technologies*

The Society of Manufacturing Engineers, NextEnergy and other industry, research and education authorities have collaborated on a program to teach alternative energy basics to university students. "Energy, Sustainability and Fuel Cell Technologies" will be held on October 11, during the Advanced Energy & Fuel Cell Technologies Conference & Expo in Livonia, Michigan. Students attending the program will be given a roadmap on how to prepare for a future career in energy. <http://www.sme.org/cgi-bin/get-press.pl?&&20040062&PR&&SME&>

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25. *Rutgers Releases Report on Hydrogen Opportunities for New Jersey*

The Center for Energy, Economic and Environmental Policy at Rutgers University released a report titled "New Jersey: Opportunities and Options in the Hydrogen Economy" that recommends five steps policymakers can take to help determine whether it's in the state's interest to promote hydrogen. [http://policy.rutgers.edu/ceeep/images/ceeep\\_report7\\_04.pdf](http://policy.rutgers.edu/ceeep/images/ceeep_report7_04.pdf)

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26. *University Fuel Cell Roundup*

(contributed by Kathy Haq, Dir. of Communications and Outreach, National Fuel Cell Research Center, UC Irvine, khaq@apep.uci.edu)

Engineers from the University of Tasmania and Germany's Technical University of Nurenburg have spent the past six months designing and building a hydrogen-powered scooter as part of an Australian pilot program. (June 2004, *Fuel Cell Technology News*)

The University of Tasmania Engineering School and Hydro Tasmania will collaborate to develop a Renewable Hydrogen Research Program. The Program brings together University of Tasmania research capability and Hydro Tasmania's renewable energy development expertise. (June 2004, *Fuel Cell Technology News*)

The University of Delaware and Delaware State University announced that BP, the global energy company, and the BP Foundation, have awarded them \$3.75 million in renewable energy research and products. The research will focus on developing higher efficiency solar cells at lower costs and a range of research on hydrogen fuel cell technology. The University of Delaware will conduct research on hydrogen policy initiatives and fuel cell catalysts, while Delaware State University will undertake research on hydrogen storage materials. (June 2004, *Fuel Cell Technology News*)

Atofina Chemicals, Inc. has been awarded a \$5.77 million DOE grant to accelerate its research and development aimed at low-cost, durable membranes and membrane-electrode assemblies for stationary and mobile fuel cell applications. The money will be divided between Atofina and its development partners, which include United Technologies Corporation [UTC Fuel Cells], Johnson Matthey [Johnson Matthey Fuel Cells, Inc.], Georgia Tech, and the University of Hawaii. (June 2004, *Fuel Cell Technology News*)

FuelCell Energy, Inc. and its U.S. distribution partner, PPL Energy Plus, a PPL Corporation subsidiary, have installed a Direct FuelCell power plant for Ocean County Community College, a public, two-year community college in Toms River, New Jersey. The DFC300A power plant, which will provide 250 kW of electric power as well as heat to several buildings on the campus. FuelCell Energy has provided DFC300A power plants for two other university installations: Yale University in New Haven, Conn., and Grand Valley State University in Muskegon, Mich. (June 2004, *Fuel Cell Technology News*)

MesoFuel, Inc. is beginning a three-year \$3 million Advanced Technology Project to develop and demonstrate a compact system for safely generating pure hydrogen fuel to boost the efficiency of proton exchange membrane fuel cell stacks by up to 50 percent. ATP will provide \$1.98 million for the project. Subcontractors include the University of New Mexico, which will synthesize materials

and provide membrane expertise, and Washington State University, which will develop a novel catalyst. Intelligent Energy Ltd. will assist with testing the hydrogen generation systems and integrating the fuel cell and related components. (June 2004, *Fuel Cell Technology News*)

The state of Colorado plans to invest \$2 million to establish the Colorado Fuel Cell Research Center at the Colorado School of Mines in Golden. (5-Jun-2004, *Rocky Mountain News*)

IdaTech, which recently won a \$9.6 million award from the U.S. Department of Energy to develop a 50-kilowatt fuel cell system for providing energy sources for large facilities that are not linked to a traditional power grid, agrees to stay in Bend after receiving a \$150,000 incentive from city and state economic development leaders. The incentive package calls for increased collaboration with Oregon State University and the University of Oregon. (6-June-2004, *The Associated Press*)

Doug Lavanture of Bristol, a high school senior using equipment at the University of Notre Dame, experimented with a modified methanol fuel cell and earned an \$8,000 scholarship from the U.S. Navy. (12-Jun-2004, *South Bend Tribune*)

Boston University cancelled plans to install a 4 MW fuel cell as its primary power source after the local utility warned the university that it would be required to pay large connection fees for standby power, whether the school drew power or not. (14-Jun-2004, *Consulting-Specifying Engineer*)

Bruce Rittmann from Northwestern University in Illinois has received NASA funding to develop a fuel cell that uses microbes to make electricity out of human waste. (16-Jun-2004, *The Independent*)

Rochester Institute of Technology's Center for Integrated Manufacturing Studies has announced a new industry partnership formed through the US Fuel Cell Council and the Environmental Protection Agency. The goal of this new effort is to provide for the logistics, guidance and sharing of information associated with the development of direct methanol fuel cells [DMFC] for the portable electronics market, particularly as it pertains to end-of-life strategies. (22-Jun-2004, *AScribe Newswire*)

HTC Hydrogen Thermochem Corp. is contributing \$100,000 a year for five years to establish a new industrial research chair in engineering at the University of Regina to help it find ways of taking hydrogen fuel from the laboratory to the street. One of the projects the research chair will be involved in is the proposed Prairie Hydrogen Energy Network, which involves the reformation of hydrogen from natural gas, and the production of electricity and transportation fuel from hydrogen. (22-Jun-2004, *The Leader-Post*)

Case Western Reserve University and its partners in the Power Partnership for Ohio are implementing a \$780,000 grant from the National Science Foundation to develop a fuel cell curriculum at the secondary and associate degree levels and to enhance related curriculum at select universities in Ohio. The NSF grant was awarded to Stark State College of Technology in Canton, a member of the Power Partnership for Ohio, to develop an associate degree fuel cell curriculum that will be offered as an option within several engineering technology programs at Stark. Other higher education partner includes Cleveland State University, The Ohio State University, Ohio University and the University of Toledo. (July 2004, *Fuel Cell Technology News*)

The U.S. Department of Energy selected Pacific Fuel Cell Corp. for a Phase I Small Business Technology Transfer grant. The intended start date is Sept. 1, 2004, and the University of California-Riverside will be the participating non-profit research institution. (20-July-2004, *Business Wire*)

Nikkei reports that Honda Motor Company, working with Kagoshima University and Yakushima Denko Co, has conducted field trials of a fuel cell vehicle that runs on hydrogen produced using

Yakushima Island's abundant water resources. The university, which put up more than 50 million yen, was the matchmaker that brought the parties together. (24-Jul-2004, *The Press*)

University of Toledo researchers received more than \$1.3 million in state funds to buy equipment for efforts to convert diesel and other fuels into hydrogen for powering fuel cells, part of more than \$30 million in grants the state has doled out to universities and companies in the last two years. The article says Ohio and Michigan are considered to be among the top five states nationwide in promoting the research and sale of fuel cells. (24-Jul-2004, *The Blade*)

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**Administration**  
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Press releases and story ideas may be forwarded to Bernadette Geyer, editor, for consideration at [bernie@usfcc.com](mailto:bernie@usfcc.com).

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**About Fuel Cell Connection**  
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**The Sponsors**

*U.S. Fuel Cell Council* -- The U.S. Fuel Cell Council is the business association for anyone seeking to foster the commercialization of fuel cells in the United States. Our membership includes producers of all types of fuel cells, as well as major suppliers and customers. The Council is member driven, with eight active Working Groups focusing on: Codes & Standards; Transportation; Power Generation; Portable Power; Stack Materials and Components; Sustainability; Government Affairs; and Education & Marketing. The Council provides its members with an opportunity to develop policies and directions for the fuel cell industry, and also gives every member the chance to benefit from one-on-one interaction with colleagues and opinion leaders important to the industry. Members also have access to exclusive data, studies, reports and analyses prepared by the Council, and access to the "Members Only" section of its web site.

[\(http://www.usfcc.com/\)](http://www.usfcc.com/)

*National Fuel Cell Research Center* -- The mission of the NFCRC is to promote and support the genesis of a fuel cell industry by providing technological leadership within a vigorous program of research, development and demonstration. By serving as a locus for academic talent of the highest caliber and a non-profit site for the objective evaluation and improvement of industrial products, NFCRC's goal is to become a focal point for advancing fuel cell technology. By supporting industrial research and development, creating partnerships with State and Federal agencies, including the U.S. Department of Energy (DOE) and California Energy Commission (CEC), and overcoming key technical obstacles to fuel cell utilization, the NFCRC can become an invaluable technological incubator for the fuel cell industry.

[\(http://www.nfcrc.uci.edu/\)](http://www.nfcrc.uci.edu/)

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<http://www.netl.doe.gov>