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## **FUEL CELL CONNECTION -- April 2001 Issue**

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----- 1. *FY2002 Budget Roll-Out Proposes Decreased Funding for Hydrogen and Fuel Cell Programs*

The FY2002 budget proposed by the new Administration calls for cuts in funding for fuel cell and hydrogen programs:

Hydrogen Research: FY2002, \$13.9 million proposed, a 49.9% reduction from the program's FY2001 appropriated budget.

Stationary Fuel Cells (in Fossil Energy Office budget): FY2002, \$45.1 million proposed, a 14.2% cut from the program's FY2001 appropriated budget.

PNGV Program: FY2002, \$239.4 million proposed, a decrease of 6.3% from the program's FY2001 appropriated budget. The new administration plans to streamline and refocus PNGV, "to give greater flexibility to the automakers and greater benefits to the taxpayer." An amendment proposed by the White House after the budget roll-out has caused some uncertainty as to the exact funding requested for the PNGV and Hydrogen programs. Some sources say as much as \$40 million is being withdrawn from DOE's portion of the PNGV budget to be moved into programs in DOE's Solar and Renewable Energy budget, which includes funding for the Hydrogen Program.

Advanced Technology Program (in Commerce Department/Technology Administration budget): FY2002, \$13 million proposed. This request, combined with the estimated carryover from the previous year and recoveries, would provide an operating budget of \$79.9 million, which would cover continued funding requirements of previous awards. The Administration proposes that *no new awards be made in FY2001 or FY2002 while the ATP is evaluated by the Commerce Department*. ATP has awarded funding to fuel cell and hydrogen research projects through its past competitions.

http://www.energy.gov/HQDocs/budget/support_docs.htm

http://www.nist.gov/public_affairs/releases/fy2002.htm

----- 2. *Comments Sought on NASA Plan for University-Based Research Centers*

Comments are being sought on a NASA plan to implement a number of University-based research centers, to be known as Research, Engineering, and Technology Institutes (RETIs), which would research emerging technologies "that can have a revolutionary impact on the missions that NASA pursues in the future." Within the program's "Aeropropulsion and Power" area of interest, high power density fuel cells and alternate fuels are listed as sub-topics. NASA is expected to provide initial funding of up to \$3.0 million per year per RETI for up to five years. Comments on the Draft Cooperative Agreement Notice are due by May 3, 2001. The final announcement is expected to be released May 11, with Notices of Intent/White Papers Due June 15, 2001.

<http://nais.msfc.nasa.gov/cgi-bin/EPs/bizops.cgi?gr=D&pin=04#10-00020>

----- 3. *DOE/IDB to Help Fund Clean Energy Projects in Latin America and Caribbean*

The U.S. Department of Energy, in cooperation with the Interamerican Development Bank (IDB), has established a fund to help commercialize sustainable energy projects throughout Latin America and the Caribbean. The \$1.25 million Hemispheric Sustainable Energy Fund (HSEF) will finance feasibility studies, market analysis, and project appraisals.

http://www.naturalist.com/sb/display.cfm?Objectid=80834AF0-A2E5-4138-B8D5E5DE9E9F0E9C&Type=4&method=display_SB

4. PNNL Announces Advances in Fuel Processor for Soldier Fuel Cell System

Pacific Northwest National Laboratory demonstrated a full-size, advanced design fuel processor that converts methanol into hydrogen for a man-portable fuel cell power system for the U.S. Army's Communications-Electronics Command. The power system would supply 15 to 25 watts of power inside a system weighing 10 times less than batteries soldiers currently carry, while increasing the amount of power available to a soldier.

<http://www.pnl.gov/news/2001/01-13.htm>

5. General Dynamics to Work with Medis Technologies on Fuel Cells for Military

General Dynamics Communication Systems has signed an agreement with Medis Technologies, of Israel, to develop and market fuel cells and fuel cell-powered portable electronics products for the U.S. Department of Defense. The 200-watt fuel cells will utilize direct liquid methanol.

http://www.medisel.com/press_view.cfm?press_id=73

6. Biomass Conference Seeks Abstracts on "Green Hydrogen"

The 5th International Biomass Conference of the Americas has just added a session on "Green Hydrogen." They are interested in receiving abstracts as soon as possible on the subject of biomass-based thermal and photosynthetic production of hydrogen. The conference, which is being sponsored by National Renewable Energy Laboratory, will be held in Orlando, Florida, September 17-21, 2001.

<http://www.fsec.ucf.edu/bioam/>

7. Status of SOFC Research Discussed at 2nd SECA Workshop

The second Solid-State Energy Conversion Alliance (SECA) Workshop featured eighteen presentations on developments in solid oxide fuel cells. Highlights included a presentation from Bob Nowak of DARPA, who detailed the military's interest in fuel cells and noted that use of the technology – instead of batteries – for power at re-transmission sites could save the military as much as \$874 per day per site. Another highlight was a DOE-sponsored study of SOFC applications for the transportation industry, which projected that if all U.S. Class 8 trucks were fitted with a fuel cell APU, the fuel savings would amount to ~420 million gallons of diesel annually, and result in an annual reduction of 4.6 million tons of carbon dioxide. Proceedings and presentations will be posted on the National Energy Technology Laboratory web site.

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

8. Hydrogen Program Annual Review Highlights

The Hydrogen Program Annual Review featured reports on the status of hydrogen research and demonstration projects funded by DOE. Highlights from this year's review included Enable Fuel Cells' demonstration of a flashlight powered by a fuel cell the size of a D-cell battery -- integrated with a metal hydride -- which could run for 3-4 hours at -16°C. Another highlight was a report from the University of Miami, which has developed models of hydrogen releases in buildings and residential garages, to determine the risks imposed by the accidental release of hydrogen. The University is producing a video comparing a hydrogen vehicle fire with a fire in a gasoline combustion engine. The video will show that in the hydrogen vehicle fire, no damage was sustained by the vehicle; the flame lasted only 100 seconds and was limited to the area directly

above the trunk where the hydrogen was vented. The video shows that in the gasoline combustion engine fire, the vehicle was severely damaged and took half an hour to completely extinguish. Proceedings and presentations from the review will be posted on the DOE Hydrogen Program web site.

<http://www.eren.doe.gov/hydrogen/>

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**RFP/Solicitation News**  
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9. DOE/NETL Clean Fuels Solicitation Withdrawn

DOE's "Supporting Science and Enabling Technologies for Clean Fuels" solicitation, which was reported in the March 2001 issue of the *Connection*, has been withdrawn at this time.

<http://www.netl.doe.gov/business/solicit/main.html#41114>

10. Solicitation for Participation in CARAT Fuel Cell Research Forthcoming

DOE plans to issue a Solicitation for Financial Assistance to invite applications to participate in the Cooperative Automotive Research for Advanced Technologies (CARAT) Program. The annual solicitation seeks innovative research and development in seven topic areas, including "Fuel Cells for Auxiliary and Portable Power." The solicitation will be released on or about April 27, 2001. Pre-applications will be due approximately two weeks following the release of the solicitation.

<http://www.ch.doe.gov/business/acq/open.htm>

11. New PIER Solicitation Focuses on Fuel Cells & Turbines

California's PIER Program has issued a solicitation for Research, Development, and Demonstration Projects Focused on Fuel Cells, Micro and Small Turbines, Fuel Cell/Turbine Hybrid Systems, Balance of Plant Subsystems, and Related Technologies. The solicitation falls under the Environmentally Preferred Advanced Generation (EPAG) area of the PIER Program. The total available funding for this solicitation is anticipated to be up to \$26 million, and a single proposal may request up to \$3 million in funding. Deadline for proposals is June 4, 2001.

http://www.energy.ca.gov/contracts/RFP_500-00-509/2001-04-04_RFP_500-00-509.pdf

12. NETL Biomass Solicitation Includes Use of Fuel Cells

National Energy Technology Laboratory has issued a solicitation for "Biomass Research & Development: Advanced Biomass Power Generation Technologies." Systems developed under the solicitation are to be "predominantly based on advanced biomass gasification technologies and may incorporate advanced turbine and stationary fuel cell technology for productions of electricity from biomass." DOE expects to provide up to approximately \$1 million to support work under this solicitation. Proposals are due June 8, 2001.

<http://www.netl.doe.gov/business/solicit/2001pdf/41130/41130.pdf>

13. Climate Change Fuel Cell Program Solicitation Issued with Changes from Draft

The DOE Climate Change Fuel Cell Program solicitation announced in the March 2001 edition of the *Connection* has been formally issued with two significant changes: the amount of funding available for the solicitation has been reduced to \$1.8 million (from \$2.5 million); and the deadline for proposals has been moved to June 28, 2001 (from June 1, 2001).

<http://www.netl.doe.gov/business/solicit/main.html#40867>

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**Contract Awards**  
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14. FEMP Awards Funding to Fuel Cell DER Project

After receiving 89 responses to its Distributed Energy Resources solicitation, DOE's Federal Energy Management Program awarded 16 applicants with funding totaling over \$700,000. One of the projects receiving funding is a DOD/Army Fuel Cell Heat Recovery project that will be located in Arizona. The amount of funding awarded was unspecified.

<http://www.eren.doe.gov/der/pdfs/apr20der.pdf>

15. Army to Acquire IdaTech Fuel Cell

The U.S. Army Communications-Electronics Command (CECOM) Acquisition Center is contracting with IdaTech to lease a 1kW PEM fuel cell APU, which will be used to test the operating characteristics of a man-portable power system.

<http://frwebgate3.access.gpo.gov/cgi-bin/waisgate.cgi?WaisdocID=762538518+0+0+0&WaisAction=retrieve>

16. Fuel Processor Research Receives Funding from DOD DUST Program

McDermott Technology, BMX Technologies and Northern Research & Engineering Corp. received funding through the DOD Dual Use Science and Technology (DUST) Program for development and testing of a 500kW integrated fuel processor for reforming NATO F76 fuel. The research will focus on the technology's potential for Navy use, as well as commercial application. The amount of funding awarded was unspecified.

<http://www.dtic.mil/dust/crg/01navy.htm>

17. Thor Receives DOT Funding for Fuel Cell Bus Project

Thor Industries announced that its Thunderpower joint venture with ISE Research has received \$740,000 in funding from the U.S. Department of Transportation's Advanced Vehicle Program, to support development and demonstration of a hybrid fuel cell/electric bus. The 60kW PEM fuel cell for the bus will be supplied by International Fuel Cells.

<http://www.intertechusa.com/E-News/Energy/04/news07.htm>

18. DOC Requests Quotation for Hydrogen Generator

The U.S. Department of Commerce has issued a Request for Quotation to Proton Energy Systems for its Hogen 40 hydrogen generator, including PEM fuel cell stack.

<http://frwebgate4.access.gpo.gov/cgi-bin/waisgate.cgi?WaisdocID=834641844+0+0+0&WaisAction=retrieve>

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**Legislation**  
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19. Energy Self-Sufficiency Act Proposed

The Energy Self-Sufficiency Act for the 21st Century (H.R. 1045) was introduced by Representative Heather Wilson (R-NM). The bill focuses on distributed energy resources (DER), addressing interconnection issues, tax incentives, and R&D of new technologies, including fuel cells. The bill would appropriate \$236 million for each fiscal year 2002 through 2007.

http://frwebgate.access.gpo.gov/cgi-bin/getdoc.cgi?dbname=107_cong_bills&docid=f:h1045ih.txt.pdf

20. Senate Introduces Bill to Provide Tax Credits for Fuel Cell Vehicles

A bi-partisan group of U.S. Senators, led by Orrin Hatch (R-UT) and Jim Jeffords (R-VT), has introduced the CLEAR Act (S.760 – Clean Efficient Automobiles Resulting from Advanced Car Technologies Act), which would provide significant tax credits for fuel cell vehicles. Under the bill, fuel cell vehicle buyers would receive tax credits per vehicle of \$4,000 up to \$40,000, depending on vehicle weight. The bill also provides a tax credit to fuel retailers of up to \$0.50 per gasoline equivalent gallon of alternative fuels (including hydrogen and methanol), which must be passed along at the pump.

http://frwebgate.access.gpo.gov/cgi-bin/getdoc.cgi?dbname=107_cong_bills&docid=f:s760is.txt.pdf

21. NY State Legislation Proposes Tax Exemptions for Clean Vehicles

Legislation proposed in the New York State Assembly by Assemblyman Sam Hoyt (D-Buffalo) would provide a sales and compensating use tax exemption for retail sales of new motor vehicles that meet “clean vehicle standard” regarding emissions and fuel economy. Qualifying vehicles would have to meet California SULEV standards, and have a fuel efficiency that is at least one and one half times the average fuel efficiency for vehicles in their weight class. The exemption would expire in 2006.

<http://assembly.state.ny.us/leg/?bn=A06646>

22. Washington State Proposes Tax Exemptions for Renewable & Fuel Cell Power Plants

A bill in the Washington State Legislature proposes exempting electric generating facilities using fuel cells, landfill gas, wind, or solar energy from sales and use taxes. The bill includes generation facilities as low as 200-watts, and would take effect July 1, 2001, sunseting June 30, 2009. The bill was approved by both the state House and Senate, and has been delivered to Governor Gary Locke.

<http://www.leg.wa.gov/wsladm/billinfo/dspBillSummary.cfm?billnumber=1859>

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**Industry Headlines**  
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23. FuelCell Energy Unveils New Manufacturing Facility

FuelCell Energy unveiled its new manufacturing facility in Torrington, Connecticut, in a ceremony led by Connecticut Governor John G. Rowland. The new 65,000-square foot facility will allow for the expansion of manufacturing capacity of power plants to 50MW annually by the end of this year. It has the potential to expand to an annual production capacity of more than 400MW by 2004.

http://www.fuelcellenergy.com/site/investor/press/releases/2001/04_17_01.html

24. IFC to Deliver First Fuel Cells in Latin America

International Fuel Cells has sold three PC25 fuel cell systems to Sieco S.A., an IFC distributor and provider of premium power equipment and services headquartered in Argentina. The units will be installed in Brazil and operated by Companhia Paranaense de Energia, which provides electricity for 2.7 million customers. These will be the first commercial fuel cell systems to operate in Latin America.

<http://www.internationalfuelcells.com/news/archive/040901.shtml>

25. Fuel Cell Video Camera Now Commercially Available

PowerTek International Corporation has unveiled its first commercial fuel cell-based power product – a camera power system (CPS) that replaces and outperforms batteries for professional video cameras. Compared to batteries, the CPS has a 300 percent longer run-time and the hydride cartridges can be refueled with hydrogen in one-fourth the time it takes to recharge a typical battery for the video cameras.

<http://www.powertek-international.com>

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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@fuelcells.org.

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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 five active Working Groups focusing on: Codes & Standards; Transportation; Power Generation; Portable Power; and Education & Outreach. 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/)

National Energy Technology Laboratory -- The National Energy Technology Laboratory is federally owned and operated. Its mission is "We Solve National Energy and Environmental Problems." NETL performs, procures, and partners in technical research, development, and demonstration to advance technology into the commercial marketplace, thereby benefiting the

environment, contributing to U.S. employment, and advancing the position of U.S. industries in the global market.

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