To: Reporters, editors and investors following business, energy, automotive and technology news.

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TRANSPORTATION

**Freedom CAR Program to Replace PNGV.**

DOE Secretary Spencer Abraham announced a new partnership program, the Freedom Cooperative Automotive Research (CAR) partnership – with Ford, General Motors and DaimlerChrysler – to fund research into hydrogen fuel cell vehicles. The program "will focus on the research needed to develop technologies such as fuel cells and hydrogen from domestic renewable sources." DOE did not yet specify any details such as funding levels or timelines. The Freedom CAR program will replace the Partnership for a New Generation of Vehicles, which was started in 1993.

http://www.energy.gov/HQPress/releases02/janpr/pr02001_v.htm

**GM Unveils Fuel Cell-Powered AUTOnomy Vehicle.**

General Motors unveiled its AUTOnomy concept vehicle, which would feature a hydrogen-fed fuel cell and a unique "skateboard chassis", which includes the propulsion and other critical systems. With customized bodies that are easy to switch, customers could lease multiple body styles, depending on their needs.

http://www.gm.com/company/gmability/environment/products/adv_tech/autonomy1_010702.html

**Nissan Unveils New Green Program.**

Nissan Motor Company unveiled a new medium-term plan intended to develop environmentally sound vehicles. The plan, known as "Nissan Green Program 2005," also includes the goal of beginning commercial production of a fuel cell vehicle (FCV) by the end of 2005. Nissan said it hopes to participate in a Japanese government demonstration of FCVs that will begin later this year.

**Hyundai, Kia to Work With UTC Fuel Cells.**

Hyundai Motor Company recently signed a memorandum of understanding with UTC Fuel Cells to develop fuel cell powered vehicles. Hyundai affiliate Kia Motors Corporation will also contribute to the initiative.

http://www.utcfuelcells.com

**Scooters in India.**

Government-run Scooters India, Ltd. plans to release three new alternative-fuel scooters by the end of 2002, in addition to a fuel cell-powered model in 2003. Two of the models to be introduced this year are battery-powered, while a third is fueled with liquefied petroleum gas.
LPG), or propane. The new scooters are expected to cost between 125,000 and 160,000 rupees (between $2,600 and $3,300).

http://www.scootersindia.com

**Toyota to Build FC Research Center.**
Toyota Motor Corporation plans to construct a fuel cell (FC) research center in an effort to support its development of fuel cell-powered vehicles. The new center will consolidate research currently conducted by different divisions throughout the company and will be staffed by 450 employees.

http://www.toyota.com

**STATIONARY POWER**

**Plug Power and Valliant Install First CE Certified Fuel Cell in Europe.**
Plug Power Inc. and partner, Valliant Gmbh, have installed the first CD (European Conformity) certified PEM fuel cell heating appliance in Europe. The unit was installed in a multi-family home in Gelsenkirchen, Germany, to provide the home’s heat, hot water and electricity. The system operates on natural gas and produces 4kW of electricity and 9kW of heat.

http://biz.yahoo.com/prnews/020128/nym040_1.html

**DCH Ships Fuel Cell System to European Utility.**
DCH Technology, Inc. has shipped a natural gas-fueled 5kW fuel cell system to a major European utility for installation next month. The Electric Power Research Institute (EPRI) worked with the European utility, a member of EPRI, and DCH to develop the equipment specification and to select key sub-systems such as the ultra-capacitor for load buffering.


**Hydrogen Fuel Cell Facility to Open on Oahu.**
The U.S. Department of Defense (DOD), UTC Fuel Cells, Hawaiian Electric Company, and the Hawaii Natural Energy Institute (HNEI) have formed a joint project to open a hydrogen fuel cell research facility on Oahu. HNEI will evaluate the performance and reliability of fuel cells using test stands designed and manufactured by UTC Fuel Cells. The initial funding for the effort comes from a $1.5 million DOD appropriation for research collaboration between HNEI and the Naval Research Laboratory under the Hawaii Energy and Environmental Technology Initiative.

http://www.soest.hawaii.edu/HNEI/news.html

**EBARA Unveils 2nd Generation Residential Fuel Cell, Strengthens Alliance with Ballard Generation Systems, Tokyo Gas, and EBARA Corporation.**
EBARA BALLARD unveiled the second generation of its engineering prototype 1-kW PEM fuel cell stationary power generator for the Japanese residential market. The volume of the new prototype has been reduced by 40 percent from the first-generation. The natural gas-fuelled cogeneration unit is the product of a collaboration involving Ballard Generation Systems (BGS), EBARA BALLARD, EBARA Corporation and Tokyo Gas. The collaboration has recently signed a three-year agreement to commercialize the units and BGS and EBARA BALLARD also signed a Patent and License Agreement to license Tokyo Gas´ unique fuel processing technology worldwide for PEM fuel cell systems.

http://www.ballard.com/viewpressrelease.asp?sPrID=257
Global and BPA Form Strategic Alliance.
Global Thermoelectric, Inc. has reached an agreement with the Bonneville Power Administration (BPA) for the development, evaluation and distribution of Global's solid oxide fuel cell (SOFC) products. The company said it expects to deliver three SOFC systems to BPA for field-testing in 2003.

Proton Completes Contract with NASA.
Proton Energy Systems, Inc. has completed a contract with NASA for an advanced solid-state 1 kW capable UNIGEN® Unitized Regenerative Fuel Cell (URFC) system. NASA selected Proton to demonstrate UNIGEN URFC systems as energy storage technology for zero gravity and micro-gravity environments. This advanced fuel cell system, incorporating features that eliminate rotating equipment such as fans, compressors and pumps, was developed under a $600,000 contract to NASA as part of its Small Business Innovation Research, or SBIR, program.

Teledyne Modifies DOE Contract.
Teledyne Energy Systems, Inc. executed a contract modification to deliver a PEM fuel cell power system to the U.S. Department of Energy (DOE) under the continuation of work begun by Energy Partners, Inc. Scheduled for delivery late in 2002, the 7kW prototype system will be fueled by natural gas and used by DOE to evaluate the operating characteristics of PEM fuel cell systems under operating conditions similar to those encountered by both vehicle and stationary power plants.

PORTABLE POWER

Medis Receives Order from Military.
Medis Technologies has received a $75,000 purchase order to define a specification and carry out the preliminary design of a direct liquid ethanol/methanol fuel cell for a new energy pack for infantry soldiers.

Manhattan Sciences Receives Patent.
Manhattan Sciences was awarded a new patent covering the use and manufacturing of its MicroFuel Cell power devices for portable electronics. The patent will facilitate the integration of the MicroFuel Cell into various consumer and industrial applications, including a portable and wearable charger for cellular phones, laptop computers, camcorders and power tools.

FUELS/REFORMERS/STORAGE

Global Thermoelectric and PERC to Develop Propane Fuel Processor. Global Thermoelectric Inc. has been awarded a grant of up to US$500,000 by the U.S. Propane Education and Research Council (PERC) for the development of a propane fuel processor.
Global’s solid oxide fuel technology can operate cleanly and efficiently using hydrocarbon fuels, such as propane.

Teledyne to Ship Hydrogen Generation Systems.
Teledyne Technologies, Inc. has unveiled its H2Oasis hydrogen gas station, developed for on-site hydrogen production and is scheduled to ship the unit next month. The H2Oasis can generate up to 1,500 standard cubic feet of hydrogen per hour at pressures of up to 5,000 pounds per square inch.

FUEL CELL COMPONENTS

Greenlight Launches Fifth Generation Test Station.
Greenlight Power Technologies, Inc. has launched its fifth generation Fuel Cell Test Station (FCTS) for product development, and is unveiling it through a demonstration program with Cellex Power Products. The latest FCTS has been designed for proton exchange membrane fuel cells and is available in four different power ranges to service testing of fuel cell stacks in the 1kW to 250kW power range.
http://www.energyinfosource.com/dg/news.cfm?id=14632

SatCon Receives Orders for Controllers.
SatCon Technology Corporation’s SatCon Power Systems has received orders for its StarSine™ Power Conditioning System (PCS) from FuelCell Energy to provide the electrical balance of plant for several of FuelCell Energy’s Direct (DFC®) fuel cells.
http://biz.yahoo.com/bw/020108/82141_1.html

Novamet Develops Green Nickel Oxides for SOFCs.
Novamet Specialty Products has developed a range of green nickel oxides for solid oxide fuel cell (SOFC) anodes. The oxides are produced using a process for the controlled oxidation of nickel powder derived from the thermal decomposition of nickel carbonyl gas.

Coetema Delivers New Coating Unit.
Coetema Coating Machinery GmbH has developed a special unit for sintering, impregnating, and coating gas diffusion layers. It can also coat catalyst onto membranes. The unit was delivered to the Forschungszentrum Jülich (FZJ) in Germany to boost its direct methanol fuel cell program.

Medis’ Subsidiary to Develop Polymer Technology.
Medis Technologies, Ltd. has received an order from a U.S. company to develop a new application for the use of the Highly Electrically Conductive Polymers (HECP) of Medis’ subsidiary, More Energy Ltd. The HECP will be for use in a PEM fuel cell component.
http://biz.yahoo.com/bw/020131/312061_1.html

NREL Awarded Subcontract for Fuel Cell Project.
The Colorado School of Mines selected National Renewable Energy Laboratory to be the subcontractor on a $1.1 million contract to develop new electrocatalysts for proton exchange membrane fuel cells.
DCH to Provide Hydrogen Sensors.
DCH Technology, Inc. announced a contract for 12 H2SCAN sensor systems with Applied Analytics, a supplier to the power generation industry. Applied will use the systems as replacements for alternative sensors monitoring hydrogen used to cool large turbine electric generators.

REPORTS/MARKET STUDIES

SAE Study Addresses FCV Barriers.
Environmental Defense Fund senior fellow John DeCicco has released a comprehensive study of fuel cell vehicles (FCVs) published by the Society of Automotive Engineers (SAE). The report, titled "Fuel Cell Vehicles: Technology Market, and Policy Issues," highlights the rapid progress in FCV development and identifies future struggles facing the commercialization of the technology. In his report, DeCicco lauds the efforts of automobile manufacturers to develop FCV technologies.
http://www.environmentaldefense.org/pressrelease.cfm?ContentID=487

Fuel Cells Texas Releases Three Reports.
Fuel Cells Texas, a non-profit trade association of fuel cell companies focused on Texas, released three reports prepared by its consultants, Good Company Associates, documenting clean energy incentive programs for Texas. The papers evaluate three major areas of possible incentive programs for fuel cells. Additional policy analysis papers are planned for completion in coming months on infrastructure barriers, education and training needs, industrial development, and the status of the various fuel cell technologies.
http://biz.yahoo.com/prnews/020118/daf038_1.html

MISCELLANEOUS

HARC and Sieco, S.A. Sign Collaborative Agreement.
The Houston Advanced Research Center (HARC) and Sieco, S.A., of Buenos Aires, Argentina, have signed a cooperative agreement to develop projects that promote new technologies related to fuel cells, power generation and energy storage in South America.
http://www.harc.edu/pressroom/02_0118a.html

New Venture Formed.
Mitsubishi Corporation will join with Johnson Matthey and Royal Dutch/Shell Group subsidiary Shell Hydrogen to form a joint venture that will target the development of fuel cells and hydrogen-based technology. The joint venture will be known as Conduit Ventures, Ltd. The three companies plan to raise $100 million in funding, with each member contributing seed investments.
CAS Launches PEM Fuel Cell Program. The Chinese Academy of Sciences (CAS) is planning to launch a proton exchange membrane (PEM) fuel cell program, with a total investment of up to 100 million yuan (US$12 million) over the next three years.

REQUESTS FOR PROPOSALS

Research on Fuel Cells by Minority Colleges and Institutions.
The National Energy Technology Laboratory has issued a solicitation for Support of Advanced Fossil Resource Utilization Research by Historically Black Colleges and Universities and Other Minority Institutions. Technical topics include "Fuel Cells" and "Advanced Coal Utilization", which includes research on advanced fuel cell concepts utilizing coal as a fuel. Funding awards will be up to $200,000 per project, depending on the length of the project period. Approximately $900,000 total is available for the grant awards resulting from this solicitation. http://www.netl.doe.gov/business/solicit/2002/41430/41430.pdf

Objective Force Warrior Program Solicitation.
The U.S. Army Natick Soldier Center at the Soldier Biological and Chemical Command "has a requirement for concept development, design, fabrication and delivery of prototypes for an Objective Force Warrior (OFW) multi-functional combat system of systems". Fuel cells are considered one of the "Must Have" components of the OFW program, specifically advanced hybrid fuel cells providing 72+ hours of power. https://www3.natick.army.mil/ssbusops.htm

State Energy Program Special Projects Solicitation.
Several fuel cell-related categories are included in the FY2002 State Energy Program Special Projects solicitation. Special Projects options for the Mid-Atlantic Region include "Uninterrupted Power Source" (testing and evaluation of fuel cells of approximately 1-5 kilowatts to provide power as an uninterruptible source and/or peak shaving plant); "Power Park" (demonstrate the use of hydrogen as an energy carrier for remote areas); "Compressors, Storage and Dispensers" (test the ability of a hydrogen generation system to fill buses and/or light and heavy duty vehicle storage tanks); and "Distributed Energy Resources Technologies (including fuel cell projects to support long term testing and/or engineering/system design and support). Approximately $18.5 million is available to states to implement projects under this solicitation. http://www.eren.doe.gov/buildings/state_energy/corner_cafe/special_projects.html

Residential PEM Fuel Cells.

NYSERDA Funds Available for DG and CHP Projects.
The New York State Energy Research and Development Authority (NYSERDA) will award up to $10 million in multiple cost-shared contracts for a new program to support new product development of distributed generation (DG) systems, components, and related power systems technologies. NYSERDA anticipates an initial allocation of up to $4 million for new product development and the balance of the allotted funds for demonstration of CHP.
Distributed power generation technologies eligible include fuel cells, microturbines, and reciprocating engines.
http://www.nyserda.org/669pon.html

CONFERENCES/CALL FOR PAPERS

Fuel Cell Dynamics.

Fuel Cell Course.

SAE World Congress.
The SAE 2002 World Congress takes place March 4-7, 2002, at the Cobo Center in Detroit, Michigan. For information, check out www.sae.org/congress.

AIChE’s Energy & a Sustainable Planet.
The American Institute of Chemical Engineers is holding “Energy & a Sustainable Planet” on March 10-12, 2002, at the Hilton New Orleans Riverside in New Orleans, Louisiana. For details, go to www.aiche.org/criticalissues.

Building Energy 2002 Conference.
The Building Energy 2002 Conference will be March 20-23, 2002, at Tufts University in Medford, Massachusetts. For more information, please visit http://www.nesea.org.

Aspen Clean Energy Roundtable IX.

2nd Annual Fuel Cell Investor.


The Second Annual BCC Conference, “Connections to Commercialism,” will be April 8-9, 2002, at the Holiday Inn Select in Stamford, Connecticut. For registration information, go to
Small Fuel Cells.

On April 25, 2002, the California Fuel Cell Partnership will host its second annual Technology Forum at its headquarters for fuel cell vehicle testing in West Sacramento, California. For more information, go to www.cafcp.org/event_upcoming.html.

The Business Case of Fuel Cells in Transportation.
“The Business Case of Fuel Cells in Transportation” will be held April 30 – May 1, 2002, at the Dearborn Inn, Detroit Michigan. For more information, email Nick Rotsides at nrotsides@eyeforfuelcells.com.

Joint Program Review.
The U.S. Department of Energy’s Hydrogen Program, Fuel Cells for Transportation Program, and Fuels for Fuel Cells Program will be holding a joint Program Review on May 6-10, 2002, in Denver, Colorado. For meeting logistics, contact Cathy Padro at cathy_padro@nrel.gov.

PGRES ’02 Call For Papers.


Future Car Congress.

Succeeding in the LOHAS Market.

Mid-Atlantic Sustainability Conference.

ACS Advances in Hydrogen Energy Call for Papers.
The 224th American Chemical Society’s National Meeting will take place August 18-22, 2002, in Boston, Massachusetts. This symposium features work on all aspects of hydrogen as a fuel and energy carrier. Visit http://www.anl.gov/PCS/acsfuel/ for author instructions.


EVS19.

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Fuel cells generate electricity without combustion by harnessing the energy created when hydrogen and oxygen are chemically combined. Fuel Cells 2000 is an independent, nonprofit activity dedicated to the commercialization of fuel cell technologies.