

THE CARBON SEQUESTRATION NEWSLETTER

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February 2005

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Sequestration in the News

Greenwire, "Utilities brace for climate change pressures but still plan new coal plants." A survey of 75 U.S. and 14 Canadian utility companies, conducted by GF Energy, finds that 93 percent expect increasing pressure on CO₂ emissions, but that "Coal is expected to be the generating method of choice given high natural gas prices and other factors." Said Roger Gale, the president and chief executive officer of GF Energy, "We are faced with a whole new world out there. The amount of investment in infrastructure this industry is going to have to do is huge relative to what they have been used to." January 6, 2005, <http://www.wbcds.org/plugins/DocSearch/details.asp?type=DocDet&ObjectId=12489>

Oil & Gas Journal, "IEA: CO₂ capture, storage offer emissions solution." This article highlights a new IEA book, "The Prospects for CO₂ Capture and Storage," released last month at COP-10 in Buenos Aires. According to the book, carbon dioxide capture and underground storage (CCS) could constitute as much as half of the global emissions reduction by 2050. The publication describes the challenges for CCS to reach market introduction and achieve its full potential within 30-50 years. The article also discusses the CCS process, CO₂ sources, and R&D efforts. January 6, 2005, http://ogj.pennet.com/articles/article_display.cfm?ection=ONART&C=GenIn&ARTICLE_ID=218750&p=7 (subscription required). "The Prospects for CO₂ Capture and Storage" can be purchased for EUR-100 (EUR-80 for PDF) on IEA's website at <http://www.iea.org/dbtw-wpd/bookshop/add.aspx?id=190>

The Yomiuri Shimbun, "Huge CO₂ emission cuts proposed." The Japanese government's proposal for long-term energy policy includes a call for reduction of CO₂ emissions in advanced nations to 3.1 billion tons by 2050, one-fourth of 2002 levels, and to 600 million tons by 2100, one-twentieth of 2002 levels. To achieve these goals, the government proposed research and development of new technologies in three areas: nuclear power, including reprocessing of nuclear fuel; geologic carbon sequestration; and renewable energy sources. January 12, 2005, <http://www.climateark.org/articles/reader.asp?linkid=38033>

The Washington Times, "Climate: Low-carbing the atmosphere." Article highlights carbon sequestration technology as "the leading weapon in the U.S. government's arsenal against climate change." Discusses the many different types of storage, including: ocean, soil, depleted oil reservoirs, and trees. Mentions research and field tests performed by the University of Kansas, the University of Alberta, and Anadarko. January 31, 2005, <http://www.washtimes.com/upi-breaking/20050128-124908-5585r.htm>

EnergyPulse, "Four Major Events Advance IGCC During 2004." Article highlights the DOE-funded demonstration projects at Wabash River, IN and Polk, FL as moving IGCC toward commercial viability. Also cites GE's purchase of Chevron Texaco and its announcement of three financially sound utility launch partners (Cinergy, AEP, and FPL) as enhancing IGCC prospects. Mentions "the potential sequestration of carbon dioxide" as well. January 6, 2005, http://www.energypulse.net/centers/article/article_display.cfm?a_id=903

Sun & Stars e-magazine, "Greenpeace: Clean coal not possible." According to Jasper Inventor of Greenpeace, "CCS will not start before 2020, if it materializes at all - and will not become commercially available as a possible effective mitigation option until 2030. The majority of CCS deployment is likely to come in the second half of this century. It will be too late to save the climate." January 29, 2005, <http://www.sunstar.com.ph/static/ilo/2005/01/29/news/greenpeace.clean.coal.not.possible.html>

Seven News, "Burying CO₂ emissions would aid climate." Highlights a new report by the Australian Bureau of Agricultural and Resource Economics (ABARE) entitled, "Near Zero Emissions Technologies." "ABARE modeling indicates that using carbon capture and geological storage technologies could significantly reduce the global economic costs of meeting an international carbon emissions constraint," ABARE said. "Because of Australia's high dependence on fossil fuels and availability of geological carbon storage sites, use of these technologies has the potential to have a larger impact." This is contrary to the findings of a September 2004 report released by the Australian Institute, as reported in the October 2004 Carbon Sequestration Newsletter. January 18, 2005, <http://seven.com.au/news/nationalnews/154008>

AETF Review, "Regulating Geosequestration." This is a corporate response to the Draft Regulatory Framework for Geosequestration, which appeared in the October/November 2004 issue of *AETF Review*. In their response, Origin Energy, an Australian utility, supports a broad regulatory framework that provides a carbon signal. "There is currently little impetus for investments in greenhouse gas mitigation technologies as there is no framework which outlines the mechanism by which carbon will be valued in Australia, nor any clear guidelines about the treatment of exiting assets and new entrants." The topics addressed by Origin include: access and property rights, long term responsibility, environmental issues, authorization and compliance, monitoring and verification, transportation, and financial issues. December/January 2004/05, <http://aetf.emcc.net.au/ContentStore/pdf/ReviewDecJan2004.pdf>

Announcements

IPCC Special Report on Carbon Dioxide Storage and Capture, Invitation to Comment. The U.S. Department of State, the Climate Change Science Program Office (CCSPO) is coordinating the solicitation of comments by U.S. experts and stakeholders to inform development of an integrated set of U.S. Government comments on the IPCC "Special Report on Carbon Dioxide Storage and Capture" (SRCCS). To be considered in development of the U.S. position, comments must be received at CCSPO by close of business on February 23, 2005. For questions regarding the review process, contact Dave Dokken at ddokken@usgcrp.gov or 202-419-3473 (direct voice). For more information visit <http://www.climatechange.gov/Library/ipcc/srccs-review.htm>

"Carbon Dioxide Capture and Storage Projects Receive Funding." The Minister of Natural Resources Canada announced the awarding of \$10.8 million in funding under the CO₂ Capture and Storage Incentive Program to four Canadian companies. Said Minister Efford, "It will be exciting to see the results of these projects - CO₂ storage is an important part of our climate change strategy, and we need to continue supporting new approaches that significantly reduce harmful emissions." The four projects are located in Alberta and involve converting and reconfiguring existing wells or using new processes to explore the potential and benefits of CO₂ storage. *CNW Telbec*, January 17, 2005, <http://www.cnw.ca/fr/releases/archive/January2005/17/c3545.html>

Science

The topic of climate change appeared frequently in the news coverage of the past month, due to recent events (i.e. the tsunami that struck Asia and Tony Blair's promise to advance global climate change policy as head of both the G8 and EU). Some of the articles are as follows:

"Global warming to reach point of no return in 10 yrs – report." A new study by a US-UK-Australian taskforce entitled, "Meeting the Climate Challenge," says global warming is 10 years away from the point of no return, with widespread drought, crop failure, and water shortages the likely result. "There is an ecological time bomb ticking away," said Stephen Byers, former British transport minister, who co-chaired the taskforce that produced the report. The report urges all G8 countries to agree to generate a quarter of their electricity from

renewable sources by 2025, and to double their research spending on low-carbon energy technologies by 2010. *AFX*, January 24, 2005, http://www.fxstreet.com/nou/noticies/afx/noticia.asp?pv_noticia=1106531283-9e32d306-01706

To download the report visit http://www.tai.org.au/Publications_Files/Papers&Sub_Files/Meeting%20the%20Climate%20Challenge%20FV.pdf

"Biggest-ever climate simulation warns temperatures may rise by 11 °C." The greenhouse effect could be far more severe than experts had previously predicted, according to results from the world's biggest climate-modeling study. In the worst-case scenario, doubling carbon-dioxide levels compared with pre-industrial times increases global temperatures by an average of more than 11 °C (19.8 °F). The results are the first from climateprediction.net, a project that harnesses the world's desktop computers to predict climate change. More than 90,000 people have downloaded software that uses the spare capacity of their computers to run global climate simulations. *Nature*, January 26, 2005, <http://www.nature.com/news/2005/050124/full/050124-10.html>

"Biggest mass extinction tied to global warming." Two studies published in the journal *Science* challenge the theory that an asteroid triggered the extinction of the dinosaurs 65 million years ago. One report offers new evidence that global warming caused by massive and prolonged volcanic activity may have been the chief culprit. A second set of findings suggested that the warming also crippled the oceans' ability to refresh their oxygen supply, causing the seas to go sterile, destroying marine life and allowing anaerobic bacteria to release poisonous hydrogen sulfide into the air. *San Francisco Chronicle*, January 21, 2005, <http://sfgate.com/cgi-bin/article.cgi?file=/c/a/2005/01/21/MNG0GAU75D1.DTL>

"Fossil fuel curbs may speed global warming-scientists." According to a BBC documentary, reducing fossil fuel pollution could accelerate global warming and help turn parts of Europe into desert by 2100. The piece describes research suggesting fossil fuel by-products like sulphur dioxide particles reflect the sun's rays, "dimming" temperatures and almost canceling out the greenhouse effect. The researchers say cutting down on the burning of coal and oil, one of the main goals of international environmental agreements, will drastically heat rather than cool climate. *Reuters*, January 13, 2005, <http://www.alertnet.org/thenews/newsdesk/L12551308.htm> Also see, "Why the Sun seems to be 'dimming'," *BBC News*, January 13, 2005, <http://news.bbc.co.uk/go/pr/fr/-/2/hi/science/nature/4171591.stm>

"Drought's growing reach: NCAR study points to global warming as key factor." The percentage of Earth's land area stricken by serious drought more than doubled from the 1970s to the early 2000s, according to a new analysis by scientists at the National Center for Atmospheric Research (NCAR). Widespread drying occurred over much of Europe and Asia, Canada, western and southern Africa, and eastern Australia. "Rising global temperatures appear to be a major factor," says NCAR's Aiguo Dai, lead author of the study. Interestingly, "the United States has bucked that trend, becoming wetter overall during the last 50 years," says Dai. *EurekAlert*, January 10, 2005, http://www.eurekalert.org/pub_releases/2005-01/ncfa-dgr011005.php

“Global warming will impact nitrogen use.” Agricultural Research Service (ARS) scientists have been trying to determine whether higher CO₂ levels will increase the amount of nitrogen that wheat and other crops need in order to grow. The results of a two-year study - reported in the January/February 2005 issue of *Agronomy Journal* - found that wheat grown under elevated levels of carbon dioxide over the next half century will need slightly more nitrogen to grow, but not as much as previously predicted. *Grand Island Independent*, January 23, 2005, http://www.theindependent.com/stories/012305/new_warming23.shtml (registration required)

Policy

“Plan would let big polluters put money into research rather than cut emissions.” One of the latest proposals for implementing the Kyoto climate treaty in Canada would allow large industrial polluters to put money into research and development rather than cutting greenhouse emissions. Instead of requiring a 55-megatonne cut from the large emitters, as originally proposed, the proposal suggests a cut of 20 to 25 megatonnes. Big polluters could earn emissions credits by contributing to a Technology Investment Fund intended to foster clean energy and environment-friendly innovation. The fund could also support infrastructure projects, for example pipelines to carry carbon dioxide from large emitters to places where it could be used in underground oil and gas recovery. *The Canadian Press*, January 19, 2005, <http://www.wbcd.org/plugins/DocSearch/details.asp?type=DocDet&ObjectId=12850>

“Auto makers wouldn't sell guzzlers in Canada to meet Kyoto target.” Auto industry representatives claim that gas-guzzling luxury cars and big SUVs could be withheld from the Canadian market in coming years if Ottawa makes good on threats to impose fuel-efficiency standards. They say it is technically impossible to redesign cars in time to meet the fuel-efficiency target set out in Canada's Kyoto implementation plan, so withholding some models could be the only alternative. *The Calgary Herald*, January 21, 2005, <http://www.wbcd.org/plugins/DocSearch/details.asp?type=DocDet&ObjectId=12888>

“Pacific Gas & Electric Company to certify and report GHG emissions.” PG&E has certified its greenhouse gas emissions inventory with the California Climate Action Registry. PG&E is a charter member of the Registry and is now publicly and voluntarily reporting its GHG emissions from generation, transmission, and distribution of gas and electricity in California. Starting next year, all of the electric power companies and utilities in the Registry program will also report efficiency metrics along with their inventories. *Point Carbon*, January 20, 2005, <http://www.pointcarbon.com/article.php?articleID=6102&categoryID=147>

Geology

“Interfacial Interactions between Reservoir Brine and CO₂ at High Pressures and Elevated Temperatures.” Investigators studied surface tension and its effects upon the transfer of CO₂ into brine and vice versa under conditions that simulate the injection of supercritical CO₂ into a geologic formation containing brine. Factors studied included interface disappearance, the swelling effect, the shrinking effect, and wettability alteration. Results indicate that a maximum CO₂ solubility is achieved in a depleted reservoir or saline aquifer as long as the operating pressure exceeds a threshold value. *Energy & Fuels*, January 19, 2005, pp 216-223, <http://pubs.acs.org/cgi-bin/sample.cgi/enfuem/2005/19/i01/pdf/ef049792z.pdf>

Technology

“From hydrocarbon to hydrogen-carbon to hydrogen economy.” The objective of this paper is to explore novel approaches to solving energy and environmental problems associated with the production of hydrogen from fossil fuels. The paper discusses the technological, environmental, and economical aspects of large-scale production of hydrogen and carbon by the catalytic dissociation of natural gas (NG). The authors propose a scenario of fossil-based “hydrogen-carbon” infrastructure, where the hydrogen component of NG is used as a clean energy carrier (e.g., in transportation) and the carbon component is used in several application areas: structural materials, power generation, soil amendment, and environmental remediation. *International Journal of Hydrogen Energy*, March 2005, <http://www.sciencedirect.com/science/journal/03603199>

Ocean

“Scientists Discover Liquid Carbon Dioxide 'Champagne' Bubbles At Hydrothermal Vent.” Article describes the findings of a NOAA expedition to the northern Mariana Arc of the Pacific Ocean in April 2004. Researchers found liquid carbon dioxide bubbles rising from a hydrothermal vent area, only the second location where the phenomenon has been identified. “In the Mariana Trench, we found a natural laboratory where the effects of carbon dioxide on marine organisms can be studied,” said Steve Hammond, acting director of NOAA's Office of Ocean Exploration. *Science Daily*, January 5, 2005, <http://www.sciencedaily.com/releases/2005/01/050104114942.htm>

Terrestrial

“Economics, technology help no-till farming gain converts.” The 2004 National Crop Residue Management Survey found that 41 percent of all cropland in the United States is farmed under a conservation tillage system. That means that the residue or stubble from the previous crop covers at least one-third of the soil's surface. No-till - the leading form of conservation tillage - increased by 7.1 million acres in 2003. The 7-million-acre increase in no-till acres is the highest two-year increase in the last decade. High fuel costs and improved practices are attributed to the jump in no-till. *FarmWeek*, January 5, 2005, <http://farmweek.ilfb.org/viewdocument.asp?did=7458&r=0.9083216>

“Researchers challenge carbon absorption effects of managed forests.” Researchers from the University of Edinburgh in Scotland placed sensors above treetops at a privately owned forest and found that while the forest initially absorbed carbon, it started emitting carbon dioxide after forest workers trimmed the trees to increase their suitability for sale as lumber. The researchers discovered that bacteria consumed the dead plant material on the forest floor and emitted carbon dioxide as a byproduct of the digestion process. *Greenwire*, January 5, 2005, <http://www.wbcsd.org/plugins/DocSearch/details.asp?type=DocDet&ObjectId=12459>

“Long-term sensitivity of soil carbon turnover to warming.” Study claims that rising temperatures brought about by climate change will cause microorganisms in the world's soils to decompose organic matter more rapidly, releasing extra carbon dioxide and accelerating climate change. *Nature*, January 20, 2005, http://www.nature.com/cgi-taf/DynaPage.taf?file=/nature/journal/v433/n7023/abs/nature03226_fs.html (subscription required)

Trading

“World Bank expresses interest to purchase Carbon Sequestration from Precious Woods project in Nicaragua.”

The World Bank, as trustee of the Bio Carbon Fund expressed its interest to buy the future carbon sequestration from a project developed by Precious Woods in Nicaragua. The project would reforest 600 hectares of degraded pasture land with plantations of teak and native species. Precious Woods plans to expand the total reforestation area in Nicaragua to at least 4000 hectares in the coming years leading to a potential carbon sequestration of over two million tons. *Vereinigte Wirtschaftsdienste* (Germany), January 18, 2005, <http://www.vwd.de/vwd/news.htm?id=23444587&navi=home&sektion=adhoc>

“Entergy paying oil firm to secure its emissions.” Article discusses Entergy's purchase of CO₂ emission reduction credits from Denbury Resources, as reported in the January 2005 Carbon Sequestration Newsletter. The investment in the Mississippi oil project represents a 2 million ton reduction in carbon dioxide emissions, the largest carbon sequestration credit investment ever made in the United States. The project increases the amount of credits Entergy holds to 2.8 million tons. *The Times-Picayune*, January 26, 2005, <http://www.nola.com/business/t-p/index.ssf?base/money-2/1106722767146220.xml>

“EU Carbon Trading in Political Trouble.” According to this article, the CO₂ emissions trading system of the European Union is threatened with the prospect of lawsuits by Britain, Germany, and other countries which seek more generous emission allowances for their industries which are forced to reduce CO₂ emissions. *The Electricity Daily*, January 19, 2005, <http://www.wbcsd.org/plugins/DocSearch/details.asp?type=DocDet&ObjectId=12840>

“Russian companies cannot trade in emission quotas at exchange.” In theory, Russian companies could make good money by selling their emission quotas. However, Russian companies have so far been denied access to the EU quota exchange. Only EU companies, certified by the EU for the permissible emission volumes, are allowed to buy and sell, according to Alexei Kokorin, the World Wildlife Fund's climatic program director. EU members can only buy Russian quotas in direct deals, paying with investments in Russian energy-efficient technology projects, rather than in cash, adds Mikhail Rogankov who represents the Energy Carbon Fund. For Russia to trade in its quotas, the country has to set up an exchange similar to the EU one, and convert its quotas to certificates for specific companies, as the EU has done. *RIA Novosti*, January 13, 2005, <http://www.wbcsd.org/plugins/DocSearch/details.asp?type=DocDet&ObjectId=12562>

“Landmark transaction paves way for increased activity within greenhouse gas market.” CO₂e.com, a global broker of greenhouse gas credits, announced the facilitation of the largest-ever known brokered deal in European Emissions Allowances (EUAs) in December 2004. The deal is unique because it involves the purchase of a large volume of EUAs, and the pioneering linked sale of “secondary market” Certified Emission Reductions (CERs), paving the way for larger structured deals incorporating both compliance instruments. CERs are usually purchased directly from project developers in developing countries, which often raises questions about creditworthiness and project delivery risk. The sale of secondary market CERs directly from a European company is highly unusual, and could lead to increased liquidity and price discovery in an emerging secondary CER market. *CO₂e.com Press Release*, January 11, 2005, <http://www.co2e.com>

“Climate trading's accounting impacts explored.” The EU's greenhouse gas trading scheme could disrupt companies' annual financial reporting, according to the European federation of accountants (Fee). Participating firms “may face difficulties in measuring assets and liabilities and the effects on the profit and loss account,” Fee says in a review of climate trading's likely impacts on accounting and auditing practices. *Point Carbon*, January 26, 2005, <http://www.pointcarbon.com/article.php?articleID=6211&categoryID=147>

Events

February 9, 2005, **Climate Change Policy: Next Steps**, Falk Auditorium, Brookings Institution, Washington, DC. Speakers will discuss the current state of climate change policy. For more information and to register visit <http://www.brookings.edu/comm/events/20050209.htm>

March 1-3, 2005, **Carbon Market Insights 2005**, Amsterdam, The Netherlands. The annual gathering for active players in the world's carbon markets. Focuses on Global Markets (including U.S., Canada, Australia, as well as post-2012 discussions including carbon sequestration technology development), CDM&JI, and EU ETS. For conference program and details on registration visit <http://www.pointcarbon.com/category.php?categoryID=401>

March 3-4, 2005, **International Symposium on Interfaces between Climate and Economic Dynamics**, Interlaken, Switzerland. The topics of the symposium include among other things: assessing the economic costs of carbon policy, assessing technological options, and the role of technological change in reducing energy intensity. Further details can be found at the conference webpage at <http://ecolu-info.unige.ch/~nccrwp4/GEMINI-E3/Interlaken.htm>

March 21-24, 2005, **Third USDA Symposium: Greenhouse Gases and Carbon Sequestration in Agriculture and Forestry**, Baltimore, MD. This symposium will provide a forum for scientists to present recent developments in science and technology relevant to storing carbon and addressing greenhouse gases in managed terrestrial ecosystems. For details, registration, and electronic abstract submission forms see <http://soilcarboncenter.k-state.edu/conference>

April 13-15, 2005, **European CO₂ Capture and Storage Conference – Towards Zero Emission Power Plants**, Brussels. A high-level international conference organized by the European Commission. Attendance is free, but will be by invitation only. To submit your intention to participate, please visit the following web-site http://scic.cec.eu.int/scic/owa/WEB_MTKF.reg_form?confID=04RDTCO2

April 19-22, 2005, **The 16th Global Warming International Conference (GW16)**, New York, NY. Over 200 papers and panels will address global and regional Extreme Weather Events, Emissions and Greenhouse Gas Reduction, Low GHG Transportation and Clean Energy Technology, Sustainable Development, and Corporate Learning. For additional information visit <http://www.globalwarming.net>

May 2-5, 2005, **The Fourth Annual Conference on Carbon Sequestration**, Alexandria, VA. Abstracts are due March 4, 2005 with acceptance notification by March 11, 2005. For more information, visit <http://www.carbonsq.com/> or contact Exchange Monitor Publications at (202) 296-2814.

June 19-22, 2005, **2005 American Association of Petroleum Geologists Annual Convention**, Calgary, Canada. The purpose of this combined oral and poster session is to bring together researchers active in the field of CO₂ and acid gas injection in oil and gas reservoirs, coal beds and deep saline aquifers, whether for EOR, ECBM or sequestration, to present current operations, field and laboratory experiments, and integrated studies for the evaluation of sequestration sites and the long-term fate of the injected gases. For more information about the meeting and submission of abstracts please visit <http://www.aapg.org/calgary/technical/index.cfm>

May 9-12, 2006, **The 2006 EIC Climate Change Technology Conference - Engineering Challenges and Solutions in the 21st Century**, Ottawa, Canada. This conference will examine engineering solutions that either mitigate or adapt to climate change. Deadline for proposal submission is March 18, 2005. For guidelines on proposing abstracts please contact Terrance Malkinson at 403-282-1065, or malkinst@telus.net. For additional information visit <http://www.ccc2006.ca>

New NETL Report Posted to Analysis/Policy Page. The report entitled, "Carbon Sequestration Role in State and Local Actions," summarizes existing carbon sequestration activities at the state level, to inform decision makers, planners, and others who may be interested in the progress of carbon sequestration development in the United States. The report can be downloaded at http://www.netl.doe.gov/otiic/pubs/sfinal_1.pdf

Pew Center study finds terrestrial sequestration becomes expensive at large aggregate scale. To offset one-fifth of U.S. emissions would require about 300 million acres, roughly the size of Texas. "There is little doubt that the most important factor affecting the cost of forest-based carbon sequestration in the United States is the cost of land," write Robert Stavins and Kenneth Richards, the report's lead authors. The full text of the report, "The Cost of U.S. Forest-based Carbon Sequestration," is available at http://www.pewclimate.org/global-warming-in-depth/all_reports/carbon_sequestration/index.cfm

"Essays on the Economics of Forestry-Based Carbon Mitigation." This book is a collection of articles that deal with the following: the impact of risk on the supply of carbon sequestration and forest ecosystem services, the identification of least-cost sites for carbon sequestration worldwide, the evaluation of the aggregated carbon supply curve at a global level, the cost-effectiveness of carbon sequestration through the natural regeneration of secondary forests, and the impact of recent decisions for carbon accounting under the CDM. Copies of the book can be obtained from the author, Pablo C. Benitez: pablo.benitezponce@wur.nl

"United States participation in future climate agreements: An assessment." A new CICERO report identifies the major obstacles to U.S. participation in an international treaty to control greenhouse gas emissions, and suggests some possible strategies for reengaging the United States. For details and to download the report visit http://www.cicero.uio.no/publications/detail.asp?publication_id=3312&lang=en

"Beyond Climate: Options for broadening climate policy." This report assesses the potential, synergies, and trade-offs of linking climate to other relevant policy areas, including poverty reduction, land-use, security of energy supply, trade and finance, and air quality and health. The study also explores the possibility of climate becoming a mainstream issue in those policy areas. The report can be downloaded from: <http://arch.rivm.nl/ieweb/ieweb/index.html>

Sen. Hagel preparing GHG legislation. According to Dow Jones, Senator Chuck Hagel (R-NE) is preparing legislation to encourage the use of greenhouse gas (GHG) reduction technology in the U.S. and overseas, particularly in developing countries that are large emitters. Reportedly, the proposal will stop short of requiring companies to reduce their emissions of CO₂ or other GHGs. Instead it will offer financial incentives, probably in the form of tax credits or better equipment depreciation schedules, for companies that take steps to reduce their GHG emissions. The bill may also include other provisions - such as more money for research and development into GHG reduction technologies - to help large emitters in the developing world reduce their production of CO₂ and other GHGs. Hagel plans to introduce his bill by February 16, the day the Kyoto treaty comes into force. Some lobbyists speculate that rolling Hagel's bill into the Clear Skies Act of 2005 could win support of Democrats and moderate Republicans for the proposal without angering conservatives who are opposed to mandatory caps on greenhouse gas legislation. *Dow Jones*, January 28, 2005, <http://www.sustainablebusiness.com/news/sbnews.cfm?id=5337>

U.S Senate Energy & Natural Resources Committee Convenes Natural Gas Conference. The focus of the conference was on affordable natural gas supply. Nearly three dozen natural gas groups and energy companies presented information and opinions. Committee members focused on the roadblocks to new pipeline construction, building of new LNG import terminals, and drilling on Federal lands. Dr. William Rosenberg of Harvard University presented a funding proposal for IGCC power plants (with sequestration), similar to the Alaska pipeline, that would control prices by enabling coal, biomass, and petcoke to substitute for natural gas. The conference was held in Washington, DC on January 24. The full text of the proposals submitted by the panelists can be downloaded on the Energy and Natural Resources Committee's website at <http://energy.senate.gov/conference/conference.cfm>