

THE CARBON SEQUESTRATION NEWSLETTER

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

August 2005

- Sequestration in the News
- Events and Announcements
- Recent Publications
- Legislative Activity

Sequestration in the News

Popular Science, “How Earth-Scale Engineering Can Save the Planet.” According to the article, a growing number of physicists, oceanographers, and climatologists around the world are seriously considering technologies for the deliberate manipulation of Earth’s climate in order to counteract adverse human influences. Article explores the cost, feasibility, and risk associated with several proposed solutions. Underground storage of captured carbon dioxide is listed first in a group of options including planetary air-conditioning devices such as orbiting space mirrors that deflect sunlight away from Earth, ships that intensify cloud cover to block the sun’s rays, fertilizing the ocean with iron to promote CO₂ consuming plankton blooms, and CO₂ mineralization. Geologic sequestration is described as highly feasible with moderate cost, though the article emphasizes asphyxiation risk associated with CO₂ leakage. August 2005, <http://www.popsci.com/popsci/aviation/article/0,20967,1075786-1,00.html>. For an alternative perspective on the same topic, see “Terraforming Earth,” *WorldChanging.com*, July 14, 2005, <http://www.worldchanging.com/archives/003121.html>

Tri-City Herald (Washington), “Energy NW OKs \$1 billion project.” The board of directors for Energy Northwest, a public utility in Washington State, approved a resolution to build two 300 MW coal-fired integrated gasification combined cycle power plants. The power plants are expected to cost \$1 billion to build and will produce power at a cost of \$35 to \$45 per MWh. The plants will be sequestration-ready. The plants would come on line in 2011 and the plan is contingent on Energy Northwest being able to secure long-term contracts for the power output. July 28, 2005, <http://www.tri-cityherald.com/tch/local/story/6754756p-6642957c.html>

Oil & Gas Journal, “Statoil laying CO₂ pipeline to Snøhvit field.” Statoil ASA is laying a 151-km, 8-in. carbon dioxide injection pipeline from the Melkøya gas terminal in northern Norway to Snøhvit natural gas field in the Barents Sea. Work on the line, which is slated for completion by the end of July, began in early June with 10-20 km of pipe per day being laid. The pipelines to Snøhvit, which will carry 700,000 tonnes per year of CO₂ marks the first offshore injection of CO₂ from a land-based plant. July 8, 2005, http://ogj.pennnet.com/articles/article_display.cfm?Section=ONART&C=Trasp&ARTICLE_ID=231941&p=7 (subscription required)

Tech Central Station, “Green Coal?” Article summarizes the first hearing held by the Senate Committee on Energy and Natural Resources to review all aspects of the debate over climate change. While many news reports following the event focused on senators “acknowledging” the climate problem and “struggling” with what to do about it, this article focuses on the lack of any practical solutions offered by the scientists in their testimony. According to the article, nuclear can help, but nuclear facilities take a long time to site, plan and build. They are not going to help in the near term. The author, Duane Freese writes, “The most near-term economically and, oddly enough, environmental friendly alternative could well rest on a fuel that the United States has in greatest abundance but also one with the dirtiest reputation – coal.” July 16, 2005, <http://www.techcentralstation.com/072605E.html>

ResearchResearch, Fossil Generation with Sequestration Makes Closed-Loop Nuclear Competitive. The U.S. House of Representatives Subcommittee on Energy took testimony on nuclear waste reprocessing as a means to address issues associated with fuel supplies and waste disposal. Said Donald Jones, vice-president of marketing and senior economist at RCF Economic and Financial Consulting in his testimony, “If carbon sequestration were to be required for fossil-fired generation, even the first new nuclear plants with reprocessing would be competitive.” “Experts clash over the costs of nuclear waste processing,” July 14, 2005, <http://www.researchresearch.com/news.cfm?pagename=newsStory&type=default&elementID=53379>

Edinburgh Evening News, “BP boss asks for cash to help oil giants go green.” BP’s Lord Browne said “carbon capture” can reduce greenhouse gases significantly, but that BP stands to make only a “very moderate” return from its investments in the technology. He said that given the investment needed and the higher costs involved, a subsidy is necessary “in order to be able to compete.” Lord Browne justified his claim by saying that other emissions reduction technologies, such as wind energy, attract a subsidy. July 12, 2005, <http://edinburghnews.scotsman.com/business.cfm?id=817332005>

news@nature.com, "Low-carbon power plant planned for Scotland." Article highlights the BP-led CO₂-enhanced oil recovery project at the Miller Field in the North Sea. The CO₂ will be captured from a natural gas-fired combined cycle power plant. The project is set to begin a \$20 million engineering phase next year, pending a financial analysis in 2006. Says John Gibbins, who studies fuel policies at Imperial College London, "This project is really a first: the first time carbon dioxide has been taken out of electricity production." July 1, 2005, <http://www.nature.com/news/2005/050627/full/050627-17.html> (subscription required)

Business First of Columbus, "Feds announce carbon dioxide reduction program." Highlights Battelle's role in the phase II regional carbon sequestration partnerships. July 25, 2005, http://columbus.bizjournals.com/columbus/stories/2005/07/25/daily3.html?jst=b_in_hi

EurekAlert, "Kentucky Geological Survey involved in global climate change research." Highlights the Kentucky Geological Survey's involvement in the DOE-funded regional carbon sequestration partnerships. July 14, 2005, http://www.eurekalert.org/pub_releases/2005-07/uok-kgs071405.php

Announcements

Comments on 1605b Guidelines Posted on Web. The comment period on the Interim Final General Guidelines and Draft Technical Guidelines issued on March 24 officially ended on June 22. All comments received are now posted on the web. If you submitted a comment, please check the website to ensure that your comment has been posted at <https://ostiweb.osti.gov/pighg/ghgc0202.idc>. On June 30, DOE's Energy Information Administration published a Federal Register notice soliciting comment on draft forms and instructions for implementing the Interim Final General Guidelines and Draft Technical Guidelines. The draft forms and instructions are available for review at the following website: <http://www.eia.doe.gov/oiaf/1605/aboutcurrent.html>. EIA has requested comments on the draft forms to be submitted by **August 29** to calopedis@eia.doe.gov or the address indicated in the notice.

"The Climate Change Budget Tracking and Analysis Project." Georgetown University professor Tom Brewer and the Centre for European Policy Studies (CEPS) in Brussels has launched a web page with charts, data, analyses, and links to resources for an on-going project on the U.S. government's climate change budget. The project materials will be updated three times during each annual budget cycle. A file of materials is available at <http://explore.georgetown.edu/faculty/index.cfm?Action=ViewPublications&NetID=brewert>. Publications from the project are available at the CEPS web site at http://www.ceps.be/Article.php?article_id=15

"Methane May Pack Double the Climate Punch of Earlier Estimates." New calculations by Dr. Drew Schindell, a NASA scientist, show that methane emissions may account for up to a third of all climate warming between the 1750s and today. Dr. Schindell's calculations include the impact of methane emissions on tropospheric ozone, another greenhouse gas. *Environment News Service*, July 19, 2005, <http://www.ens-newswire.com/ens/jul2005/2005-07-19-01.asp>. To find out more, visit Dr. Schindell's web page at <http://www.giss.nasa.gov/~dshindel/>

Policy

"Bush Administration Unveils Alternative Climate Pact." The Bush administration, which is pushing alternatives to the Kyoto accord on global warming, unveiled a six-nation pact that promotes the use of technology to cut greenhouse gas emissions. The six nations, the United States, Japan, Australia, China, India, and South Korea, will build on existing bilateral agreements on technology sharing to control emissions, but will not set mandatory targets. The new group's first summit will be held in Adelaide, Australia, in November. *New York Times*, July 28, 2005, <http://www.nytimes.com/2005/07/28/international/28climate.html>

The Group of Eight (G8) summit was held on July 6-8, 2005, in Gleneagles, Scotland. The following articles summarize the outcome of the meeting:

"Bush wants to shift global warming debate."

President Bush said he wanted to shift debate on global warming away from limits on greenhouse gas emissions to new technology that would reduce environmental harm without restricting energy use. In an interview with a British journalist Bush said, "My hope is – and I think the hope of Tony Blair is – to move beyond the Kyoto debate and to collaborate on new technologies that will enable the United States and other countries to diversify away from fossil fuels so that the air will be cleaner and that we have the economic and national security that comes from less dependence on foreign sources of oil." *CNN*, July 5, 2005, <http://topline-news.com/top-stories/bush-looking-shift-global-warming-debate.html>

"G8 climate plan 'lacks bite'." World leaders attending the G8 summit in Britain released their statement on climate change, agreeing that the issue is a "serious long-term challenge". Their statement says that some US\$16 trillion of investment will be required over the coming 25 years, a period during which the world's energy demands will increase by 60 percent, mostly in burgeoning economies such as India and China. Possible technologies that could be deployed to combat greenhouse-gas emissions include alternative power sources such as the Sun, wind, water and nuclear fission or fusion. Perhaps the biggest challenge will be to equip developing nations with the technology to burn fossil fuels more cleanly, for example, by 'scrubbing' carbon dioxide from coal-fired power plants. *news@nature.com*, July 8, 2005, <http://www.nature.com/news/2005/050704/full/050704-15.html>

“G-8 Urges Action On Global Warming, With General Goals.” Leaders of the world’s eight major industrial nations agreed to take immediate steps to curb global warming, though they will not set concrete heat-trapping gas reductions or specify how much money they will spend. The leaders’ joint statement states that although some uncertainties about climate change remain, “we know enough to act now and to put ourselves on a path to slow, and, as science justifies, stop and then reverse the growth of greenhouse gases.” It also suggests that “human activities contribute in large part to increases in greenhouse gases associated with the warming of our earth surface.” *The Washington Post*, July 8, 2005, <http://www.washingtonpost.com/wp-dyn/content/article/2005/07/07/AR2005070702133.html>.

For the full text of the G8 Climate Change, Clean Energy and Sustainable Development agreement and the Gleneagles plan of action, visit <http://www.wbcsd.org/includes/getTarget.asp?type=DocDet&id=15809>.

Also read the Pew Center’s G8 summary at <http://ealert.pewclimate.org/ctt.asp?u=3445840&I=99178>

“Canada joins EPA’s international Methane to Markets Partnership.” Canada became the 16th member of the U.S. Environmental Protection Agency’s Methane to Markets Partnership. The partnership is an international initiative promoting the recovery and use of methane from landfills, coal mines, and natural gas and oil systems. Participants in the partnership hope to reduce annual methane emissions by 50 million metric tons, the equivalent of recovering 500 billion cubic feet of natural gas, enough energy to heat 7.2 million homes for one year. *Waste News*, July 15, 2005, <http://www.wastenews.com/headlines2.html?id=1121442010>

“Arizona to tackle climate change.” The state of Arizona will work on plans for cutting greenhouse gases, joining neighbors California and New Mexico. Arizona’s efforts will involve at least a year of study before any recommendations are made, culminating in a white paper. “Arizona and New Mexico are the first inland states to embrace climate change issues,” said Roger Clark, who works on air-quality issues for the Grand Canyon Trust. *The Arizona Republic*, July 10, 2005, <http://www.azcentral.com/arizonarepublic/local/articles/0710climatechange10.html#>

“World Bank to take lead in new climate change plan.” The World Bank wants to bring together nations split over the Kyoto Protocol to work out a new plan that would remain effective long beyond the 2012 expiration of the climate change treaty. Ian Johnson, the World Bank’s top environment official, said the bank will serve as a global mediator on climate change, bridging the huge differences in approach between the developed and emerging countries, including India and China. Over the next few months the World Bank will start consultations with governments, the private sector and other global institutions to prepare for a meeting on climate change in November headed by British Prime Minister Tony Blair. *Reuters*, July 20, 2005, http://yahoo.reuters.com/financeQuoteCompanyNewsArticle.jhtml?duid=mtfh17554_2005-07-20_15-25-03_n19392712_newsml

“EPA not required to limit emissions.” The Environmental Protection Agency does not have to regulate gases linked to climate change as air pollutants, a federal appeals court ruled, dealing a blow to a dozen states and three cities hoping to cut heat-trapping gases. In a divided 2-1 ruling, a panel of the U.S. Court of Appeals for the District of Columbia ruled that the EPA had solid policy reasons not to impose mandatory limits on carbon dioxide, methane, nitrous oxide and hydrofluorocarbons. *Chicago Tribune*, July 16, 2005, <http://www.chicagotribune.com/news/nationworld/chi-0507160123jul16,1,81588.story?coll=chi-newsnationworld-hed>

Clinton Announces Global Initiative to Address Climate Change. Former President Bill Clinton has announced the Clinton Global Initiative (CGI) to address climate change, corruption, poverty, and religious and ethnic reconciliation. Mr. Clinton will host a meeting of private and public sector leaders from September 15-17, 2005 in New York to coincide with the United Nations’ General Assembly. Clinton says he is intent on finding ways the private sector can solve some of the world’s most pressing problems from poverty to terrorism. “It’s unrealistic to think all the world’s problems will be solved only by government actions,” Mr. Clinton said. He believes the most important statement on global warming in the past year came not from government but from a businessman, Jeff Immelt, General Electric’s CEO, who recently declared GE would spend \$1.5 billion in the next decade to make clean energy a profit leader at the company. *Reuters*, July 13, 2005, http://today.reuters.co.uk/news/newsArticle.aspx?type=topNews&storyID=2005-07-13T010022Z_01_HO303531_RTRUKOC_0_PEOPLE-CLINTON.xml

Technology

“Synthesis, Experimental Studies, and Analysis of a New Calcium-Based Carbon Dioxide Absorbent.” A new calcium-based solid CO₂ absorbent has a significantly improved CO₂ absorption capacity and cyclic reaction stability compared with other Ca-based CO₂ absorbents. *Energy & Fuels* 2005, 19, 1447-1452, <http://pubs.acs.org/cgi-bin/abstract.cgi/enfuem/2005/19/i04/abs/ef0496799.html> (subscription required)

Terrestrial

Constellation Energy to Reduce Chesapeake Bay Pollution and Offset Greenhouse Gas Emissions. The State of Maryland, Constellation Energy, and The Alliance for the Chesapeake Bay signed a Memorandum of Agreement that provides \$300,000, funded through Constellation Energy, to the Alliance for planting riparian forest buffers. The reforestation program will span 75 acres over three years and will include trees appropriate for each site. It is estimated that these trees will capture between 4 and 4.5 tons of carbon dioxide per acre, per year. Constellation Energy will be claiming the carbon offsets through the 1605(b) registry. *Maryland DRN Press Release*, May 2, 2005, <http://www.dnr.state.md.us/dnrnews/pressrelease2005/050205.html>

“The Potential of Soil Carbon Sequestration Through Improved Management Practices in Norway.” This study assesses the potential of Norwegian agricultural ecosystems to sequester carbon based on data from long-term agronomic and land use experiments. The overall potential for soil organic carbon (SOC) sequestration ranges from 0.6 to 1.0MMTC/yr. Of the total potential, 59 percent is due to adoption of erosion control measures, 5.8 percent to restoration of peat lands, 21 percent to conversion to conservation tillage and residue management, and 14 percent to adoption of improved cropping systems. *Environment, Development and Sustainability* (2005) 7:161–184, <http://www.springerlink.com/openurl.asp?genre=article&id=doi:10.1007/s10668-003-6372-6> (subscription required)

“Topsoil organic carbon storage of China and its loss by cultivation.” The study found that the mean topsoil soil organic carbon (SOC) density of China was lower than the world average value. Therefore, China may be considered as a country with low SOC density and may have great potential for C sequestration under well defined management. *Biogeochemistry* (2005) 74: 47–62, <http://www.springerlink.com/openurl.asp?genre=article&id=doi:10.1007/s10533-004-2222-3> (subscription required)

“Outsourcing forests to India.” Article discusses how farmers in Maharashtra, India will benefit from carbon credit trading following the signing of the Kyoto Protocol. A non-governmental organization, Friends of Carbon (FoC), has brought together 5,000 farmers to exploit the option, which permits a developed country to meet part of its targeted emission cuts by funding tree plantations in developing countries like India, for carbon sequestration. Says Shekhar Kadam, who is in charge of the financial and commercial aspects of FoC, “Plantations are one of the best solutions to curbing damage from GHG emission.” Kadam claims that the mango tree is one of the best varieties. The current average rate for a tonne of carbon is around \$4. *The Times of India*, July 25, 2005, <http://timesofindia.indiatimes.com/articleshow/1182451.cms>

Ocean

“North Atlantic Ocean Temps Hit Record High.” According to a report released by the federal Fisheries Department (Canada), ocean temperatures in the North Atlantic hit an all-time high last year. The ocean surface off St. John’s averaged one degree Celsius above normal, the highest in the 59 years the department has been compiling records. Bottom temperatures were also one degree higher than normal, says the report. In addition, sea ice off the coast of Newfoundland and Labrador was below normal for the tenth consecutive year, and the water temperature outside St. John’s Harbor was the highest on record in 2004. *Environmental News Network*, July 8, 2005, <http://www.enn.com/today.html?id=8186>

“The Market in Carbon.” Article discusses the carbon trading industry, particularly how emissions trading markets are “springing up all over the place.” Three have come on line in Europe since the beginning of 2005, and another three will start up in the next few months. According to the article, volumes traded on the European emissions trading scheme (EU ETS) are small – around 500,000 tonnes a day – but the totals are increasing fast. Today’s daily totals are the equivalent of a month’s trades in the pre-market phases last year. At around 20 euros, double the price at the beginning of the year, the carbon price is certain to tempt more sellers. Banks and other financial institutions are gearing up to start trading, both as aggregators for small companies and as speculators in their own right. In the longer term, other countries, such as Norway, Switzerland, Canada, and Japan, are thinking of linking with the European system. *The Observer*, June 26, 2005, <http://observer.guardian.co.uk/carbontrust/story/0,16099,1515610,00.html>

“First-mover disadvantage.” Europe has signed up to Kyoto, and its companies face fines if they exceed their emissions caps, while America has not. China, the second biggest polluter, and India, which is rapidly increasing emissions, are exempt from its provisions as well. This article argues that Europe’s companies are at a competitive disadvantage as they shoulder the cost of something that should benefit the whole world. And now, because of the high price of oil and gas, that disadvantage is looking a lot bigger than it did. *The Economist*, July 5, 2005, http://www.economist.com/research/articlesBySubject/displayStory.cfm?subjectid=2512631&story_id=4146710 (subscription required)

Special Edition of *Climate Policy* includes eleven articles looking at the EU emissions trading scheme. Some of the titles are as follows: The European Union Emissions Trading Scheme (EU ETS); Price determinants in the EU emissions trading scheme; Allocation of carbon emission certificates in the power sector: how generators profit from grandfathered rights; The interaction between the EU emissions trading scheme and national energy policies; Value and risks of expiring carbon credits from afforestation and reforestation projects under the CDM; and Allowance allocation in the European emissions trading system: a commentary. *Climate Policy*, Volume 5 No. 1, July 5, 2005, http://www.earthscan.co.uk/defaultCLIMATE_POLICY.asp?sp=&v=6 (abstracts available)

Events

August 2-11, 2005, **IAMAS 2005 Conference: Carbon Cycle and Climate Symposium**, Beijing, China. The aim of this session is to encourage multiple-disciplinary approach in studying carbon cycles and its interactions with climate. Topics of relevance include: regional and national carbon inventories, CO₂ emissions from land use change and fires, measurements or modeling of net CO₂ exchange of terrestrial ecosystems, land surface models including carbon dynamics in global climate models, interactions between carbon cycle and climate in the past, present and future, and applications of model-data fusion in regional and global carbon cycle studies. Conference website: <http://www.iamas2005.com> Contact: Ying Ping Wang – Yingping.wang@csiro.au

September 15-16, 2005, **Reduction of Emissions and Geological Storage of CO₂: Innovation and Industrial Stakes**, Paris, France. The symposium intends to bring together researchers, industrialists, economists, and financiers to examine the role the geological storage of CO₂ can play in reducing emissions of greenhouse gases, and the means to be used to finance such operations. For additional information visit <http://www.CO2symposium.com>

September 25-30, 2005, **7th International CO₂ Conference**, Broomfield, CO. The purpose of this conference is to bring together scientists from different disciplines to communicate the most recent results pertinent to the global carbon cycle, with an emphasis on the contemporary increase of atmospheric carbon dioxide. Topics will include atmospheric and oceanic measurements and monitoring networks, terrestrial ecosystems and land use change, carbon cycle process models, source/sink inverse models, the ice core record, new observational techniques, long-term potentials and vulnerabilities of carbon sequestration, and more generally, the human impact on the carbon cycle. For more information visit <http://www.cmdl.noaa.gov/info/icdc7/>

November 13-17, 2005, **Greenhouse 2005: Action on Climate Control**, Melbourne, Australia. There is a clear need for industry, scientists, and government at all levels to work closely together to tackle this significant environmental issue. Demand is strong for the latest information on the science, the likely impacts of climate change, adaptation strategies, and approaches to reducing atmospheric greenhouse gas concentrations. The Conference will cover these themes as well as international issues, policy development, communication and education. For more information: <http://www.greenhouse2005.com> Contact: Paul Holper - paul.holper@csiro.au

CALL FOR PAPERS: December 5-9, 2005, **American Geophysical Union's (AGU) 2005 Fall Meeting**, San Francisco, CA. You are encouraged to submit an abstract to session B07: Approaches to Stabilizing Atmospheric CO₂ and Climate as part of the AGU 2005 Fall Meeting. This session will provide a forum for discussion of promising CO₂ and climate change mitigation strategies. The deadline for electronic submissions is **September 8, 2005** (September 1 by postal mail). Further rules and guidelines are available at <http://www.agu.org/meetings/fm05/>. For more information on session B07 visit <http://www.agu.org/meetings/fm05/?pageRequest=search&show=detail&sessid=110>

December 6-9, 2005, **Carbon Management Workshop and 11th Annual CO₂ Flooding Conference**, Midland, Texas. Planned for December 6 and 7, the EOR Carbon Management Workshop will offer an in-depth look at CO₂ geologic storage, its trends, developments and opportunities. Also featured is a field tour on December 7 of Kinder Morgan Production Company's Yates Field where the company conducts a gravity-dominated CO₂ flood. The CO₂ flooding conference, set for December 8 and 9, will focus on the use of carbon dioxide for enhanced oil recovery. The conference features theme sessions that examine current industry best practices in operations and reservoir management. For additional information visit http://www.spe-pb.org/co2_conference/index.asp

CALL FOR PAPERS: January 22-25, 2006, **9th Annual EUEC 2006 Conference on Air Quality, Climate Change & Renewable Energy**, Westin La Paloma Resort, Tucson, AZ. Early submission deadline for papers is **August 15, 2005**. Visit the conference website for more information <http://www.euec.com/default.html>

SECOND CALL FOR PAPERS: May 9-12, 2006, **Engineering Institute of Canada Climate Change Technology Conference**, Ottawa Congress Centre, Ontario, Canada. The Engineering Institute of Canada (EIC) and its member societies are taking the lead to stimulate awareness and action by the Canadian Engineering Community for solutions that mitigate or adapt to climate change. To deal with this need, a Second Call for Papers and Presentations has been issued with a deadline of **September 30, 2005**. See <http://www.CCC2006.ca> for details.

CALL FOR PAPERS: June 19-22, 2006, **GHGT-8**, Trondheim, Norway. The aim of this conference is to provide a forum for the discussion of the latest advances in the field of greenhouse gas control technologies. Abstracts should be received by conference organizers no later than **September 23, 2005**. Details at <http://www.ghgt-8.no>

Recent Publications

"Energyplexes for the 21st century: Coal gasification for co-producing hydrogen, electricity and liquid fuels."

This paper illustrates the role that integrated energy systems, also known as 'energyplexes', could play in supplying energy demands in the long term. Their potential is highlighted here using the case of coal-fired, synthesis-gas-based gasification systems that allow co-producing hydrogen, electricity and liquid fuels, i.e. Fischer-Tropsch liquids and methanol, and could be a key building block in a clean-coal technology strategy. Co-production, also known as poly-generation, strategies may contribute to improve the economics of the system and exploit potential synergies between the constituent processes. However, the technical feasibility and economic viability of poly-generation schemes have to be examined carefully on a case-by-case basis. *Energy* 30 (2005) 2453-2473, <http://www.sciencedirect.com/science/journal/03605442> (subscription required)

"Inventory of California Greenhouse Gas Emissions and Sinks: 1990 to 2002 Update."

This paper updates California's statewide inventory of GHG emissions, using 2002 data, the most recent data available from the DOE's EIA. It also extends the period of the California GHG inventory from 1999 to 2002. This inventory – for the first time ever – reports GHG emissions from out-of-state electricity along with in-state GHG emissions and projects future emissions trends. *California Energy Commission*, June 2005, Publication CEC-600-2005-025, available at <http://www.energy.ca.gov/2005publications/CEC-600-2005-025/CEC-600-2005-025.PDF>

“Prospective Evaluation of Applied Energy Research and Development at DOE (Phase One): A First Look Forward.” In 2001, the National Research Council (NRC) completed a congressionally mandated assessment of the benefits and costs of DOE's fossil energy and energy efficiency R&D programs. The Congress followed this retrospective study by directing DOE to request the NRC to develop a methodology for assessing prospective benefits. This report presents the results of phase one, which focuses on development of the methodology. Phase two will make the methodology more robust and explore related issues, and subsequent phases will apply the methodology to review the prospective benefits of different DOE fossil energy and energy efficiency R&D programs. To view the full report – including Appendix G: Report of the Panel of Sequestration R&D – visit http://www.nap.edu/catalog/11277.html?ee_26

“The Cutting Edge; Climate Science to April 05.” This report summarizes recent climate research from the Hadley Centre, UK, on carbon cycle feedbacks, and the Potsdam Institute, Germany, on the stabilization levels necessary to avoid exceeding a 2 degree temperature rise. The report suggests that a reduction in global greenhouse gases of 60 percent will be required by 2030, and under the contract and converge principles, the UK (and similar developed countries) will need to achieve around 90 percent reductions by 2030. The report is available to download from http://www.climate-crisis.net/downloads/THE_CUTTING_EDGE_CLIMATE_SCIENCE_TO_APRIL_05.pdf

Congress Passes Energy Bill. The Energy Policy Act of 2005 was approved by both the House and Senate last week, and President Bush is set to sign the bill into law on Monday, August 8th in New Mexico. The act calls for a “Carbon Capture Research and Development Program,” a 10-year effort focused on both “new coal utilization facilities and the fleet of coal-based units in existence on the date of enactment of the Act” (Title IX, research and development, subtitle F, Fossil Energy). Geologic sequestration is set forth as part of an Indian tribal energy resource development program, and “CO₂ capture capability” is listed as a qualifying requirement for clean coal facilities under Title XIII, energy policy tax incentives. To download the full text of the conference report, go to http://energy.senate.gov/public/_files/ConferenceReport0.pdf

“Senators Struggle to Act on Global Warming.” After listening to some of the world's preeminent climate researchers, a bipartisan group of senators said they saw the need to take quick action on global warming but were struggling to reach consensus on what policy to adopt. Several Republicans on the Senate Energy and Natural Resources Committee said they would consider adopting mandatory limits on emissions of heat-trapping gases but that they prefer the approach of promoting new technologies that do not contribute to the problem. “I have come to believe, along with many of my colleagues, that there is a substantial human effect on the environment,” said Sen. Larry E. Craig (R-Idaho), who has opposed mandatory curbs on greenhouse gas emissions and voted against last month's “sense of the Senate” resolution on climate change. *Washington Post*, July 22, 2005, <http://www.washingtonpost.com/wp-dyn/content/article/2005/07/21/AR2005072102235.html>. Also see, “Scientist Testifies on Global Warming,” *Washington Post*, July 20, 2005, <http://www.washingtonpost.com/wp-dyn/content/article/2005/07/20/AR2005072001818.html>