



THE CARBON SEQUESTRATION NEWSLETTER

TABLE OF CONTENTS

November 2001

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

www.netl.doe.gov/products/sequestration/refshelf.html

Sequestration in the News

- **Grasslands Adapt to Climate Change**
Climate-change models assume that soil microbes accelerate global warming in a positive feedback cycle. Rising temperatures are expected to speed bacteria respiration, burning energy and releasing CO₂ in a natural growth process. University of Oklahoma researchers found that grassland soil respiration did not increase in response to climate warming as much as previously modeled. Soil microbe respiration contributes significant amounts of carbon to the atmosphere, and a revision in respiration rates could mean climate models must also revise global warming forecasts, according to the study. *Nature*, October 11.
- **Deep Sea Sequestration Editorial** A survey of relevant literature suggests that if ocean sequestration projects (such as fertilization and/or direct injection) alter the CO₂ concentration or pH of the ocean, the projects could adversely affect deep-sea organisms. According to the survey, detailed studies into the effects are needed before the risks and benefits of ocean sequestration can be assessed appropriately. *Science*, October 12.
- **COP-7 Paves Way for Kyoto Pact** Talks beginning this week in Marrakech, Morocco, may reach agreement on a set of rules to make the Kyoto pact on global climate change operational. Nearly 4,000 delegates from 163 countries are attending. According to two pertinent articles on the topic, ratification in time for next September's World Summit on Sustainable Development in Johannesburg depends highly on Australia, Canada, Japan, Russia and the 15 states of the EU. Russia and Canada are pushing to increase the credit allowed for carbon sinks. *ABC News*, October 22, and *The New York Times*, October 29.
- If you are interested in following the events of COP-7 (October 29 – November 9), the UNFCCC has a [new official document system](#). The database allows users to quickly identify and access documents under discussion on any day of a meeting. Information on the schedule of events can be found at the [UNFCCC website](#).
- **Royal Institute of International Affairs Annual Climate Change Conference** On October 2, Dr. Harlan Watson, Senior Climate Negotiator and Special Representative, U.S. Department of State spoke to the [RIIA](#) Conference on U.S. efforts to reduce GHG emissions, including carbon sequestration.

This newsletter is produced by the National Energy Technology Laboratory and presents summaries of significant events related to carbon sequestration that have taken place over the past month.

Events and Announcements

IEA/GHG and RITE A call for papers for the *Sixth International Conference on Greenhouse Gas Control Technologies (GHGT-6)* is currently active. The conference is an important bi-annual event in international sequestration, covering a broad scope of scientific, economic and technological issues relating to the control of all greenhouse gases. GHGT5 was held in August 2000 in Australia, and was attended by 380 delegates from 35 countries. For more information or to send abstracts, email ghgt@rite.or.jp by February 28, 2002, or telephone 81-774-75-2301. As the conference date approaches, information will be available from the [Research Institute of Innovative Technology for the Earth \(RITE\)](#) website and the [IEA GHG R&D Programme](#) website.

The Division of Fuel Chemistry of the American Chemical Society Three Symposia at the National Meeting, April 7-11, 2002 in Orlando, Florida are related to carbon sequestration. They are: CO₂ Capture and Sequestration, Utilization of Greenhouse Gases, and Chemistry of Renewable Fuels and Chemicals. [A call for papers is currently active](#). Abstracts and preprints are due by November 9, 2001, in electronic format.

Pacific Northwest National Laboratory solicitation request Small Business Innovation Research (SBIR) and Small Business Technology Transfer (STTR) topic areas 41 and 42 target carbon cycle research and sequestration. Grant applications are due January 15, 2002. Copies of phase I guidelines can be obtained by calling Eileen Stoppani at 360-681-3607.

The University of Washington Terrestrial Sequestration Conference The UW Climate Impacts Group and the University of British Columbia Faculty of Forestry are holding a workshop titled *Climate Change, Carbon and Forestry in Northwestern North America*. The [workshop](#) will take place on Orcas Island, Washington, November 13-16, 2001.

Recent Publications

The first Journal of Energy and Environmental Research Published by NETL, the November issue is devoted to carbon sequestration research in the Office of Science and Technology, and contains ten papers on capture, separation, conversion and utilization. The 150 page journal can be [downloaded online](#), under publications.

The International Energy Agency Trading Analysis The IEA issued [International Emissions Trading: from Concept to Reality](#), which offers a comprehensive review of international emission trading.

Review of Landfill Gas Recovery Projects The Greenhouse Gas Emission Reduction Trading (GERT) pilot completed reviews of two landfill gas recovery projects. The GERT pilot has registered its first project with traded LFG recovery emission reductions as well as an LFG "offer-to-sell" project. For more information see: <http://www.gert.org/>.

The Energy Information Administration Multi-pollutant Analysis EIA issued two reports on the impact of simultaneous reductions of multiple emissions (SO₂, NO_x, Hg and CO₂). The first report was conducted at the request of Senators Smith, Voinavitch and Brownback, and in addition to the three pollutants, analyzes the potential impacts of requiring power suppliers to acquire offsets for any increase in CO₂ emissions that occur beyond the level expected in 2008. The second report was issued at the request of Senators Jeffords and Lieberman, and analyzes the potential impacts of reductions on the four emissions from electricity generators starting in 2002 with targets achieved by 2007. The target for CO₂ is 1990 emissions levels. Economical technologies to capture and sequester CO₂ are considered unlikely, and sequestration technologies are included in the analysis but do not penetrate because they are not economical. Both reports are [available online](#).

Recent Publications, Continued

- **The European Commission on Environment** The ECE published the results of a two-year study, [Economic Evaluation of Sectoral Emission Reduction Objectives for Climate Change, Bottom-Up Analysis](#), which identifies the (least-cost) contribution of different sectors and gases for meeting the European community's quantitative reduction for GHGs under the Kyoto protocol. The study also determines a package of cost-effective policies and measures towards meeting the goals. CO₂ removal and storage are mentioned as emission reduction options for the energy sector.
- **Climate Strategies** Three new reports are available, [Rejecting Kyoto: a study of proposed alternatives to the Kyoto Protocol](#), [Carbon Sinks and Biomass Energy Production: A Study of Linkages, Options and Implications](#), and [Keeping Kyoto: A study of approaches to maintaining the Kyoto Protocol on Climate Change](#).
- **IPCC Third Assessment Report** Released in time for COP-7, the IPCC report presents the current state of our knowledge about climate change, in four volumes: *The Scientific Basis; Impacts, Adaptation and Vulnerability; Mitigation*; and a *Synthesis Report* that addresses a broad range of key policy-relevant questions. The [complete text the report](#), along with all figures and data tables, is available online. October 29.
- **Pew Center on Global Climate Change** A paper titled [An Overview of Greenhouse Gas Emissions Verification Issues](#) describes the evolving approaches of corporate GHG emissions verification. The authors discuss the experiences of leading firms that inventory and verify GHG emissions and the factors that drive verification. October 2001.

Legislative Activity

- **Clean Air Act Amendments: Multi-pollutant Bill Meeting** Stakeholders met to discuss Senator Jeffords' 4 Pollutant Bill (S556) October 4 – 5. Environmental organizations, health organizations, power utilities and lawmakers discussed emission reductions for No_x, So_x, CO₂ and Hg beginning in 2002, including flexibility, trading, allocation, technology, and compliance. [See the website](#) for details and statements.
- **Daschle Pulls Energy Bill out of Congress** On October 10 Senate Majority Leader Tom Daschle [requested](#) Senate Energy & Natural Resources Committee Chairman Jeff Bingaman to suspend further mark-up of energy legislation for this session of Congress. The Chairman will instead [propose](#) energy legislation that can be enacted this year. For a summary of the proposed alternative, [click here](#). Senate Republicans plan to offer their own version of an energy bill, called the Homeland Energy Security Act, as a counter to Daschle and Bingaman's bill, which will likely call for oil drilling in ANWR.
- **Clean Air Act Amendments: S.556 Hearing** The Senate Committee on Environment and Public Works met November 1 to [receive testimony](#) on how S.556 would affect the environment and the economy. Representatives from the Energy Information Administration and the US EPA Office of Air and Radiation presented their analyses of the provisions of the bill. In addition, state experts in air quality and environmental controls were called on to react to the legislation. If controlled, CO₂ represents the highest cost-to-industry pollutant of the four-pollutant package.