



THE CARBON SEQUESTRATION NEWSLETTER

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January 2002

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Sequestration in the News

- **Measuring the terrestrial carbon sink.** Using maps of carbon storage derived from NASA-developed satellite data sets, earth science researchers studied 19 years of data to conclude that forests in the United States, Europe and Russia have been storing nearly 700 million metric tons of carbon a year during the 1980s and 1990s. The relatively high spatial resolution of these estimates permits direct validation with ground data and contributes to a monitoring program of forest biomass sinks under the Kyoto protocol. The research is published in the Proceedings of the National Academy of Sciences ([December 18th edition](#)), and the [overview article](#) can be read at the Goddard Space Flight Center, December 11, 2001.
- **Landfill gas-to-energy technology innovation.** An NETL techline features a landfill gas recovery project developed by Acirion Technologies Inc. has developed a method of collecting and purifying methane using liquid CO₂ also from the landfill. The excess CO₂ is 99.99 percent pure and can be sold as a food additive or piped out to fertilize greenhouses. See the December 11th [Techline](#) or [Acirion's website](#).
- **Ocean fertilization for indirect sequestration.** Based on initial results from an expedition in the Southern Ocean (a body of water that extends from Australia's island state of Tasmania to Commonwealth Bay in Australia's Antarctic territory), an international team of 70 scientists have explored the idea that increasing iron levels could cause increased CO₂ net absorption. The Australian-led expedition was headed by Steve Rintoul, an oceanographer for Australia's Commonwealth Scientific and Industrial Research Organization. Three follow-up Japanese-led trips planned over the next four months will give the scientists unbroken data from spring to autumn. The story, "[Scientists recommend iron supplements for Southern Ocean to curb global warming](#)," can be read at the Environmental News Network December 14, 2001.
- **Developments in the carbon market.** The Dutch environment ministry said it has signed an agreement with Panama to buy up to 20 million tons of carbon credits through the construction of clean energy projects there. The story, "[Dutch sign CO₂ cutting agreement with Panama](#)," Reuters, December 6, 2001.

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.

Sequestration in the News, Continued

- **Gathering climate data.** The European Space Agency (ESA) will launch Envisat, a new satellite capable of orbiting the earth fourteen times a day, early next year and operate it for the next 10 years. The satellite will measure and analyze greenhouse gases in the atmosphere, locate environmental polluters, identify ocean currents and algae growth, and track the size of the ozone hole. "[Envisat will flood earth with data](#)," Space Daily, November 27, 2001.
- **BP's investment in climate change mitigation.** A survey of the world's most respected companies by the Financial Times shows BP was voted best in the environmental league. BP has a proactive stance toward environmental issues, including a leadership role in the CO₂ Capture Project, an international NETL-sponsored team of energy companies working with governments, NGOs and other stakeholders. [Financial Times](#), December 17, 2001.
- **Future of a GHG market.** The International Emissions Trading Association (IETA) Forum on the Future of the Greenhouse Gas Market addressed issues of the carbon market, including uncertainty of the future. Among the presenters were the Pew Center on Global Climate Change, the UNFCCC, the Chicago Climate Exchange, the European Commission, the World Bank, AEP, and Shell. The presentations can be [downloaded](#), Washington D.C., December 3-4, 2001.
- **Cabinet-level climate change review.** A report of the initial findings of the Cabinet-level climate change working group was recently released. The review contains summaries of current U.S. actions, an analysis of the Kyoto Protocol, and proposals to advance climate change science, technology and partnerships. Cutting-edge carbon sequestration technologies are called out in the proposals section. [Climate Change Review](#), Initial Report.

Events and Announcements

- **Jointly organized conference on air, climate, renewable energy and emergency response.** The Fifth Electric Utilities Environmental Conference on Air Quality, Global Climate Change, Renewable Energy & Emergency Response will be held in Tucson January 22-25, 2002. The conference is organized by the EPA, DOE, EEI, and EPRI. For registration information, see www.euec.com/, and www.netl.doe.gov/events/02conferences/electric-util/electric-util02.html.
- **Call for papers for GHGT-6.** The sixth international conference on Greenhouse Gas Control Technologies will be held from 30 September to 4 October 2002 at the Kyoto International Conference Hall, Japan. Abstracts are required by 28 February 2002. See www.rite.or.jp/GHGT6/ or www.ieagreen.org.uk/ for more details.

Recent Publications

- **IEA GHG newsletter.** The IEA GHG released their November 2001 newsletter, which covers information on GHGT-6, the Weyburn Project, Norway's KLIMATEK program, and the establishment of a CO₂ Capture Test Network. The newsletter can be read at www.ieagreen.org.uk/.
- **Abrupt climate change.** Most climate-change research has focused on gradual changes, such as the processes by which emissions of greenhouse gases lead to warming of the planet. New evidence shows that periods of gradual change in Earth's past were punctuated by episodes of abrupt change, including regional temperature changes of about 18 degrees Fahrenheit, in only a decade. National Academies Press, [Abrupt Climate Change: Inevitable Surprises, prepublication copy](#), December 2001.
- **Carbon sequestration in sinks: An overview of potential and costs.** Previous climate negotiations were often derailed by disagreement on the inclusion of land use, land-use change, and forestry (LULUCF) activities. This paper explores the possible contribution of LULUCF activities in promoting greenhouse gas emissions reductions. Published by the [Center for International Climate and Environmental Research](#) - Oslo (CICERO).
- **EPA's Climate Action Report.** The United States' third formal communication under the Framework Convention on Climate Change has been released by the US EPA as a draft open for public comment. The document contains chapters on the U.S. greenhouse gas inventory, policies, projections, vulnerability, financial resources, research, and awareness. The [report](#) was posted on December 4th.
- **U.S. Global Change Research Program annual report.** The U.S. Global Change Research Program, in accordance with the Global Change Research Act of 1990, issues an annual report to Congress on the activities and plans of the USGCRP. The program has research activities in the area of carbon cycling, including land and ocean processes. [Our Changing Planet](#), FY 2002.

Legislative Activity

- **Energy policy honing.** Senator Daschle introduced a bill to the Senate on December 5th, 2001, called the National Energy Policy Act of 2002 (S1766). The bill will be brought up for Senate debate mid-February. The legislation is an alternative to SAFE (HR4), which seeks to open the Arctic National Wildlife Refuge to oil drilling. Both bills can be read online at <http://thomas.loc.gov>.
- **Voluntary emissions reductions Act.** Senators John McCain and Sam Brownback introduced legislation on December 6th that would establish a voluntary registry for greenhouse gas trading among industry. The bill, S1781, would support current CO₂ trading efforts by U.S. industries by establishing standards for measuring, verifying and reporting emission reduction. [Senator McCain's statement](#) on the bill can be read online, December 6, 2001.
- **NSR review process.** Six Democratic senators sent a letter seeking documents and information on the EPA's effort to rewrite power plant air pollution standards. The letter was signed by Senators Bob Graham of Florida, James Jeffords of Vermont, Hillary Clinton of New York, Thomas Carper of Delaware, Ron Wyden of Oregon and Jon Corzine of New Jersey. Reuters, "[Democratic senators request NSR documents from EPA](#)", December 17 2001.