

The International Institute for Sustainable Development (IISD) presents

CLIMATE-L NEWS

ISSUE 4

14 September – 17 October 2002

Compiled by Richard Sherman

Edited by Kimo Goree

Published by the International Institute for Sustainable Development (IISD)

Editor's note: Welcome to the fourth issue of Climate-L News, compiled by Richard Sherman. If you should come across a news article or have a submission for the next issue, please send it directly to Richard. CLIMATE-L News is an exclusive publication of IISD for the CLIMATE-L list and should not be reposted or republished to other lists/websites without the permission of IISD (you can write Kimo for permission.) If you have been forwarded this issue and would like to subscribe to CLIMATE-L, please visit <http://iisd.ca/scripts/lyris.pl?join=climate-l>.

Funding for the production of CLIMATE-L (part of the IISD Reporting Services annual program) has been provided by The Netherlands Ministry of Foreign Affairs, the Government of Canada (through CIDA), the United States (through USAID), the Swiss Agency for Environment, Forests and Landscape (SAEFL), the United Kingdom (through the Department for International Development - DFID), the European Commission (DG-ENV), the Danish Ministry of Foreign Affairs, and the Government of Germany (through German Federal Ministry of Environment - BMU, and the German Federal Ministry of Development Cooperation - BMZ). General Support for the Bulletin during 2002 is provided by the Ministries of Foreign Affairs and Environment of Finland, the Government of Australia, the Ministry of Environment and the Ministry of Foreign Affairs of Sweden, the Ministry of Foreign Affairs and Trade of New Zealand, the Ministries of Foreign Affairs and Environment of Norway, Swan International, and the Japanese Ministry of Environment (through the Institute for Global Environmental Strategies – IGES). If you like CLIMATE-L News, please thank them for their support.

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GENERAL NEWS

1) SAVING THE PLANET SAVES MONEY CUTTING GREENHOUSE GAS EMISSIONS IS GOOD FOR THE POCKET.

Nature

October 17, 2002

Internet: <http://www.nature.com/nsu/021014/021014-7.html>

Leading an energy-efficient life could save you £80,000 and save the planet more than 1,000 tonnes of greenhouse gases, a UK environmental scientist has calculated. The analysis shows that measures to alleviate climate change need not come with a financial punishment. About a third of the emissions in developed countries come from cars, homes and leisure activities. Raising public awareness could lead to big cuts, says David Reay of the University of Edinburgh. "I'm optimistic that most people would go for the chance to leave a big inheritance and a better environment for their children," says Reay. Last year, he worked out how individuals could cut their emissions to come into line with the Kyoto protocol. Now, to illustrate the economic consequences of such a lifestyle, Reay has created two hypothetical Londoners: the wasteful Mr Carbone and the virtuous Mr Bellamy, whose every deed is informed by a need to save energy.

Mr Bellamy, for example, wears reusable nappies as a baby, travels by public transport, holidays in his own country, buys locally produced food and recycles his rubbish. This eco-paragon is named after David Bellamy, the British conservationist. Mr Carbone's life, on the other hand, is all gas-guzzling cars and long-haul flights. The two lifestyles are extremes, says Reay, but small changes are also worthwhile: "You can make a significant difference without going the whole hog," he says - driving a small, energy-efficient car, for example. You can make a significant difference without going the whole hog. By age 75, Mr Carbone has been responsible for the emission of 1,251 tonnes of greenhouse gases, and spent £131,000 in the process. For Mr Bellamy, the figures are just 370 tonnes - a cut in emissions of 70% - and £48,845.

Reay draws a veil over the costs and environmental effects of their different funerals. But he intends to look at this final decision - cardboard coffins versus cremation, for example - in the future. The benefits of cutting personal emissions may not necessarily translate into wider economic gains, warns climate-change specialist Richard Tipper, of the Edinburgh Centre for Carbon Management. For example, he says, burning less coal is bad news for coal miners. Creating a low-emissions economy may be beneficial for all in the long run, says Tipper, but it will require big changes. "We've got to be able to persuade the losers that there's something in it for them."

2) GOVERNMENTS PREPARE FOR KYOTO PROTOCOL STARTING GUN UNFCCC

October 16, 2002

Internet: <http://unfccc.int/press/prel2002/pressrel161002.pdf>

New Delhi, 16 October 2002 – Anticipating that the Kyoto Protocol will come into effect in early 2003, the 185 member states of the UN Climate Change Convention are meeting in New Delhi from 23 October to 1 November to broaden the range of actions available to governments and civil society for addressing climate change. "By the time the Protocol enters into force, developed countries will have less than ten years to meet their Kyoto targets for greenhouse gases," said Joke Waller-Hunter, Executive Secretary of the Climate Change Convention. "The big question now is what practical actions these governments – including those that choose to remain outside Kyoto – are taking to lower their emissions." The Kyoto Protocol will enter into force 90 days after being ratified by 55 governments, including developed countries representing at least 55% of that group's 1990 carbon dioxide emissions. As of early October, 95 Parties have ratified, including developed countries accounting for 37.1% of CO₂ emissions. The Russian Federation and several other countries are expected to ratify in the near future, pushing this percentage over the threshold.

"Progress on implementation is vital, and with our annual conference being hosted this year by India I hope and expect that there will be a strong focus on the concerns of developing countries," said Ms. Waller-Hunter. "These concerns include preparing to cope with global warming impacts, accelerating the transfer of climate-friendly technologies, and integrating climate policies more closely with sustainable development." Recent climate disasters around the world – from droughts in India and the US to floods throughout Europe – have served as potent reminders of some of the expected consequences of global warming. The New Delhi conference will discuss how to build greater capacity, especially in developing countries, for minimizing vulnerabilities and preparing for worsening droughts, floods, storms, health emergencies, and other expected impacts.

According to the Intergovernmental Panel on Climate Change, rising temperatures will increase the frequency and severity of heat waves. The intensity of tropical cyclones will likely worsen over some areas. Major climate patterns could shift, leading, for example, to greater annual variability in the precipitation levels of the Asian monsoon and thus more intense floods and droughts. Recognizing that many developing countries will need support to cope with such impacts, governments established an Adaptation Fund under the Kyoto Protocol to finance projects and programmes on adaptation. Developing countries will also need better access to innovative technologies for reducing greenhouse emissions from energy and production. The Plan of Implementation adopted last month by the World Summit on Sustainable Development underlined the importance of developing cleaner technologies in key sectors such as energy. It also called for greater efforts to promote technology transfer, including through the private sector.

Another key agenda item is the review of national communications containing emissions and other data from member governments. According to a report being considered at the meeting, the latest available data (2000) reveal that greenhouse gas emissions in the richest (essentially OECD) countries have risen by 8.4% since 1990 (the baseline year for Kyoto targets); this figure excludes sequestration by carbon sinks. Meanwhile, emissions in the economies in transition (Central/Eastern Europe and the former Soviet Union) declined by 38% due to economic restructuring. The New Delhi meeting is known officially as the Eighth Session of the Conference of the Parties to the Climate Change Convention (COP 8) and is likely to draw at least 3,000 participants. The high-level segment will take place on Wednesday and Thursday, 30-31 October. Indian Prime Minister Atal Bihari Vajpayee plans to address the meeting on Wednesday, plus some 80 ministers from around the world are expected to participate in the high-level segment, thus adding political momentum to the decisions taken by the conference.

3) EU HAS TOUGH CHOICES AS KYOTO TARGETS LOOM

Reuters

16 Oct 2002

Internet: <http://www.alertnet.org/thenews/newsdesk/L16472478>

BRUSSELS, Oct 16 (Reuters) - European Union industry is bracing itself for two major new policies to make it slash greenhouse gas emissions under a global climate treaty the EU fought to protect. As the Kyoto global warming pact, rejected by the United States over fears it would harm the economy, nears coming into force, the EU faces some stark choices about how to cut pollution from its factories, farms, transport and homes. On Thursday, EU environment ministers will discuss one of the most radical ideas -- a bill to limit the amount of carbon dioxide (CO₂) industry can emit and get firms that breach their caps to buy emissions credits from less polluting companies. And by the end of the year, finance ministers are due to agree a new EU energy tax system that would raise minimum tax levels on the use of oil products and set, for the first time at EU level, minimum tax rates on coal, electricity and gas. EU Environment Commissioner Margot Wallstrom robustly defended the emissions trading bill in front of a sceptical electricity industry conference earlier this week. "The major risk is climate change itself," Wallstrom told EU power body Eurelectric. "It is an obligation of the business community to take on climate change, but it is an obligation of policy makers to use the most cost effective measures."

Wallstrom led diplomatic efforts to convince the rest of the world to stick with Kyoto following the U.S. pullout last year and she said the EU now had to live up to its promises. "The EU's credibility is at stake should (the emissions trading bill) fail," Wallstrom told the conference. Kyoto aims to reduce greenhouse gas emissions from the developed world by 5.2 percent of 1990 levels by 2012 as a first step to bigger cuts aimed at stopping global warming. The treaty will come into force once ratified by Russia.

GERMAN OPPOSITION

The EU emissions trading plan is touted by the European Commission as a way to let companies find the cheapest way of reducing their emissions of CO₂ -- the main Kyoto gas, which is an inevitable by-product of fossil fuel use. But the bill hit a major political obstacle in June when the head of the EU's biggest economy, German Chancellor Gerhard Schroeder, said it would disadvantage EU industry. Under Kyoto, the EU has to reduce its greenhouse gas emissions by eight percent of 1990 levels during the period 2008-2012. But under a burden sharing agreement between EU member states, Germany faces the biggest reductions. To allow less developed EU countries to increase their emissions, Germany agreed to cut its output by 21 percent -- making up around three quarters of the total EU cut, a point Schroeder repeatedly reminds his EU colleagues. Germany's concerns on a system that would cap CO₂ emissions from most of its big industries including power plants, metals smelters, glass, paper and cement makers, have meant there is no chance of a deal on the bill this week at the ministers' meeting. According to EU diplomats, Germany asked for a delay on the issue while its new government coalition beds in. But on Tuesday, German opposition to the bill softened to reflect the increased profile of the Green party in the ruling coalition following last month's election. Germany said it would now support the bill, but will request many amendments that would favour its industry.

ENERGY TAX

EU industry has welcomed the principle of emissions trading -- a concept that was first used in the United States as a way of reducing the acid rain pollution -- but has many concerns over how it might look in the

EU. When the scheme starts in 2005, industry wants it to be on a voluntary basis for a trial period of around three years, to allow for a learning by doing process. Such a voluntary system has already been launched in Britain. Big business also wants a payback for making the effort to cut emissions in the form of less old style regulation that told them how and where to apply environmental rules and, more importantly, no new environmental taxes.

Unfortunately for industry, a new energy tax is under serious consideration. At a summit in Barcelona, Spain in March, EU leaders said they wanted a deal on the issue by year-end. "If there is emissions trading there should be no double jeopardy -- no energy taxes applied to those (firms involved) in emissions trading," said William Kyte, head of sustainable development at British electricity firm Powergen

But tax reform has become one of the key goals of Europe's vocal environmental movement. Green group coalition, the European Environmental Bureau, says the issue is urgent, not only because of the impact the tax could have on emissions, but also because a deal would be even harder once the EU expands in less than two years' time. Unanimity among member states is required to alter EU taxation rules, unlike in the environment field where a weighted majority of countries is sufficient to pass laws. Despite the message from Barcelona to agree on energy tax, EU diplomats consider a deal on the bill -- which has languished on the negotiating table for five years -- as a tall order. Wallstrom also has little faith. "I'll believe it when I see it," she told a conference.

4) GOVT CLEARS SIX PROJECTS TO CUT GAS EMISSIONS

The Economic Times

OCTOBER 16, 2002

Internet: <http://economictimes.indiatimes.com/cms.dll/articleshow?artid=25293519>

NEW DELHI: Though the Kyoto Protocol is unlikely to become operational this year, India - which will soon host the Eighth Conference of Parties on Climate Change - has cleared six project proposals under the "prompt start" clean development mechanism. This was agreed under the Marrakesh Accord to enable parties to embrace CDM without waiting for Kyoto to come into force. CDM is a scheme under which companies in developing countries can win investments from developed countries for projects based on green technologies, which help to cut greenhouse gas emissions. While developed countries are major contributors to GHGs, the relative costs of reducing emission levels are far higher there. Global warming being all pervasive, the Protocol has allowed the CDM mechanism under which developed countries can meet their commitments (they have to reduce emissions by an average of 5.2% with reference to 1990 levels during '08-12) by acquiring emission reduction credits from outside.

At this point of time, with Kyoto yet to become operational, only two players are offering to trade carbon — Netherlands and the World Bank. Government approval would allow five Indian companies to vie with 20 others from across the world for the tender floated by the Netherlands government. Netherlands, through Senter International, a Dutch government agency, floated a tender for procurement of Certified Emission Reductions from potential Clean Development Mechanism (CDM) projects in November '01. Its commitment under Kyoto is 6% below the 1990 level — roughly 200 mega tonnes of carbon dioxide. It received 80 proposals including 11 from India of which 26 have been shortlisted. While the Netherlands proposes to achieve 50% reduction through domestic effort, 50% would be through Kyoto, which incidentally offers two other mechanisms as well — joint implementation and emission trading. A MoEF source said, "The important thing is that India has made a start and showed commitment."

The six Indian projects namely Ind Barath Energies (7.5 MW biomass power project), Kalpataru Energy Venture (biomass in Rajasthan: electricity generation from mustard crop residues), Vestas RRB India (which proposes two projects, a combined 15 MW wind biomass project and another 14.45 MW wind power project) Suzlon Energy (15 MW grid connected wind energy project) and Enercon (India) (15 MW grid connected renewable electricity supply project) together propose an estimated reduction of 2,64,66,549 tonnes of carbon dioxide. While an inter-ministerial group here has approved the above projects as in the interest of "sustainable development" (while rejecting 7 others of the original expressions of interest), it remains to be seen if they get Senter International's stamp of approval as well. The price at which Indian companies would be able to trade CER is not yet clear. A senior MoEF source says, "It is too early to go into those details at this stage. Even the reduction may fall below or be far above the estimated target. The

important thing is that we have made a start.” Meanwhile another biomass project approved by the government in response to a World Bank call hangs fire.

5) CLEAN ENERGY PROJECT KICKS OFF IN CHINA

Asia Pulse

October 15, 2002

Internet: <http://library.northernlight.com/FA2002101531000013.html?cb=0&dx=1006&sc=0#doc>

BEIJING, Oct 15, 2002 (AsiaPulse via COMTEX) -- A project for improving energy efficiency with a clean environment kicked off in Beijing on October 14. The launching ceremony of the "Opportunities for the Clean Development Mechanism (CDM) in the Energy Sector" project was jointly held by the Chinese Ministry of Science and Technology and the Asian Development Bank. According to experts, the CDM project, under the sponsorship of the bank, is aimed at analyzing opportunities for the CDM project in China's energy sector, putting forward strategies and actions on promoting the CDM, and working out a set of technical guides in line with China's circumstances. Jia Jingdun, an official with the science ministry, said this project will involve a case study of small CDM projects in areas of renewable resources and energy efficiency in China's Gansu Province and Guangxi Zhuang Autonomous Region. The CDM is said to be an international cooperating mechanism for reducing the greenhouse effect under the "Kyoto Protocol." It has been revealed that China is carrying out a series of research and training activities, including cooperation with international organs and developed countries, to help improve the country's capability in implementing the CDM project.

6) WHITE HOUSE, EPA CLASH ON LOWER VEHICLE EMISSIONS

Reuters

October 15, 2002

Internet:

http://story.news.yahoo.com/news?tmpl=story&u=/nm/20021015/pl_nm/environment_vehicles_dc_2

WASHINGTON (Reuters) - The Environmental Protection Agency is again at odds with the White House on clean air policies, with the EPA proposing on Tuesday to approve a vehicle low emission program for Massachusetts that Justice Department lawyers oppose for California. The Massachusetts program incorporates the California vehicle low emission standards that the Bush administration said earlier this month infringed on the federal government's authority to set vehicle mileage requirements. The White House sided with automakers DaimlerChrysler AG and General Motors Corp. in opposing the California standards. The Justice Department, acting on behalf of the administration, filed a brief with 9th U.S. Circuit Court of Appeals supporting a federal judge's injunction that delayed the California vehicle emission standards from taking effect for two years until the 2005 model year.

In contrast to the White House position, the EPA praised Massachusetts for adopting the California emission standards, saying it will help the state meet clean air requirements and may result in cleaner vehicles being put on the market. The California standards that Massachusetts wants to adopt would require at least one out of every 10 vehicles sold to produce no pollution. U.S. automakers would have a tougher time in meeting such a tough requirement compared to Japanese competitors Toyota Motor Co. and Honda Motor Co., which already build several low emission vehicles that also have higher fuel economy. "It makes it appear that the administration's actions with regard to California were blatantly political (to favor U.S. automakers)," said Frank O'Donnell, executive director for the Clean Air Trust. EPA officials could not immediately be reached for comment.

The agency asked for public comment through Nov. 14 on Massachusetts' emissions reduction program. California's Democratic Gov. Gray Davis recently signed into state law a measure to regulate the emissions of carbon dioxide, a greenhouse gas. Automakers contend that the California law is a veiled attempt to require stricter fuel economy standards, which only Congress can regulate. EPA and the White House have a history of disagreement on environmental issues. Earlier this year, EPA released a report that concluded human activities -- such as operating power plants and oil refineries -- were responsible for causing the emissions that were primarily responsible for global warming. However, the Bush administration has said more scientific study is needed to determine the cause of rising world temperatures.

President Bush dismissed the EPA report, saying he never read it.

7) GERMAN GREENS WIN CLIMATE REMEDIES IN NEW GOVERNMENT

ENS

October 15, 2002

Internet: <http://ens-news.com/ens/oct2002/2002-10-15-05.asp>

BERLIN, Germany, October 15, 2002 (ENS) - Germany's Social Democrat and Green parties are ready to return to full time government after finalizing a coalition agreement following last month's elections. The deal includes some stronger environmental policy positions, though the current program of annual energy tax increases is to be halted. There are 10 ministries for the SPD and three for the Greens. Buoyed by their best ever election result, the Greens have won further responsibilities for their three ministers, including promotion of renewable energy, which passes to the environment ministry from the economic portfolio. For the Greens, Joschka Fischer remains foreign minister, Juergen Trittin remains environment minister and Renate Kuenast keeps control of consumer protection, agriculture and food. Key environmental policy elements of the coalition deal focus on energy and climate change.

Energy taxes will rise only once more, on January 1, 2003 as already scheduled, despite pressure from the Greens for further increases. The party's consolation prize is a scheduled review of the ecotax program in 2004. Several loopholes that have benefited energy intensive companies such as aluminium manufacturers will be closed.

The government is to abandon opposition to European Commission proposals for mandatory rather than voluntary participation in a EU carbon dioxide emissions trading scheme. The change should make it easier for EU environment ministers to reach agreement on emissions trading. Under the deal, German companies would be able to join trading pools rather than having to participate individually. Germany will push for the EU to go beyond its current Kyoto Protocol commitment to cut greenhouse gases to agree a target reduction of 30 percent from 1990 levels by 2020. In this context, Germany should reduce its own emissions by 40 percent, the parties have agreed.

Among a string of tax measures, car taxes will continue to be developed along "environmental lines," including tax breaks for natural gas powered vehicles until 2020.

Flights from Germany to other EU nations will no longer be exempt from the Value Added Tax. The government will do its utmost to achieve an EU accord on jet fuel taxation. There will also be equal taxation of gas and heating oil. On subsidies, coal industry support is to be cut from €3.05 billion to €2.17 billion by 2005. Meanwhile, renewable energy subsidies are to be increased to €230 million by 2006. One of four nuclear power stations prioritized for closure under the government's nuclear phaseout program has been given an additional two years of operation. Energie Baden-Wuerttemberg (EnBW) was seeking to postpone the planned early 2003 closure of its Obrigheim nuclear power plant. EnBW had requested to transfer a portion of another reactor's generation credit to Obrigheim so that it could operate longer. Officials reaffirmed their commitment to introduce deposits on one-way drinks containers to protect refillables' share of the market as planned on January 1, despite a recent court decision banning them in North Rhine Westphalia, Germany's most populous state.

8) AMBITIOUS PLANS FOR ICELAND'S SURPLUS ENERGY

Cordis

October 15, 2002

Internet: http://dbs.cordis.lu/cgi-bin/srchidadb?CALLER=NHP_EN_NEWS&ACTION=D&SESSION=&RCN=EN_RCN_ID:19086

Researchers in Iceland are thinking of innovative ways in which the country can benefit from the island's wealth of renewable energy resources, with one possible plan being the direct export of electricity to mainland Europe via the world's longest submarine cable. Iceland has only 300,000 inhabitants, but it is estimated that its geothermal and hydroelectric resources alone could be sufficient to meet the annual electricity requirements of 6 million people, more than the entire population of Denmark. Consequently, energy research in the country, the second largest area after marine research, has always focussed on new ways of utilising these resources.

Traditionally, the country has used surplus energy to fuel power intensive industries (PII), most notably in the production of aluminium. PII provides around 500 million euros in export revenue per year for Iceland, around half the amount of their main source of exports, fishing and fish processing. With new large-scale investment in aluminium smelting plants planned, the amount of energy being utilised is set to rise, but a huge potential surplus remains for further exploitation. One highly ambitious scheme being proposed is the

generation and direct export of electricity to mainland Europe via a submarine cable. The demand for clean and renewable sources of energy is high in Europe, with Kyoto protocol targets on emissions to be met and further aims identified at the world summit in Johannesburg. Some in Iceland would be reluctant to export such a raw material, however, preferring instead to use that energy to produce exportable goods. There are practical difficulties also: it is estimated that the world's current cable manufacturing capacity would require 6 years to construct the 1170 kilometres required to reach Scotland.

Another possibility is the use of energy to produce clean fuels that could, in turn, be exported to Europe and the rest of the world. The production of hydrogen through electrolysis is one such method, and many in Iceland are keen to explore the possibilities of hydrogen technology with a view to creating a viable mass market. Research projects, including collaborations on EU funded initiatives, are ongoing in Iceland, and the vast majority of Icelanders see hydrogen as the fuel of the future. A world hydrogen market is still decades away from becoming a reality, however, and there are other practical obstacles such as storage that still need to be resolved.

Iceland remains fully committed to increasing the production of clean and renewable energy though, with PII providing the most viable short-term outlet for its exploitation. Speaking at an Energy Day in Brussels on 14 October, Icelandic Minister for Energy and Commerce, Ms. Valgerdur Sverrisdóttir, stated that 'as a country with an abundance of renewable energy resources, and corresponding levels of expertise in the area, Iceland will lead the way towards meeting the targets discussed at the world summit on sustainable development in Johannesburg.'

9) CUT DOWN ON GREENHOUSE GASES, EARN GREENBACKS

The Hindu

October 15, 2002

Internet: <http://thehindubusinessline.com/stories/2002101602180100.htm>

INDIAN companies have started out on the path of making millions of dollars by reducing greenhouse gas emissions and selling the emission reductions as credits to developed country institutions and companies. The first signs of carbon dollars materialising in the near future have emerged with six Indian companies being shortlisted as part of the Certified Emissions Reductions Procurement Tender (CERUPT) issued by the Dutch organisation, Senter International, under orders from the Ministry of Environment, Government of the Netherlands. Experts say that while this marks the beginning, there is a far greater potential that the Indian industry can tap by trading greenhouse gas emission reductions under the Clean Development Mechanism (CDM) of the Climate Change Convention. According to the list published by the Indian Ministry of Environment and Forests (MoEF), the companies shortlisted are: Ind-Bharat Energies, KalpaTaru Energy Venture, Vestas RRB (two projects), Suzlon Energy and Enercon India. All the projects shortlisted are in the renewable energy sector.

Ind-Bharat Energies and KalpaTaru have submitted projects for 7.5-MW biomass-based power plants, in Maharashtra and Rajasthan respectively. Vestas RRB submitted one proposal for 15 MW power from wind-biomass project and another proposal for 14.45-MW wind power (from advanced 850 kW wind turbines) project. Both projects are proposed in Tamil Nadu. The other wind energy proposal is from Suzlon, which would generate 15 MW of wind power from one MW wind turbines, at Sankaneri in Tamil Nadu. The last project selected is a proposal for 15-MW grid-connected renewable electricity supply project to be established at Nipani, Karnataka, by Enercon India. According to Dr P. Ram Babu of PricewaterhouseCoopers Ltd (PwC), these companies have been given a nominal amount from CERUPT to start the validation process and then take the process forward. The cash flow can start once the agreement is finalised. Dr Babu, who leads PwC's Sustainability Solutions Group in the country, said that there was much optimism about Indian companies raking in millions of dollars through carbon trading. While the six shortlisted could get around Rs 50 crore for their carbon traded, PwC estimates a market of \$400 million for Indian industry in the initial years of carbon trading itself.

When some of the proposals for energy conservation in steel plants would materialise, the potential would be for trading millions of tonnes of carbon from India, he added. Though Kyoto Protocol lists six greenhouse gases - carbon dioxide, methane, nitrous oxide, hydrofluorocarbons, perfluorocarbons and

sulphur hexafluoride - the unit for transactions will be tonne carbon dioxide equivalents (tCO₂e). According to Dr Babu, for the CERUPT process a higher price per tCO₂e for the Indian wind energy projects for the carbon saved was expected than the global average of 4.7 Euro stated by the Dutch agency handling the tender. PwC had provided consultancy for three of the companies shortlisted in the process. While the negotiations on the price are expected to start in November, the fact that the six companies have started with the process of carbon trading is significant since the Indian Government will be hosting the Eighth Conference of Parties (CoP-8) at New Delhi between October 23 and November 1. India ratified the Kyoto Protocol on August 26 this year. This is a prerequisite before Indian companies can start participating in carbon trading under CDM. The CDM process goes through the stages of project identification, host country endorsement, development of baseline emission data, validation by an independent agency (Designated Operating Entity), registration with the Executive Board for CDM, independent monitoring of the actual emission reductions and verification. The end of the process is the certification of emission reductions, which can then be traded. However, according to Dr Babu, the cash flow for carbon trading can start once the prices are negotiated.

10) UK ALKANE ENERGY LAUNCHES GREEN ENERGY PARK

Planet Ark

October 14, 2002 Internet: <http://www.planetark.org/dailynewsstory.cfm/newsid/18167/story.htm>

LONDON - UK energy group Alkane Energy opened a new energy park in north England to turn polluting methane gas into power to supply 8,000 homes and cut greenhouse gas emissions. The new Alkane Energy Park built on the former Wheldale coal mine in West Yorkshire in north England has a capacity of 10.6 megawatt and is expected to cut methane emissions from the mine by 85 percent, the Department of Trade and Industry (DTI) said in a statement. "Converting methane from abandoned coal mines into electricity is an innovative method of generating electricity," British Energy Minister Brian Wilson said in the statement. "If fully exploited it could provide an extremely valuable contribution to meeting the UK's Kyoto targets." The Kyoto protocol aims to curb global warming by cutting greenhouse gases such as carbon dioxide and methane by 5.2 percent by 2008-2012 on 1990s levels. Britain plans to cut its greenhouse gas emissions by 12.5 percent during the same period under the Kyoto protocol. There are more than 1,000 abandoned coalmines in the UK and estimates suggest they could leak up to 13.8 million tonnes of greenhouse gases into the atmosphere, the DTI said. Coalmine methane gas is 23 times more potent than carbon dioxide produced from conventional coal-fired power stations, it added. 11) EU ASSEMBLY BACKS CLIMATE EMISSIONS TRADING PLAN

Planet Ark

October 14, 2002 Internet: <http://www.planetark.org/dailynewsstory.cfm/newsid/18166/story.htm>

BRUSSELS - The European Parliament gave its backing to a plan that will limit the amount of "greenhouse gases" firms can emit and encourage them to buy and sell the right to pollute. The policy is a cornerstone of the European Union's strategy to reduce the gas emissions, blamed for trapping heat in the atmosphere, which it agreed to cut under the 1997 Kyoto treaty. Environment Commissioner Margot Wallstrom called the action a "major step forward towards implementing the Kyoto protocol within the EU". Under the bill, from 2005 most heavy industries will be granted emissions permits by their governments, setting ceilings on their outputs. If they exceed a maximum emissions level, they will be allowed to buy extra credits from less polluting firms. The bill will be discussed by EU environment ministers next week. EU governments have joint legislative powers on the issue with the European Parliament. In a key amendment, Parliament voted to allow member states to let their industries opt out of the scheme until the end of 2007 - a change that would allow an existing, voluntary, emissions trading scheme in Britain to continue.

Such an opt out would only be allowed if member states could make the same emissions cuts as they would under the EU scheme. Britain launched its trading system this year, offering financial incentives for firms that volunteered to take part. According to British Liberal Democrat Euro MP Chris Davies, who pushed for the change, some 6,000 companies are taking part in the scheme including heavyweights like Shell UK, Blue Circle Industries and British Airways.

NO THATCHERITE OPT-OUT

Wallstrom has said that Britain would have to adapt its scheme once the EU system was in place, threatening the British scheme's voluntary nature. Environment Minister Michael Meacher told a conference

in Brussels on Thursday that industry and lawmakers needed time to learn how such a radical new scheme would work, but that Britain would move to a mandatory system in time. Despite the possible opt-out offered by the amendment, Greens in Parliament were pleased by the vote which brings the EU a step closer to creating the world's first coordinated greenhouse gas emissions trading scheme. Dutch Green Alex de Roo said that for the trading to begin in 2005 EU ministers must agree to its principles during their meeting next week, but that he expected Germany to resist. Parliament said the scheme should include all six greenhouse gases covered under Kyoto, rather than restricting it to the main one, carbon dioxide, as proposed by the Commission.

12) INDIA'S GDP TO BE IMPACTED BY GLOBAL WARMING

Rediff

October 14, 2002

Internet: <http://www.rediff.com/money/2002/oct/14gdp.htm>

With earth's temperature rising and leading to increase in sea level, climatic change will have serious impact on agriculture, economy and human health, an issue, which will be hotly debated at an international meet in New Delhi later in November. The discussion is important for India as an increase in global temperature can result in fall in food production and decline in India's Gross Domestic Product by a significant 4.9 per cent in this century according to the Inter-governmental Panel on Climate Change. Billed to be the largest-ever international gathering in India, the 8th Conference of Parties to the United Nations Framework Convention on Climate Change, beginning on October 23, will be attended by 186 countries. The conference assumes significance as it comes shortly after the Global Summit on Environment in South Africa, which was sharply divided on the issue of reducing the emission of greenhouse gases responsible for global warming. Without emission control policies, atmospheric concentrations of carbon dioxide is expected to increase from the present 367 particles per million to 490-1260 particles per million by the end of the century, the IPCC said.

Stabilising carbon dioxide concentrations at 450 ppm, a major issue the conclave will have to deal with, will require worldwide emissions to fall below 1990 level.

Developed countries are primarily responsible for the current high levels of concentration of greenhouse gases in the atmosphere but are in a position to absorb the impact of climate change on account of their economic strength. There is no unanimity on the issue of reduction in emission of greenhouse gases, which is a matter of concern as climate change is a global issue whose impact is not limited to any specific country or region. Earth's temperature has increased by 0.6 per cent in the 20th century. Temperature increase by more than 2.5 per cent will reduce global food production resulting in significant increase in food prices. Moreover the GDP of the US, European Union, Africa and India can reduce by 0.5, 2.8, 3.9, and 4.9 per cent respectively. Climate change is expected to increase the frequency and severity of heat waves and more intense rainfall leading to greater flooding. Intensity of tropical cyclones will also worsen. It will reduce ice cover of the seas, 14 per cent fall of which in the Arctic and 25 per cent in the Antarctic has already been recorded. While the mid and high latitudes of Northern Hemisphere receive heavy rains and snow, tropics and sub-tropics will suffer from declining rains. Water availability in the large basins of Africa has already declined. As a result 1.7 billion people accounting for one-third of the world's population live in water-stressed countries, which is expected to rise to five billion by 2025. Climate change will also impact human health in the form of increased incidence of vector borne diseases like malaria.

13) GREENLAND'S GLACIERS CRUMBLE GLOBAL WARMING MELTS POLAR ICE CAP INTO DEADLY ICEBERGS

Washington Post

October 13, 2002

Internet: <http://www.washingtonpost.com/wp-dyn/articles/A18559-2002Oct12.html>

ILULISSAT, Greenland -- The iceberg was at his back. Suddenly it began moving like a monster that was waking up. Aqqaluk Lynge, hunting for seal on an ice sheet nearby, looked up in alarm, knowing that these floating mountains off the coast of Greenland, for all their frozen beauty, are ruthless and deadly. So he decided to get moving, he recounted recently. But the engine on his motorboat wouldn't start. Lynge has a special reverence for Greenland's icebergs. A member of the Inughuit native people, he's out on the water

often and says the icebergs have become more numerous and more dangerous in recent years, a change he attributes to warming of the global climate. Icebergs are tongues of glaciers that have broken off and fallen into the sea. That process is called "calving," and it is often announced by a loud hiss of ice crackling and air exploding from ancient ice. Soon after, an iceberg is born and sent into the sea. If it is spring, the baby will flow away. But if it is winter, it will be blocked and stay near the arms of its mother, the glacier, until spring, when the sea ice melts and opens the way. Once floating in the open sea, it may be unstable, flipping top to bottom. This is the time when it is most dangerous for hunters on the sea.

In recent years, some scientific surveys have shown that more icebergs are slipping into the sea, as glaciers melt faster than expected. Greenland's ice cover, which holds 10 percent of the world's ice, has been thinning, studies have shown. Scientists are debating why this is happening, whether it's part of global warming or a local phenomenon, but they generally agree that something unusual is going on. In Greenland, "the higher elevation appears to be stable, but in a lot of areas around the coast the ice is thinning," said Waleed Abdalati, a manager in the Earth Sciences Department of NASA's Goddard Space Flight Center. "There is a net loss of ice, particularly in the south. "In some places, the coastal thinning is proceeding as fast as three feet each year. If this signals a general global warming trend, researchers worry, so much ice could melt that sea levels will rise and flood coastal cities. The U.S. Environmental Protection Agency has warned that water levels may increase 6 to 12 inches over the next century. They have already been rising 10 to 12 inches per century along the U.S. coast. NASA has been watching the melting of Greenland's ice sheets since 1993, when its scientists conducted airborne studies. "We went back five years later to measure the same locations to see how they changed. It was a snapshot in time of the changes," said Abdalati. "If we can better understand changes, we can better predict what they are likely to be in the future." Greenland is known for icebergs that seem to lurk behind fog. Visitors come here to Ilulissat to go out to sea, get close to the icebergs and experience their majesty. Nine-tenths of the ice mass hides beneath the sea. Ships must be careful how they navigate these waters.

One of the largest icebergs found here was four miles long. But as icebergs go, that is small. The true monsters occur in the south, off Antarctica. One of the most immense icebergs ever found there measured 200 miles long and 60 miles wide. Last spring, a huge ice shelf attached to Antarctica snapped off the frozen continent and split into thousands of small icebergs. Scientists, who had been predicting for years that the ice there would snap, were surprised at how fast the break-off happened. "The disintegration of the ice shelf, ice that has been around for thousands of years, now gone and disappearing so quickly -- that was a significant event," Abdalati said. Lyngre remembers the fear that chilled him that day when he was hunting near the iceberg. He was out on an ice sheet, chasing a seal. The seal had dived and Lyngre was waiting for it to return to its breathing hole. Patience when seal hunting is essential. So he waited. But the seal never came up. When an animal begins to act strangely, such as not coming up for breath, something tremendous is happening in nature, the native people here say. Just then he noticed the iceberg moving. If the tip is moving, he knew, it can mean that one end is moving up and the other end is moving down. Lyngre turned instantly and jumped into his motor boat, but it would not start. A friend in another boat nearby quickly gave him a tow. Soon they were speeding away from the iceberg, not waiting to look back. Behind them they heard it turning. "We looked back and saw the whole iceberg was collapsing, exploding almost," he says. "We were so afraid." Then it flipped, creating a great tidal wave that crashed hard onto nearby shorelines. By then the two men were out of the wave's path. "When we were finally far away, we could breathe normally again. We were looking back and seeing nothing was left. It exploded underneath the surface of the sea."

14) GLOBAL WARMING MAY HAVE CAUSED GIANT SQUID DEATHS Reuters October 11, 2002
Internet: http://reuters.com/news_article.jhtml?type=worldnews&StoryID=1566796
LUARCA, Spain (Reuters) - Global warming could be behind the mysterious deaths of giant squid off the north coast of Spain, a marine biologist said on Friday.
Experts at a marine life protection center in the northern region of Asturias said that of the 40 giant squid recorded in the area since 1962, three had been found in the past month. "The increased sightings of dead giant squid could be due to various factors, from (military) maneuvers to pollution and global warming," Angel Guerra, of the Spanish Institute of Scientific Research, told Reuters as he dissected one of the squid in an attempt to establish why it had died. The giant squid, the mythical monster of the deep that attacked Captain Nemo's Nautilus in the Jules Verne adventure "Twenty Thousand Leagues Under the Sea," is

believed to lurk in cool waters at a depth of between 600 and 2,300 feet. Scientists say warm water will cause a giant squid to rise to the surface and not be able to get back down, which is why they are probably more likely to be found in cooler water. Giant squid are the world's largest invertebrates which can grow up to almost 60 feet in length and weigh up to two tons. No specimen of the creature, whose eyes can be as large as a human head, has ever been studied alive. One of the giant squid the biologist was cutting up in Luarca was the first male of the species -- also known as *Architeuthis Dux* -- ever seen so far south. "The fact that no males had been found here could be due to the abundance of females versus males, and the fact that they live apart until they come together to reproduce in a deep shelf off the coast of Asturias," he said

15) GERMANY TO PRESS EU FOR NEW GREENHOUSE GAS TARGETS

Planet Ark

October 11, 2002 Internet: <http://www.planetark.org/dailynewsstory.cfm/newsid/18146/story.htm>

BERLIN - Germany's Greens, junior partners in the coalition government, said this week they would urge the EU to set new targets for cutting greenhouse gas emissions which go beyond those agreed under the 1997 Kyoto Protocol. "We want an EU agreement to cut emissions of gases that damage the environment by 30 percent compared with 1990 levels by 2020," the chairman of the Greens, Fritz Kuhn, told a news conference. "If we are successful in this, the German government will cut carbon dioxide and greenhouse gas emissions by 40 percent (compared to 1990 levels) by 2020." Under the Kyoto accord, the European Union has to cut its greenhouse gas emissions by eight percent of 1990 levels by 2012. Scientists say emissions of gases such as carbon dioxide (CO₂) in fuel combustion are causing a greenhouse effect, warming up the atmosphere. Chancellor Gerhard Schroeder's Social Democrats are in the middle of working out a new government programme with the Greens after the coalition narrowly won re-election last month. The coalition agreement is due to be completed by the first sitting of parliament on October 17.

16) CONTROL OF METHANE EMISSIONS WOULD REDUCE BOTH GLOBAL WARMING AND AIR POLLUTION, RESEARCHERS FIND

Science Daily

October 10, 2002

Internet: <http://www.sciencedaily.com/releases/2002/10/021010065923.htm>

WASHINGTON - Both air pollution and global warming could be reduced by controlling emissions of methane gas, according to a new study by scientists at Harvard University, the Argonne National Laboratory, and the Environmental Protection Agency. The reason, they say, is that methane is directly linked to the production of ozone in the troposphere, the lowest part of Earth's atmosphere, extending from the surface to around 12 kilometers [7 miles] altitude. Ozone is the primary constituent of smog and both methane and ozone are significant greenhouse gases. A simulation based upon emissions projections by the Intergovernmental Panel on Climate Change (IPCC) predicts a longer and more intense ozone season in the United States by 2030, despite domestic emission reductions, the researchers note. Mitigation should therefore be considered on a global scale, the researchers say, and must take into account a rising global background level of ozone. Currently, the U.S. standard is based upon 84 parts per billion by volume of ozone, not to be exceeded more than three times per year, a standard that is not currently met nationwide. In Europe, the standard is much stricter, 55-65 parts of ozone per billion by volume, but these targets are also exceeded in many European countries.

Writing this month in the journal *Geophysical Research Letters*, Arlene M. Fiore and her colleagues say that one way to simultaneously decrease ozone pollution and greenhouse warming is to reduce methane emissions. Ozone is formed in the troposphere by chemical reactions involving methane, other organic compounds, and carbon monoxide, in the presence of nitrogen oxides and sunlight. Methane is known to be a major source of ozone throughout the troposphere, but is not usually considered to play a key role in the production of ozone smog in surface air, because of its long lifetime. Sources of manmade methane include, notably, herds of cattle and other ungulates, rice production, and leaks of natural gas from pipelines, according to the IPCC. In addition, natural sources of methane include wetlands, termites, oceans, and gas hydrate nodules on the sea floor. In a baseline study in 1995, 60 percent of methane emissions to the atmosphere were the result of human activity. The IPCC's A1 scenario, which Fiore characterizes as "less optimistic in terms of anticipated emissions than a companion B1 scenario," posits economic development as the primary policy influencing future trends of manmade emissions in most countries. Under A1,

emissions would increase globally from 1995 to 2030, but their distribution would shift. Manmade nitrogen oxides would decline by 10 percent in the developed world, but increase by 130 percent in developing countries. During the same period, methane emissions would increase by 43 percent globally, according to the A1 scenario.

The researchers find that a reduction of manmade methane by 50 percent would have a greater impact on global tropospheric ozone than a comparable reduction in manmade nitrogen oxide emissions. Reducing surface nitrogen oxide emissions does effectively improve air quality by decreasing surface ozone levels, but this impact tends to be localized, and does not yield much benefit in terms of greenhouse warming. Reductions in methane emissions would, however, help to decrease greenhouse warming by decreasing both methane and ozone in the atmosphere world-wide, and this would also help to reduce surface air pollution. Both in the United States and Europe, aggressive programs of emission controls aimed at lowering ozone-based pollution may be offset by rising emissions of methane and nitrogen oxides from developing countries, the researchers write. Pollution could therefore increase, despite these controls, and the summertime pollution season would actually lengthen, according to the simulation under the A1 scenario. The study was funded by the Environmental Protection Agency (EPA), National Aeronautics and Space Administration (NASA), and the National Science Foundation

17) JAPAN TO TALK CLIMATE CHANGE

The Daily Post

October 10, 2002

Internet: <http://www.fijilive.com/news/news.php3?art=10/10r.htm>

Japan is to pursue climate-change and waste management talks with Pacific Island Forum countries in an effort to convince other development nations to take the same steps it has in the ratification of the Kyoto Protocol. Japan's Foreign Minister, Yoriko Kawaguchi last night told the chair of the Forum countries, Fiji's Prime Minister, Laisenia Qarase that next year's Summit or PALM (Pacific Island Leaders Meeting) between the Japanese Prime Minister and Forum countries is intended to encourage and develop actions on such abnormal patterns. Ms Kawaguchi assured Mr Qarase that Japan's stand on climate-change was very strong, and "they hoped that other developed countries such as Russia, the United States of America and Australia would ratify it."

18) AUSTRIA LAGS BEHIND IN BATTLE AGAINST GREENHOUSE GASES

EU Business

October 10, 2002

Internet: <http://www.eubusiness.com/cgi-bin/item.cgi?id=92940&d=101&h=240&f=56&dateformat=%25o%20%25B%20%25Y>

VIENNA, Oct 10 (AFP) - Austria, a champion of renewable energy in Europe, is paradoxically lagging behind its European Union partners in the battle against greenhouse gases, which it has pledged to dramatically reduce. Having promised in 1997 to cut greenhouse gases by 13 percent from 1990 to 2012, Austria has instead seen them climb by 2.7 percent between 1990 and 2000, according to a recent study by the European Environment Agency (EEA). "We are a long way away from the Kyoto protocol. Only four countries in the European Union -- Spain, Ireland, Portugal and Belgium -- are further away than us," said Stefan Schleicher, an economist and member of the Austrian commission on climatic change. strategy to fight greenhouse gases by developing rail transport, saving energy and subsidising renewable energy. "These are only declarations of intention which are in no way binding," noted Schleicher, slamming the government for its "lack of political will" to battle the problem. A quarter of Austria's total energy comes from renewable energy sources. The small alpine country, with eight million inhabitants, prides itself on producing 70 percent of its electricity in hydroelectric plants.

In Europe, only Luxembourg, which produces 73.3 percent of its energy in hydroelectric plants, and Norway, with 99.6 percent, use a larger percentage of this renewable source. Austria is also European leader in thermal solar energy -- which is used for central heating and hot water -- with 268 square metres (2,884 square feet) of solar panels for each 1,000 inhabitants, a recent study by European institute EurObserv'ER showed. But the share of renewable energy in Austria's total energy production is dropping,

warned Erwin Mayer, a Greenpeace climate expert. He said that the explosion in road traffic and the fuel consumption it has brought have more than negated the environmental benefits of a rise in renewable energy. "Cars do not run on renewable energy but on fuel, and traffic is increasing throughout the country," notably because of the increase of heavy goods transport between eastern and western Europe, he said. The Kyoto objectives are not being respected because of "a transport policy which favours the road too much, a lack of ecological tax which makes energy too inexpensive, and because a plan to fight greenhouse gases adopted by the council of ministers, which requires an annual budget of 90 million euros (88 million dollars), has not been put into practice", said Mayer.

Floods which ravaged swathes of Austria in August "have raised consciousness among the population, who are now convinced that they must act," he said.

Seven weeks ahead of legislative ballots on November 24, the catastrophic floods -- linked by some experts to climate destabilisation caused by the greenhouse effect -- seem to be aiding the Green Party's election campaign. Opinion polls show they have 13 percent support, twice their share of the vote at the last elections in 1999.

According to Mayer, the Austrians' environmental awareness has had an impact on political discourse. "Austrian politicians back the most progressive positions in all conferences on the climate -- but the gap between what they say and what they do is bigger than in any other country," he said

19) EU MOVES TOWARD IMPLEMENTATION OF KYOTO PROTOCOL
VOA News October 10, 2002

Internet: <http://www.voanews.com/article.cfm?objectID=832C7EC7-166C-4462-BA7C4E4F5E2CEAD5>

The European Parliament has approved a plan that aims to cut EU greenhouse gas emissions. The European Union assembly Thursday voted to approve a measure that would obligate EU countries to abide by the 1997 Kyoto agreement to reduce industrial greenhouse gas emissions to below 1990 levels by the year 2012.

Under the proposal, most heavy industries would be granted permits by their governments setting limits on their pollution emissions. EU Environment Commissioner Margot Wallstroem said Thursday's vote is a major step toward implementing the Kyoto agreement. European Union environment ministers are scheduled to begin discussing the proposed plan next week. The 15-nation EU has already ratified Kyoto in principle, but has yet to find ways to successfully implement it.

20) U.S. FEELS SAFE FROM ANY TRADE THREATS OVER KYOTO

ENN

October 10, 2002

Internet: http://www.enn.com/news/wire-stories/2002/10/10102002/reu_48658.asp

BRUSSELS, Belgium — The top U.S. negotiator on climate change said Wednesday the United States may face future trade disputes because of its rejection of the Kyoto pact, but such challenges were unlikely to succeed. The United States has been portrayed as the global environmental villain by green groups since it pulled out of Kyoto climate change pact last year, and some campaigners would like to see legal and trade sanctions against Washington. But U.S. Senior Climate Negotiator Harlan Watson said he doubted any country could successfully use trade rules to challenge the U.S. position on global warming. "The trade issue is a concern voiced by the business community," Watson said in response to questions from reporters while on a visit to Brussels. Some environmentalists say U.S. exporters should be penalized as they will have an unfair competitive advantage over companies in places such as Europe and Japan that will be forced to cut their emissions under the Kyoto pact. "We do not believe that, based on what came out of Doha (the 2001 agreement to launch a new round of world trade talks), it will be a problem, but it won't prevent perhaps action being undertaken at some point," said Watson. "We do not believe we can be penalized for not entering a treaty regime that we have not agreed to." Watson said he was even less concerned by legal challenges already launched against the United States, which emits around one-quarter of the world's human-made greenhouse gases blamed by some scientists for blocking heat in the atmosphere.

The tiny Pacific island of Tuvalu, which faces annihilation from rising sea levels that some scientists think are a result of global warming, has threatened the United States with a lawsuit. Boulder, Colo., teamed up with two green groups to launch a case against U.S. government finance agencies for funding fossil fuel projects that, they claim, harm their interests because of the climate change threat. "We don't take that seriously right now, but obviously it is a long-run concern," Watson said.

Watson will represent the United States at the next global climate change negotiations in New Delhi later this month, the first since the Kyoto pact was salvaged from the U.S. pull-out by an agreement in Bonn, Germany, last year. Although no longer a part of the Kyoto Protocol, which requires developed countries to reduce their greenhouse emissions by 5.2 percent of 1990 levels by 2012, the United States remains a party to its parent treaty, the 1992 U.N. Framework Convention on Climate Change.

21) BUSH ADMINISTRATION SIDES WITH CAR MAKERS IN CALIFORNIA EMISSION FIGHT

Associated Press

October 9, 2002

Internet:

http://story.news.yahoo.com/news?tmpl=story&u=/dowjones/20021010/bs_dowjones/200210092110000866

WASHINGTON -- The Bush administration sided Wednesday with auto manufacturers in opposing a California requirement that a percentage of passenger vehicles sold in the state achieve zero emissions, meaning reliance on all-electric cars. The Justice Department maintained that federal law overrides any state effort to regulate fuel economy for cars and trucks. In a 37-page filing with a federal appeals court in San Francisco, the department lawyers argued that California's zero-emission mandate impinges on what is solely a federal responsibility. "The Energy Policy and Conservation Act provides that when a federal fuel-economy standard is in effect, a state or a political subdivision of a state may not adopt or enforce a law or regulation related to fuel-economy standards," the department argued. In its court papers, the state of California says there is an exception to the federal Clean Air Act permitting the state to regulate auto emissions.

But the Justice filing maintained that Congress has never authorized California or any other state to enact regulations related to fuel-economy standards. California's zero-emission mandate, covering an increasing percentage of new cars and trucks, was to have taken effect next year, but General Motors Corp. , DaimlerChrysler Corp. and several California auto dealers won a preliminary injunction that delays implementation for two years. The standard says that for model years 2003 through 2008, at least 10% of the passenger cars and light-duty trucks in California must emit no pollution. The state argues that the auto companies have various technologies to meet the new standards, but the federal court which granted the injunction found that these are impractical. Neither the Justice filing, nor the court case, is related to a separate California law, enacted earlier this year, that limits vehicle emissions of carbon dioxide and other gases believed to contribute to global warming. Auto makers, who have threatened a lawsuit against that law as well, have said the only way they can reduce carbon dioxide coming out of tailpipes is to sell cars that use less fuel.

22) GOVERNMENT OF CANADA REVEALS MAJOR GREENHOUSE GAS REDUCTIONS AND AIR

QUALITY BENEFITS FROM WIDESPREAD USE OF 'GREEN ROOFS'

National Research Council Communiqué October 9, 2002 Internet: http://www.nrc.ca/corporate/english/media/news/green02_e.html

(October 9, 2002 - Toronto, Ontario) -- City of Toronto Deputy Mayor Case Ootes, as well as public and industry delegates today gathered at Toronto City Hall for a demonstration of the National Research Council (NRC)-led green roof initiative and to announce findings of a major study completed by Environment Canada indicating how green roofs can save millions of dollars in energy consumption, improve air quality and reduce greenhouse gas (GHG) emissions. The Green Roof Infrastructure Demonstration Project is a \$1 million public-private partnership between NRC's Institute for Research in Construction (NRC-IRC), Environment Canada, Green Roofs for Healthy Cities, the City of Toronto, the Toronto Atmospheric Fund and the Technology Early Action Measures component of the Government of Canada's Climate Change Action Fund. The project consists of planting vegetation on building rooftops using infrastructure technology such as highly water-and-root-repellant membranes. NRC has instrumented the roofing systems and will monitor their performance over the next two years. These systems are located on two green roof sites, the publicly accessible City Hall podium roof and the recently completed Eastview Neighbourhood Community Centre, in Toronto. "NRC's green roof infrastructure research initiative

demonstrates the Government of Canada's commitment to innovation and the development of sustainable, healthy and economically competitive cities, and to improving the quality of life in Canadian communities through investments in environmental technologies," said Allan Rock, Industry Minister and Minister responsible for the National Research Council. Findings from an Environment Canada study show green roofs can help Torontonians save energy, reduce greenhouse gas emissions, reduce emissions of sulphur dioxide and breathe easier on hot summer days. Toronto's summer temperatures are 4oC to 10oC higher than those in the surrounding rural communities, a phenomenon known as the urban heat island effect. This means that more energy is consumed to cool buildings, leading to more air pollution, in the form of smog and sulphur dioxide, as well as more greenhouse gases. The study illustrates that relatively minimal green roof implementation, approximately 6% of the total available roof space, can reduce summer air temperatures in the City of Toronto by 1-2oC. "Environment Canada's study shows that green roofs can contribute to a reduction of energy use, which in turn helps reduce the emission of greenhouse gases and air pollutants. We are happy to be involved in the research and thinking for innovative ways of dealing with climate change and clean air," said the Honourable David Anderson, Minister of the Environment. "The Government of Canada not only supports this initiative, but we are acting on it with the construction of Canada's new War Museum in Ottawa which will feature a green roof." Even a 1oC reduction in the urban heat island will result in a 5% decrease in demand for electricity for cooling and refrigeration, resulting in lower greenhouse gas emissions. Combined with direct energy savings on buildings, green roofs can save an estimated \$1 million in energy costs per year, reduce GHG emissions by an estimated 2.18 MT based on 6.5 km² of green roof coverage, and remove 30 metric tonnes of pollutants from the air. The reductions are measured in CO₂. "When it comes to climate change, innovative thinking and programs are key," said Herb Dhaliwal, Minister of Natural Resources Canada. "Projects such as this clearly show that we can address climate change while making our cities more liveable." "Green roofs can help Toronto manage projected future population growth by creating accessible green spaces from existing roof tops," said Case Ootes, City of Toronto Deputy Mayor. "Green roof investment and incentives will also generate jobs, here in Toronto, while reducing air pollution." "Green roof infrastructure investment addresses many key challenges facing cities across North America such as how to grow our cities up rather than sprawling to accommodate new growth and still maintain a very high quality of life," said Steven Peck, Executive Director, Green Roofs for Healthy Cities. "This research will help us to develop appropriate public incentives to encourage widespread private sector green roof installation and build a green roof industry in Canada." Modern green roofs are an extension of the roofing system that can be designed to support different vegetation. The system involves growing plants on the top of built structures, below, at or above grade using a combination of plants, light weight engineered growing media, filter cloths, drainage layers and highly water-and-root repellent membranes. The project allows researchers to monitor storm water retention, energy efficiency and roof membrane durability. There are also plans to use these data to model the storm water benefits of green roofs later this year, in partnership with the Toronto and Region Conservation Authority.

This initiative builds upon the Government of Canada's commitment to ensuring a clean, healthy environment and preserving our natural spaces, which are essential elements of our quality of life. For additional information, such as the project background and technical data, please visit the project Website at www.greenroofs.ca

23) FINANCIAL SECTOR, GOVERNMENTS AND BUSINESS MUST ACT ON CLIMATE CHANGE OR FACE THE CONSEQUENCES

UNEP

October 8, 2002

Internet: <http://www.unep.org/Documents/Default.asp?DocumentID=266&ArticleID=3140>

Too few financial companies including banks, pension funds and insurance companies are taking the risks and opportunities posed by climate change seriously, members of the United Nations Environment Programme's (UNEP) Finance Initiatives are warning. Zurich/Nairobi, 8 October 2002 - Losses as a result of natural disasters appear to be doubling every decade and have reached one trillion US dollars in the past 15 years. Annual losses, in the next ten years, will reach close to \$150 billion if current trends continue. The massive economic losses stemming from the devastating summertime flooding in central Europe are in line with the kinds of increasingly severe weather events anticipated by scientists as a result of human-

induced climate change. This year has also seen a failure of the Monsoon in Asia, dramatic forest fires in the United States and the onset of another El Nino event in the Pacific.

Members of the UNEP Finance Initiatives, a unique partnership between UNEP and 295 banks, insurance and investment companies, argue that climate change-driven, natural disasters, have the potential to wreak havoc across the world's stock markets and financial centres. "The increasing frequency of severe climatic events, threatening the social stability or coupled with significant social costs, has the potential to stress insurers, reinsurers and banks to the point of impaired viability or even insolvency," the report, *Climate Change and the Financial Services Industry*, says. The property market, where loans for houses and buildings are made over relatively large periods, could be particularly vulnerable as a result of extreme weather events. Home-owners and companies with property holdings may find that their insurance cover is cancelled at short notice, leaving them highly exposed.

Government action to arrest the problem will inevitably mean a reduction in emissions of the main sources of greenhouse gases linked with global warming. This will require cut backs and the more efficient use of fossil fuels such as coal and oil. Asset managers, such as pension funds which are slow to appreciate the climate change threat, may see the value of energy or power company holdings decline as investors become more aware of the liabilities linked with carbon intensive industries, the report further concludes. Yet opportunities are emerging that should allow the financial services industry to reduce or hedge against the risks and even help curb emissions of the greenhouse gases linked with the de-stabilisation of the Earth's climate and weather systems.

The report says that the annual market in trading greenhouse gases, emerging as a result of international agreements to reduce emissions, could be worth as much as US \$ two trillion by 2012. The market for clean energy could stand at \$1.9 trillion by 2020, according to some estimates. Meanwhile the financial services industry, with over \$26 trillion in assets under management, could if mobilized "wield significant influence over future economic development...and therefore the future global greenhouse gas emissions" for the benefit of itself and society as a whole. However a survey of mainstream financial institutions carried out for the report indicates that most are "unaware of the climate change issue" or have adopted a "wait and see policy". These attitudes are due to the prolonged wrangling over the Kyoto Protocol, the international treaty designed to deal with the threat of global warming, compounded by practical issues like the lack of solid information on emissions and delays in finalising the regulations of the new greenhouse gas markets.

As a result, only a small group of forward looking financial companies are addressing the issue many of whom are reinsurers whose businesses are already feeling the economic impact of rising, weather-related, insurance claims. Klaus Toepfer, UNEP Executive Director, said today at the launch of the report: "This report is a wake up call for the global financial community. It highlights the real risks and economic perils they are facing as a result of human-influenced climate change. It also highlights how the industry can make a real difference through harnessing the new market instruments and mechanisms made possible by the Kyoto Protocol and by developing their own imaginative solutions." "It also underscores how, given the financial muscle available to them, these institutions could move markets and minds to deliver a cleaner, healthier and less vulnerable world for the benefit of the world economy, for the benefit of people everywhere," he said. The report and its studies, supported by a group of the world's biggest banks, insurers and re-insurers, were launched today at the Swiss Re Greenhouse Gas conference in Zurich, Switzerland. The findings will also be presented to governments at the next round of climate change negotiations set to commence in New Delhi, India, on 23 October until 1 November.

"In addition to the emitting industry needing to take a carbon constrained future into account", concluded John H. Fitzpatrick, CFO and member of the Executive Board of Swiss Re, "the financial services industry, of which we are a part, also has an obligation to contribute to the solution of these problems through its own investments and business expertise. After all, climate change and substantial emissions reductions - like any other strategic global business challenge - ultimately becomes a financial issue. The problems associated with environmental disasters quickly become measured in dollars and cents. Our industry needs to lead by developing financial solutions and risk mitigation techniques to assist our clients in achieving global emission reductions." The report has drawn up a blue-print for action, designed to galvanize the financial services industry to address the climate change threat more directly. The blue-print is also aimed

at assisting governments to create the right conditions for the industry to operate swiftly and effectively in delivering new climate-related businesses and markets.

Recommendations include urging insurers and re-insurers to better reflect the risks from climate-related perils in policies and to develop public/private partnerships in high-risk areas so that cover can be maintained. Commercial banks should fully price risks from climate change into loan agreements and give incentives to schemes that encourage energy efficiency or cleaner fuels. Asset managers, such as pension funds, should request the companies in which they invest better information on their carbon emissions and their exposure to greenhouse gases. Accountants, actuaries, analysts, credit rating agencies and others providing professional services should help corporate clients to better understand the threats and opportunities of climate change. Greenhouse gas trading markets need standardized accounting methods to operate and is thus another area where professional people and their professional organizations can help.

Meanwhile governments are urged to adopt a long term, global plan, to keep greenhouse gases at safe levels. This is vital because the Kyoto Protocol runs out in 2012 whereas carbon dioxide, methane and the other greenhouse gases can persist in the atmosphere for many tens of decades. At home, governments should also take a variety of actions including a clear commitment on how greenhouse gas reduction targets will be met alongside economic incentives for investing in clean energy schemes and clean energy research and development. Governments are also asked to work with stock market regulators to help boost understanding of the impacts of global warming on publicly listed companies and new offerings. The report concludes by calling for a major drive to mobilise the financial sector on this issue and recommends that new financial techniques and methods are developed to help investors and project financiers factor in climate change into the valuation of their assets.

See Also:

http://www.unepfi.net/cc/ceobriefing_ccwg_unepfi.pdf

http://www.unepfi.net/cc/mod1_ccwg_unepfi.pdf

http://www.unepfi.net/cc/mod2_ccwg_unepfi.pdf

24) THREE-QUARTERS OF CANADIANS SUPPORT KYOTO: POLL

CTV

October 8, 2002

Internet: http://www.ctv.ca/servlet/ArticleNews/story/CTVNews/1034014051181_29423251/?hub=Canada

Three-quarters of Canadians support implementing the Kyoto Accord, but many say the government needs to spend more time investigating the time and cost of the environmental accord, according to a new poll. The Ipsos-Reid/CTV/Globe and Mail poll shows that 74 per cent of those surveyed said they strongly supported or somewhat supported the environmental accord. However, those numbers are down 12 points from a survey conducted between May 22 and June 2. The Kyoto Protocol requires Canada to reduce its greenhouse gas emissions by 6 per cent to below 1990 levels by 2012. Support for the environmental treaty was lowest in Alberta, (27 per cent). Alberta Premier Ralph Klein is a staunch critic of the accord and is pushing for a made-in-Canada solution. Support for the accord was strongest in Quebec, with 85 per cent, followed by 81 per cent in Ontario, 70 per cent in the Atlantic, 68 per cent in British Columbia and 67 per cent in Saskatchewan and Manitoba.

However, 78 per cent of Canadians surveyed said the government needs to spend more time "investigating the costs and impact of the Kyoto Accord before implementing it." That's down four points since June. Albertans (88 per cent) are most likely to express this view, followed by Saskatchewan/Manitoba (84 per cent), B.C. and Atlantic Canada (both 80 per cent), Ontario (76 per cent) and Quebec (75 per cent). Another 57 per cent, up five points since June, said the government should ratify it, even if it means significant costs to the economy and causes the Canadian lifestyle to change. Regionally, residents of Quebec (71 per cent) are most likely to hold this view, and Albertans (16 per cent) are least likely to hold this view. As well, 71 per cent of those surveyed said "it is possible for Canada to develop an alternative to the accord." That number is unchanged since the previous poll. Support for this question was strongest in Alberta (91 per cent) where Klein has established an anti-Kyoto task force and launched an advertising campaign blasting the cost of the accord, claiming that it will cost the province up to \$1 billion annually.

Quebec came in behind Alberta with 76 per cent, followed by Atlantic Canada with 74 per cent. Saskatchewan/Manitoba (67 per cent), B.C. (66 per cent) and Ontario (65 per cent) followed closely behind.

Prime Minister Jean Chretien announced at the end of August that the government would ratify the Kyoto accord this year. However, Alberta and industry are against the environmental accord, saying it will cost hundreds of thousands of jobs and raise electricity bills. The poll was conducted between Oct. 1-3. It is based on a randomly selected sample of 1,000 adult Canadians, and is considered accurate to within plus or minus three percentage points, 19 times out of 20.

25) REPUBLICANS BLOCK GLOBAL WARMING IN US ENERGY BILL

Planet Ark

October 7, 2002 Internet: <http://www.planetark.org/dailynewsstory.cfm/newsid/18065/story.htm>

WASHINGTON - Republican House negotiators refused to allow a prime Senate goal - tracking U.S. companies' greenhouse gas emissions - into a comprehensive energy bill last week but a leading senator said the issue was not dead. With time running out for this session of Congress, negotiators from the U.S. House of Representatives and Senate have failed to settle any of the energy bill's major issues. Republicans and Democrats clashed over allowing drilling in an Alaskan wildlife refuge, the extent of reforms for U.S. electricity markets, and how quickly to boost production of ethanol-mixed gasoline. But Rep. Billy Tauzin, a Louisiana Republican leading the talks, was not yet ready to give up. Private discussions were expected through the weekend, Tauzin said, and he expected "by Tuesday to be in a position to vote" on major issues. Senate Energy Committee Chairman Jeff Bingaman said, "We're continuing to have meetings."

A major goal of the Republican-run House, and of President (George W.) Bush, was opening the Arctic National Wildlife Refuge, or ANWR, to oil and gas exploration. The Democratic-run Senate has refused to consider ANWR drilling. Last week, House negotiators were successful in keeping out a Senate plan for companies to report heat-trapping greenhouse gas emissions that are linked to global warming, rejecting the Senate language, 13-2. "I can assure you, it is not a dead issue from the perspective of the Senate," responded Bingaman, a New Mexico Democrat. House and Senate negotiators have to agree before an issue can be included in a compromise bill. "We want to have a bill, but it has to be a bill that's good energy policy," said Rep. Joe Barton, a Texas Republican and leading House negotiator. Barton earlier suggested the energy bill should be scrapped if the Senate would not compromise on ANWR, located in northern Alaska. Bush and his Republican allies contend access to the oil is needed more than ever because of potential U.S. military strikes against Iraq. ANWR holds a potential 16 billion barrels of oil - equal to the amount of crude oil the United States imports from foreign countries for five years. The refuge is also home to polar bears, caribou and other wildlife, which has turned it into a rallying point for environmental opposition.

26) CITY COUNCIL LAUNCHES ACTION PLAN TO HELP FIGHT GREENHOUSE GASES

The Scotsman

October 4, 2002

Internet: <http://www.news.scotsman.com/scotland.cfm?id=1099482002>

ABERDEEN City Council has become the first local authority in Scotland to draw up its own climate change action plan to deal with the predicted regional consequences of global warming. The plan was officially launched yesterday at a conference at the city's Town House which was addressed by Sir John Houghton, a world expert on global climate change and a former chairman of the Royal Commission on Environmental Pollution. The council's action plan details a series of practical measures which ordinary citizens and local businesses, as well as the authority, can take to reduce greenhouse gases and to plan ahead for the consequences of global warming. Councillor Ted Harris, the convener of the city council's environment and climate change working group, said: "Latest predictions for the north of Scotland show that by the end of this century we could have increases in temperatures of around 2C to 3.5C and heavier winter rainfall by up to 25 per cent in the next 80 years. "There may be more intense storms, up to 90 per cent less snowfall, increased wind speeds and rising sea levels. While many people say they look forward to warmer summers, I'm sure none of us relishes more intense rainfall, flooding or wind speed." He added: "The reality is that such changes will create serious problems for the council and other agencies to cope with, including health, water and emergency services. We also need to be aware of our responsibility to the problems climate change will cause in other parts of the world. "Therefore, we at Aberdeen City Council

are leading the city on tackling climate change. We must first ensure we reduce the emissions from fossil fuels - greenhouse gases - that are causing climate change. Secondly we should mitigate against the greenhouse gases by intervening to capture or reduce them and thirdly we must look at adaptation in terms of planning for potential problems in the future, in Aberdeen and the north east of Scotland."

The Aberdeen initiative was praised by Allan Wilson, the Scottish Deputy Minister for Environment and Rural Development. He said: "Scottish Ministers are committed to tackling climate change, but an effective strategy to tackle climate change must engage with local communities. The publication of Aberdeen City Council's climate change action plan underlines its commitment to lead the response in its own community. "The plan will act as an incentive to others to reduce greenhouse gases, and increase their capacity to adapt to the unavoidable impacts of climate change."27) UK OFFSHORE WIND FARMS GET GREEN LIGHT, 20 MLN STG SUPPORT

Planet Ark

October 4, 2002

Internet: <http://www.planetark.org/dailynewsstory.cfm/newsid/18042/story.htm>

LONDON - Britain's first two offshore wind farms have won 20 million pounds in government aid to power 100,000 homes and boost green energy, the Department for Trade and Industry said this week. "These developments are a major step forward for the UK offshore wind industry, and the clearest signal yet that UK manufacturing can play its part in the growing market for sustainable energy at home and abroad," UK Energy Minister Brian Wilson said in a statement.

The funding will be split equally between the two sites off the coasts of North Wales and Norfolk which are the first to gain full consent out of 18 potential projects identified by offshore developers. National Windpower, part of UK utility Innogy, will operate the North Wales site, comprising 30 turbines and a total capacity of 90 megawatt (MW), to provide 50,000 homes with electricity. Innogy is owned by German energy company RWE.

Powergen, owned by German utility E.ON, will operate the other site, which will include 39 turbines and have a capacity of up to 80 MW to power 50,000 homes.

The 20 million pounds aid package is part of a wider 300 million pounds programme to boost the use of renewable energy such as solar, wind and biomass power and cut polluting greenhouse gas emissions on the energy-hungry island. The burning of fossil fuels such as oil and coal emit greenhouse gases such as carbon dioxide (CO₂) - widely blamed for global warming. Britain aims to cut its CO₂ emissions by 12.5 percent by 2010 on 1990s levels under a global Kyoto Protocol to cut greenhouse gases and curb global warming. It also plans to slash greenhouse gas emissions by 23 percent during the same period. Under a Renewables Obligation the UK government wants electricity suppliers to take 10 percent of their power from renewable energy sources by 2010. Britain currently takes 2.8 percent of its electricity from renewable energy. The government also launched new guidelines for developers on where to locate their wind farms to avoid interfering with military and civil aviation operations. Radar can be disrupted by wind turbines.

28) SCIENTISTS FIND FIRST EVIDENCE OF CORAL BLEACHING IN NORTHWESTERN HAWAIIAN CHAIN

The Associated Press

October 4, 2002

Internet:

http://pennlive.com/newsflash/topstory/index.ssf?newsflash/get_story.ssf?cgi-free/getstory_ssf.cgi?a0791_BC_CoralReefExpedition&&news&newsflash-topstory

HONOLULU (AP) -- Scientists have found the first evidence of coral bleaching in the Hawaiian Islands, providing a worrisome sign of more potential environmental damage from global warming. Coral bleaching happens when the algae that populate and build the coral die off. The bleaching was discovered around the Northwestern Hawaiian Islands, 10 mostly uninhabited islets and atolls that extend 1,200 miles northwest of the main Hawaiian Islands. The reefs are some of the most pristine in the world. Scientists said that the reefs will probably recover in a few weeks but that the condition should be watched closely. "It's important not to overreact to the evidence of coral bleaching we've observed during this trip," said Greta Aeby, a

coral biologist with the state. "In severe cases, coral bleaching can cause mortality, but most mildly bleached colonies will recover in a few weeks." Coral bleaching has increased worldwide over the past several decades, particularly in Florida. Some environmentalists have warned that coral reefs are headed for extinction. Short-term bleaching happens in higher water temperatures and often is linked to global warming. Pollution can also cause bleaching. Federal officials are working to establish a national marine sanctuary in the Northwestern Hawaiian Islands, which have more than 70 percent of the nation's coral reefs. They are home to endangered seals and a rich variety of other wildlife.

See Also: Northwestern Hawaiian Islands educational project: <http://www.hawaiianatolls.org/> Hawaiian Island Coral Reef Ecosystem Reserve: <http://www.hawaiiireef.noaa.gov>

29) INCREASED CARBON DIOXIDE LEVELS ARE MIXED BLESSING FOR AGRICULTURE: YIELDS INCREASE, BUT NUTRITIONAL VALUE DECREASES COMTEX October 4, 2002
Internet: <http://library.northernlight.com/FG20021004070000039.html?cb=0&dx=1006&sc=0#doc>

COLUMBUS, Ohio, Oct 03, 2002 (ASCRIBE NEWS via COMTEX) -- A new study suggests that rising levels of carbon dioxide in the atmosphere could be a boon for agricultural crops, as this greenhouse gas helps crop plants grow and reproduce more. But that boon comes with a price, said Peter Curtis, a professor of evolution, ecology and organismal biology at Ohio State University. Greater growth and reproduction may hurt the nutritional value of crops. "If you're looking for a positive spin on rising CO2 levels, it's that agricultural production in some areas is bound to increase," Curtis said. "Crops have higher yields when more CO2 is available, even if growing conditions aren't perfect." "But there's a tradeoff between quantity and quality. While crops may be more productive, the resulting produce will be of lower nutritional quality."

Nutritional quality declines because while the plants produce more seeds under higher CO2 levels, the seeds contain less nitrogen. "The quality of the food produced by the plant decreases, so you've got to eat more of it to get the same benefits," Curtis said. "Nitrogen is a critical component for building protein in animals, and much of the grain grown in the United States is fed to livestock." "Under the rising CO2 scenario, livestock -- and humans -- would have to increase their intake of plants to compensate for the loss." The research appears in the current issue of the journal *New Phytologist*. To understand the role that rising CO2 levels may play on plant growth, Curtis and his colleagues conducted a meta-analysis -- a technique in which researchers pull together data from a large number of similar studies (159, in this case) and summarize the results. Curtis said that this is the first time that researchers have used the meta-analysis technique to determine the effects of climate change on plant reproduction. The studies were published between 1983 and 2000. The results included data on crop and wild plant species' reproductive responses to estimated CO2 levels at the end of this century. Scientists expect CO2 levels to nearly double by 2100.

The researchers analyzed eight different ways plants respond to higher CO2 levels: number of flowers; number of fruits; fruit weight; number of seeds; total seed weight; individual seed weight; the amount of nitrogen contained in seeds; and a plant's reproductive allocation, a measurement of a plant's capacity to reproduce.

Plants grown at higher CO2 levels had more flowers (an average of 19 percent more in the species studied); more seeds (16 percent more); greater individual seed weight (four percent more); greater total seed weight (25 percent more) and lower concentration of nitrogen in the seeds (a decrease of 14 percent) than those grown at current levels of atmospheric CO2. Under higher CO2 levels, crop plants showed a notable increase in reproduction while wild plants did not. On average, crops produced more fruits than did wild species (28 percent higher in crops vs. 4 percent higher in wild plants) as well as seeds (21 percent higher vs. 4 percent higher, respectively). Individual crops varied in their response to increased CO2 levels. Rice seemed to be the most responsive, as its seed production increased an average of 42 percent. Soybean followed with a 20 percent increase in seed, then wheat (15 percent increase) and, finally, corn (5 percent increase).

While crop plants and wild plants had similar increases in total growth (a 31 percent increase), crops allocated the additional weight to reproduction, while wild plants seem to funnel much of it to tasks other than reproduction, Curtis said. "Wild plants are constrained by what they can do with increased CO2," he said. "They may use it for survival and defense rather than to boost reproduction. Agricultural crops, on the

other hand, are protected from pests and diseases, so they have the luxury of using extra CO₂ to enhance reproduction." Even though seed size increased, the amount of nitrogen in the seeds didn't. Nitrogen levels decreased by an average of 14 percent across all plants except cultivated legumes, such as peas and soybeans. For example, the total number of seeds in wheat and barley plants increased by 15 percent, but the amount of nitrogen in the seeds declined by 20 percent. "That's bad news," Curtis said. "Nitrogen is important for building protein in humans and animals. If anything, plant biologists want to boost the levels of nitrogen in crops." "A growing global population demands more food, but humans would have to eat more of the food to get the same nutritional benefits." On the flip side, legumes are able to use a rise in CO₂ to increase the amount of nitrogen they take in. The result is that these plants maintain their nutritional quality during conditions of high CO₂ levels. "Ecologically speaking, changes in the number of flowers, fruits and seeds and their nutritional quality could have far-reaching consequences," Curtis said. "Changes in the amount of nutrients in seeds could affect reproductive success and seedling survival. Such changes could also have long-term effects on ecosystem functioning." The study was funded by a grant from the National Science Foundation. Curtis conducted the meta-analysis with Leanne Jablonski of Ohio State and the Marianist Environmental Education Center in Dayton, Ohio, and Xianzhong Wang, of the department of biology at Indiana University-Purdue University in Indianapolis.

30) ENERGY PRODUCTIVITY GOOD FOR CONSUMERS

The Star

October 4, 2002

Internet:

http://www.thestar.com/NASApp/cs/ContentServer?pagename=thestar/Layout/Article_Type1&c=Article&cid=1026146001176&call_page=TS_Editorial&call_pageid=968256290204&call_pagepath=News/Editorial&col=968350116795

The David Suzuki Foundation released a report Wednesday looking at the impact of implementing the Kyoto Protocol on reducing greenhouse gas emissions. Here is an edited excerpt: Over the past generation, Canada's most important source of new energy has been increased energy productivity — that is, energy saved through conservation and a more efficient economy. This trend produced more new energy than all other sources combined. New energy technologies are a part of today's more attractive and efficient buildings and homes, improved appliances and cleaner industrial processes. Cost savings for Canadian consumers totalled more than \$50 billion from 1970 to 1998. Many times this amount in capital investment would have been required to generate equivalent amounts of energy from new oil, gas, coal, hydro and nuclear sources.

The additional burning of oil and coal would have dumped 200 megatonnes of CO₂ per year into the atmosphere, increasing emissions output by a quarter, and would have increased smog by 20 to 25 per cent at a health cost in the billions of dollars. All of this has taken place with no sustained national strategy to reduce greenhouse gas emissions or conserve energy. The gains occurred in the face of heavily subsidized competition and highly organized lobbying for oil, gas and nuclear power. Just imagine what Canada could do if we tried, collectively, to reduce emissions. The interest of energy producers in this debate is clear. In the low-carbon, energy-efficient scenario, the consumption of oil, coal and electric power will drop. Energy producing communities will be affected, and governments will need to prepare retraining and transition programs for possible use. Consumers, however, including industry, will enjoy short and long-term benefits from increased energy productivity. Billions of dollars in cost savings from energy efficiency will be reallocated throughout the economy, creating new jobs and opportunities across Canada, including those related to the production of ethanol and bio-diesel fuels on the Prairies. As well, consumer exposure to energy price shocks will be reduced with the development of more diverse and localized energy sources.

31) GOVT MAINTAINS KYOTO STANCE

News Com Au

October 3, 2002

Internet: http://www.news.com.au/common/story_page/0,4057,5218974%255E1702,00.html

THE federal government today made clear it would continue to oppose ratifying the Kyoto Protocol in the lead-up to world climate talks in New Delhi. Environment Minister David Kemp said Australia would not

change its long expressed opposition to the protocol because it would send the wrong signal to investors. Dr Kemp told Labor the world pact on climate change abatement was not a trivial matter and had great economic significance. For years the government has argued against ratifying the protocol, maintaining it would not help cement the pact in place on the grounds it could cost jobs. Dr Kemp responded to an opposition question on notice by saying his government would continue to reject ratification.

32) RUSSIA CAUGHT BETWEEN COAL AND KYOTO

Inter Press Service

October 3, 2002

Internet: http://www.atimes.com/atimes/Central_Asia/DJ03Ag03.html

MOSCOW - Russian President Vladimir Putin has called for greater exploitation of the country's vast coal reserves, but this policy could clash with Moscow's commitments to reducing carbon dioxide emissions under the Kyoto Protocol. "By preparing to burn more coal for its energy needs, Russia aims to free more natural gas for lucrative exports to Western markets," Natalia Olefirenko, climate programs coordinator with Greenpeace Russia said. "It is a flawed approach, and it amounts to a sell-out of the Russian environment because growing use of coal is likely to adversely affect the country's ecological balance and cause acid rains." Russia's coal reserves are estimated at 3,000 billion tonnes, which is nearly a third of the world's coal deposits. About 80 percent of the country's known coal deposits are in Siberia. Once a pillar of the Russian economy, coal went out of favor after the Soviet era. The Soviets had kept old mines open long after they had ceased to make profit. But government subsidies were slashed after 1993 and the coal sector could not compete any more with gas prices, kept artificially low to contain inflation. Electricity from coal is now twice as costly as power generation from gas.

The World Bank helped close loss-making coal mines and privatize others. In 1998 alone some 420,000 miners were laid off, and the World Bank has given Russia US\$1.3 billion in loans to close mines and to pay for re-skilling of miners laid off. The coal sector still employs 320,000 people and produced 270 million tonnes of coal last year. But production was down 11 percent in the first half of this year, largely because the monopoly firm, Unified Energy Systems (UES), switched to gas for power generation. ES managers say that it would cost \$1 billion to refit 30 power stations for use of coal. That would include the cost of environmental protection. But not many companies that go for coal would have a budget for such safeguards. Greater use of coal without such protection threatens to increase the emission of carbon dioxide, which is blamed for global warming. Putin has said that Russia was "inclined" to approve the Kyoto Protocol (the protocol of the United Nations Framework Convention on Climate Change signed in December 1997 in Kyoto, Japan). Under this, industrialized countries commit themselves to reducing the emission of greenhouse gases in an effort to combat global warming.

Russian Prime Minister Mikhail Kasyanov told the World Summit on Sustainable Development in South Africa recently that "ratification will take place in the very near future". Kasyanov pointed out that Putin had taken the initiative in calling an international conference on climate change in Moscow next year. The Kyoto Protocol comes into effect when nations that account for 55 percent of the 1990 emissions levels ratify the treaty. The European Union, other European states and Japan - which are expected to ratify the protocol - account for 39 percent. The US walked away from the Kyoto Protocol in March this year. But Russia's share is 17 percent and ratification by Moscow along with the others means that the Kyoto Protocol can become effective. Russia's latest pledges indicate that ratification may come by the end of this year. But some environmentalists have their doubts about Russia's official pledges. The fact that the South Africa summit was given virtually no coverage in Russian media and the recent drive towards increased use of coal indicated that Russia was not moving towards the Kyoto Protocol, says Vladimir Zakharov, head of the Moscow-based Center of Ecological Policies.

33) MANITOBA FOREST TARGET OF GLOBAL WARMING STUDY

Associated Press

October 3, 2002

Internet: http://www.ctv.ca/servlet/ArticleNews/story/CTVNews/1033668587860_103/?hub=SciTech

MADISON, Wis. — An American researcher plans to heat up a small plot of forest land in Manitoba in an effort to study the effects of global warming on trees.

Ecology professor Tom Gower of the University of Wisconsin-Madison will enclose a section of forest near Thompson, Man., and warm the area with heating cables placed in the ground to mimic the conditions of global warming. "That way we can create a whole ecosystem warming experiment, and that's never been done before," said Gower, who leaves Friday for Canada to begin the three-year study. He will measure the experiment's effect on the trees, looking for changes in the amount of carbon dioxide they release. Gower is using a \$750,000 US grant from the U.S. Department of Energy to pay for the study. He plans to heat a 0.2-hectare section of high-latitude boreal forest almost three degrees Celsius warmer than the surrounding air temperature. Boreal forest is the second-largest type of forest, stretching around the Arctic Circle through Canada, Europe and Russia. Global warming has long worried scientists because of its potential environmental effects, but Gower said his research findings may challenge the most dire warnings. Preliminary studies he made in Sweden's forests showed warmer conditions did not thaw the ground to the point of leading to large releases of carbon dioxide by trees. Scientists don't understand why that didn't happen. "With this experiment, we will start to look at that from Day 1," Gower said.

34) FARMING, LOGGING, DEVELOPMENT AFFECT CLIMATE, TOO, NASA STUDY FINDS 'HUMAN-CAUSED LAND COVER CHANGES' KEY CNN October 3, 2002

Internet: <http://www.cnn.com/2002/TECH/space/10/03/climate.landcover/>

(CNN) -- Cutting trees, building cities and growing crops have profound effects on the climate in addition to human activities that release greenhouse gases, a new NASA study reports. Land surface disturbances influence everything from temperature, precipitation, atmospheric circulation and how much solar heat bounces off the planet. Concentrated development, in particular in North America, Europe and Southeast Asia, disperses enough heat into the atmosphere to rival the effect of all greenhouse gas emissions combined, according to atmospheric scientists. "Our work suggests that the impacts of human-caused land cover changes on climate are at least as important, and quite possibly more important, than those of carbon dioxide," said Roger Pielke Sr. of Colorado State University in Fort Collins.

Carbon dioxide is the primary culprit among numerous heat-trapping gases caused by human activity thought to contribute to global warming. "Through land cover changes over the last 300 years, we may have already altered the climate more than would occur associated with the ... effect of a doubling of carbon dioxide," Pielke said in a statement this week. If current trends continue, carbon dioxide concentrations in the atmosphere will double within 50 years. Scientists predict that the added greenhouse gases could push the global temperature up several degrees by the end of this century, causing major changes in regional weather patterns. Pielke and colleagues, who conducted the study for NASA's Earth Observing System Project Office and the National Science Foundation, said the type of land surface affects how it redistributes solar energy into the atmosphere. For instance, if farmers replace forests with crops, less water evaporates from leaves, which contributes to hotter temperatures in that area, they said. And in places with dwindling snow or ice cover, whether because of retreating glaciers or reforestation, the land reflects less sunlight and absorbs more heat, leading to hotter temperatures. The net effects are complex and sometimes seem contradictory. For example, compared with non-irrigated land, more water evaporates from irrigated fields, which cools and moistens the nearby air. Yet on a larger scale, atmospheric water vapor contributes greatly to greenhouse gas warming. The scientists propose a new method to predict climate change, which factors in how different kinds of land forms absorb, reflect or distribute heat.

35) LINK BETWEEN POLLUTION CLOUD, CLIMATE CHANGE: STUDY

ABC

October 2 2002

Internet: http://abc.net.au/news/scitech/2002/09/item20020930115213_1.htm

The "Asian Brown Cloud", a vast haze of soot particle hovering over south Asia, is at least partly to blame for China's recent climatic disasters, according a NASA study published this week in US journal Science. Surabi Menon of NASA and Columbia University, and James Hansen of NASA's Goddard Institute, said the study proved there was a clear link between increased amounts of man-made soot and the kind of climate change witnessed in the south-Asian region over the past few years. "Reducing the amount of

black carbon, or soot, may help diminish the intensity of floods in the south and droughts in the northern areas of China, in addition to having human health benefits," Dr Hansen said. The pair conducted four computer simulations using scientific data from 46 ground stations in China to examine whether airborne soot affected China's water cycle.

They found the soot particles affected the climate by absorbing sunlight, which then heated the air and made the atmosphere unstable. This created rising air that formed clouds and brought rainfall to heavily polluted southern China. It was balanced out by an increase of sinking air, which prevented clouds and rain from forming in northern China, contributing to the droughts there. The researchers took other factors into account, including ocean surface temperature and the presence of other greenhouse gases, in their computer models. In a related commentary in *Science*, scientists William Chameides and Michael Bergin said both carbon particles and carbon dioxide gas were to blame. "The contribution of black carbon to global warming may be substantial, perhaps second only to that of carbon dioxide." Soot is generated from industrial pollution, traffic, outdoor fires and household burning of coal and biomass fuels, such as cow dung and field residues. It occurs when the combustion of coal and other fuels is incomplete. It continues to be produced in large amounts in Asia, especially in China and India, because cooking and heating are done using wood, coal and biomass fuels at low temperatures, which prevents complete combustion taking place.

Based on their simulations, the authors predicted soot-induced cooling over China, extended warming over northern Africa and cooling over the southern United States, amidst overall global warming. The Asian Brown Cloud phenomenon has stirred controversy recently, as scientists across the globe warn of its radical consequences and regional scientists retort that it does not exist and is not specifically Asian. In August, the UN Environment Program (UNEP) said the pollution haze was damaging agriculture, modifying rainfall patterns and endangering the population. Using global models to study the phenomenon, the UNEP said the cloud could reduce precipitation over north-west India, Pakistan, Afghanistan, western China and the western part of Central Asia by as much as between 20 and 40 percent. However, Indian scientists slammed the findings last week as "exaggerated and distorted", saying it was not a thick, choking cloud but only a wintertime haze. They said the report reflected a trend of blaming developing Asian countries for global pollution.

See Also:

DROUGHT IN NORTH CHINA, FLOODS IN THE SOUTH...

<http://straitstimes.asia1.com.sg/primenews/story/0.1870.146369.00.html>

Pollution contributed to China floods and droughts: NASA PARIS (AFP) Sep 29, 2002

<http://spacedaily.com/news/020929141839.b7wwauti.html>

36) LANDCOVER CHANGES MAY RIVAL GREENHOUSE GASES AS CAUSE OF CLIMATE CHANGE

Science Daily

October 2, 2002

Internet: <http://www.sciencedaily.com/releases/2002/10/021002070639.htm>

While many scientists and policy makers have focused only on how heat-trapping gases like carbon dioxide are altering our global climate, a new NASA-funded study points to the importance of also including human-caused land-use changes as a major factor contributing to climate change. Land surface changes, like urban sprawl, deforestation and reforestation, and agricultural and irrigation practices strongly affect regional surface temperatures, precipitation and larger-scale atmospheric circulation. The study argues that human-caused land surface changes in places like North America, Europe, and southeast Asia, redistribute heat regionally and globally within the atmosphere and may actually have a greater impact on climate than that due to anthropogenic greenhouse gases combined. The study also proposes a new method for comparing different human-influenced agents of climate change in terms of the redistribution of heat over land and in the atmosphere. Using a single unit of measurement may open the door to future work that more accurately represents human-caused climate change.

"Our work suggests that the impacts of human-caused landcover changes on climate are at least as important, and quite possibly more important than those of carbon dioxide," said Roger Pielke, Sr., an

atmospheric scientist at Colorado State University, Fort Collins, Colo., and lead author of the study. "Through landcover changes over the last 300 years, we may have already altered the climate more than would occur associated with the radiative effect of a doubling of carbon dioxide." If carbon dioxide (CO₂) emissions continue at current rates, atmospheric CO₂ concentrations are expected to double by 2050. Land surface changes will also continue to occur. Types of land surface strongly influence how the Sun's energy is distributed back to the atmosphere. For example, if a rainforest is removed and replaced with crops, there is less transpiration, or evaporation of water from leaves. Less transpiration leads to warmer temperatures in that area. On the other hand, if farmland is irrigated, more water is transpired and also evaporated from moist soils, which cools and moistens the atmosphere, and can affect precipitation and cloudiness. Similarly, forests may influence the climate in more complicated ways than previously thought. For example, in regions with heavy snowfall, reforestation or afforestation would cause the land to reflect less sunlight, and more heat would be absorbed, resulting in a net warming effect despite the removal of CO₂ from the atmosphere through photosynthesis during the growing season. Further, reforestation could increase transpiration in an area, putting more water vapor in the air. Water vapor in the troposphere is the biggest contributor to greenhouse gas warming.

Local land surface changes can also influence the atmosphere in far-reaching ways, much like regional warming of tropical eastern and central Pacific Ocean waters known as El Niño. El Niño events create moist rising air, thunderstorms and cumulus clouds, which in turn alter atmospheric circulations that export heat, moisture, and energy to higher latitudes. Tropical land surface changes should be expected to play a greater role on global climate than El Niño, given that thunderstorms prefer to form over land, and the fact that the large area of tropical land-use changes far exceeds the relatively small area of water responsible for El Niño. Impacts of land use changes are harder to detect because they are permanent, as opposed to El Niño, which comes and goes. Pielke Sr., and colleagues propose a new method for measuring the impacts of both greenhouse gases and landcover changes by using a formula that quantifies all the various anthropogenic climate change factors in terms of the amount of heat that is redistributed from one area to another. This heat redistribution is stated in terms of watts per meter squared, or the amount of heat associated with a square meter area. For example, if a flashlight generated heat of one watt that covers a square meter, then the heat energy emitted would be one watt per meter squared. By using a measure based on the spatial redistribution of heat to quantify the different human influences on climate, including landcover changes and greenhouse gases, the researchers hope to achieve a more accurate portrayal of all of the anthropogenic influences on climate change in future research. The paper was published in a recent issue of the Philosophical Transactions of the Royal Society of London. The research was funded by grants from NASA and the National Science Foundation.

37) 'GLOBAL WARMING COULD SPREAD MALARIA'

IOL

October 2 2002 at 11:24AM

Internet: http://www.iol.co.za/index.php?click_id=143&art_id=qw103354848112B243&set_id=1

Two pools of malaria-carrying mosquitoes discovered in the United States could be linked to global warming, Netcare Travel Clinics said on Wednesday. Dr Andrew Jamieson, medical director for the travel clinics, said there were no guarantees that areas where malaria had been eradicated would remain so. Anopheline mosquitoes responsible for the spread of malaria are generally limited to hot and humid tropical climates. "Global warming may lead to suitable habitats developing in the temperate zones," he said. "Malaria could become endemic in other parts of South Africa" "Should this happen, malaria could re-establish itself in these regions, affecting places currently as unlikely as southern England." US health authorities discovered two pools of malaria-carrying mosquitoes near the Potomac River in Loudon County in Virginia.

The discovery followed an intensive search for infected mosquitoes and malaria patients after two local teenagers developed the disease in recent weeks. Jamieson said the pools were found within several miles of where the teenagers lived. According to the Centres for Disease Control and Prevention in Atlanta this is the first time in more than 20 years that mosquitoes carrying the malaria inducing Plasmodium parasite have been identified in a US community where humans have also been infected with the disease. He said domestically transmitted cases of the disease were rare in the US, with the majority of the 1 500 cases of

malaria reported in the US annually being in people who had travelled overseas. Given that neither of the teenagers travelled to known malaria regions recently, officials believed that the pair were bitten and infected by mosquitoes that had previously bitten someone who had contracted malaria while travelling overseas, Jamieson said. He said the findings had prompted additional anti-malaria measures in the region.

Jamieson said a study conducted at the University of Durham in the UK into the medico-geographic patterns of malaria in Britain prior to the 1920s, had indicated that as the British climate became warmer, so conditions for malaria transmission would become more favourable and last longer. "By implication, the currently temperate climate in Virginia in the USA could become more conducive to mosquito breeding as a result of global warming. "Likewise, instead of being restricted to north-eastern KwaZulu-Natal and the lowveld areas of the Mpumalanga and Limpopo provinces, malaria could become endemic in other parts of South Africa," he said. Jamieson cautioned those travelling to malaria regions to take the necessary precautions such as consuming anti-malaria medication, wearing protective clothing that covers most of the body and applying mosquito repellents. One of the functions of the Netcare Travel Clinics is to deliver a consulting and treatment service to the travel and tourist industry. - Sapa

38) EU WILL MISS KYOTO TARGET-TOP ENERGY ECONOMIST

Reuters

October 2, 2002

Internet: http://www.reuters.com/news_article.jhtml?type=topnews&StoryID=1526355

BRUSSELS, Oct 2 (Reuters) - The EU will be unable to reach its Kyoto targets for reducing carbon dioxide emissions even if it launches new policies on boosting cleaner energy, the International Energy Agency's chief economist said on Wednesday. According to IEA forecasts, the European Union could boost the share of renewable power like wind and solar in its electricity generation to 30 percent by 2030, but even that would not cut enough emissions to meet climate change targets.

"Fossil fuels will still dominate," IEA Chief Economist Fatih Birol told a news conference. "Even with these alternative policies (on renewables) we don't reach the Kyoto targets." Under the 1997 Kyoto Protocol, the EU has to reduce its emissions of the greenhouse gases blamed for causing global warming by eight percent of 1990 levels by 2012. The most important of these gases is carbon dioxide (CO₂), which is emitted during fuel combustion.

According to the IEA, the EU emitted around 3,080 million tonnes of CO₂ in 1990. This would rise to 3,146 million tonnes in 2010 and to 3,829 by 2030 without any new "green" policies. With new policies on renewable energy, emissions would be 4.9 percent less than that "business as usual" case by 2010, but would still be up from the 1990 level, according to the IEA. Emissions would be 19 percent less than the 2030 business as usual prediction, still a rise over all. Fatih said the reason was a large rise in demand for transport, which mostly runs on oil products, and the fact traditional electricity plants had a long life span and would not be replaced overnight.

"If governments want to do something they have to act not only radically but also as soon as possible," he said, adding that a move towards renewables offered not only some scope to reduce emissions but also reduced reliance on energy imports. European Commission environment spokeswoman Pia Ahrenkilde-Hansen was upbeat about reaching Kyoto targets. "We still believe that the EU can meet its target, but we need to implement key elements of the European climate change programme," she told Reuters. As well as boosting renewables, the Commission has proposed measures to improve energy efficiency in buildings and an emissions trading scheme which would set maximum levels for CO₂ output from industry.

39) MINISTRY PLANS 'DELHI DECLARATION' TO CHECK GAS EMISSIONS Economic Times of India October 2, 2002

Internet: <http://economictimes.indiatimes.com/cms.dll/articleshow?artid=23896449>

NEW DELHI: The Eighth Conference of Parties to the United Nations Framework Convention on Climate Change, to be held in Delhi between October 23 and November 1, is likely to come up with a 'Delhi Declaration' — a concrete framework of action envisaged at tackling climate change. Addressing a high-level meeting of environment ministers and delegates from about 40 countries here on Monday, the environment and forests minister TR Baalu urged countries that are parties to the United Nations

Convention to evolve a framework of global action for containing global warming and mitigating adverse consequences of climate change. Baalu said that India was conscious of various specific situations and special needs, particularly of South Asia, which is a region of diversity. "India's perspective in this regard reflects the social and economic dimensions that are common to developing countries," he pointed out.

India has recently ratified the Kyoto Protocol under the UN Framework Convention on Climate Change. The protocol commits developed countries to reduce emissions of greenhouse gases by an average of 5.2% below 1990 levels during '08-12. While the overall reduction aimed at is 5.2%, the specific limits vary from country to country. For developing countries including India and China, there are no commitments for quantified reduction. For the US, the largest producer of GHGs, the target was set at 7% below 1990 levels. While the country had signed the Protocol earlier, the Bush administration refused to ratify it. Various countries including the United States are represented in the two day preparatory meet to the COP-8 that began on Monday. India's official stance has always been that while the Kyoto Protocol would by itself not solve the problem of global warming, it would serve as a significant first step towards mitigating the problem. Attempts by the developed world to get India and China to commit themselves to quantified reduction of GHGs have been resisted.

40) CHRÉTIEN DISMISSES CONCERNS OVER KYOTO PROMISES HOUSE VOTE ON ACCORD BEFORE END OF YEAR The Star October 2, 2002

Internet:

http://www.thestar.com/NASApp/cs/ContentServer?pagename=thestar/Layout/Article_Type1&c=Article&cid=1026145915653&call_page=TS_News&call_pageid=968332188492&call_pagepath=News/News&col=968793972154

OTTAWA — Prime Minister Jean Chrétien shrugged off concerns yesterday about how the Kyoto accord's obligations to cut greenhouse gas emissions would be implemented. "Many countries have implemented or have voted for Kyoto without any plans at all," Chrétien said during question period when faced with Opposition demands for details. "Here in Canada we have had discussions for years. We will have a plan and will proceed before the end of the year with a vote in the House of Commons." He said Parliament will get a chance to vote on the accord, but said the final decision will be his cabinet's alone. The hotly debated accord dominated the first question period of the new parliamentary session, with all four opposition parties demanding details from the government. So far, only the Canadian Alliance definitively opposes ratification of the accord, which commits Canada to reducing average greenhouse gas emissions by 6 per cent from 1990 in the years 2008 to 2012.

The NDP and Bloc Québécois will vote in favour of ratification, while Tory Leader Joe Clark said yesterday his party would not support the Kyoto protocol "unless there is fuller information." "I'm not going to vote blindly for a protocol that would have the impacts that Kyoto would have," said Clark in his clearest statement to date.

Alliance leader Stephen Harper denounced the vague promises on Kyoto as purporting "to be nothing less than a grandiose scheme to save the planet itself."

Harper criticized the Liberal government's failure to tell Canadians exactly how the treaty would affect regions, industries and consumers, and urged provinces and individuals to block the accord using any legal means possible. Former Alberta premier Peter Lougheed, now heading a committee looking into the impact of Kyoto, said any federal move to ratify without first revealing an implementation plan would be "foolish" and warned the province "owns natural resources" and may have to look into legal action to protect its jurisdiction from federal intrusion. But federal Environment Minister David Anderson dismissed such suggestions.

"This is not an issue of natural resources. This is an issue of a global problem of emissions, and a global problem in the atmosphere. And the Constitution is very clear that international issues of that type are the domain of the federal government." "We can limit emissions in all provinces of Canada and all territories of Canada and we hope that we'll be able to do that with the co-operation of every province and every territory."

Still, even within the ranks of federal cabinet ministers there is distinct unease with the government's ambiguous plans. Former finance minister Paul Martin, the man most expect to succeed Chrétien, and who

would ultimately be responsible for implementation of the treaty, did not attend question period. He has recently questioned the wisdom of proceeding without nailing down the details of how the emissions reductions targets would be reached. Senior Alberta cabinet minister Anne McLellan said in an interview published yesterday she expects a clear plan before ratification. "One cannot make an informed decision around ratification of Kyoto until you know what the components of the plan are, how they will impact on different provinces, industrial sectors and consumers, and who will be paying what. And then at that point we can move forward." McLellan ducked out of the Commons after question period, avoiding reporters. But Anderson said he spoke with her and insisted she doesn't oppose the accord. NDP Leader Alexa McDonough scoffed at the government's promise to consult, so late in the game. "The reality is they've been dragging their feet for five years," she said, but added the NDP will support ratification of the accord even without an implementation plan. Meanwhile, Ontario Environment Minister Chris Stockwell said Ontario will not sign on to the Kyoto accord unless Ottawa tells the province the exact details of the plan. "I cannot buy a pig in a poke. You got to tell me what impact this has on the people of the province of Ontario by way of jobs, lost economic growth and prosperity," he said yesterday.

41) CANADIAN BUSINESS RALLIES AGAINST KYOTO ACCORD CUTS

FT

October 1 2002

Internet:

<http://news.ft.com/servlet/ContentServer?pagename=FT.com/StoryFT/FullStory&c=StoryFT&cid=1031119791826>

A battle is being fought in Canada over the ratification of the Kyoto Protocol on climate change, with business leaders claiming that it could inflict severe damage on the economy. Canada's decision is expected to have a crucial effect on the long-term future of UN efforts to curb climate change even though its approval is not essential for the protocol to come into force. The dispute has escalated since Jean Chrétien, the prime minister, announced plans at the Earth Summit in Johannesburg last month to put the protocol to a vote in parliament this year. The widely-held belief that it will win approval from parliament has unleashed intense criticism from opponents. "It's the goofiest, most devastating thing that was ever conceived and has ever been contemplated by a Canadian government in the history of this country," said Ralph Klein, premier of Alberta, the leading oil-producing province. Last week, a broad cross-section of Canadian industry launched a coalition to fight ratification plans. Gwyn Morgan, president of EnCana, an energy producer, accused the government of being "led down the garden path" by an EU plan to gain commercial advantage over other countries". "Now that the US and Australia have dropped out, the EU countries are worried that the jig is up. They're scrambling to make sure Canada ratifies so they can at least have competitive advantage over our country," Mr Morgan said.

The debate has been hampered by a lack of information about the costs of measures that would be required to implement the protocol, which requires Canada to cut its greenhouse gas emissions by 6 per cent from 1990 levels by 2008-2012. A government assessment, prepared with the provinces and industry, concluded that by 2012, Kyoto might leave GDP unchanged or cut growth by as much as two percentage points. But it did not analyse the potential impact of the protocol on sales to the US, which buys most Canadian exports. The paper also assumed Canada would get credits for clean energy exports which displace dirtier fuels such as coal. This proposal, which would require a reopening of talks on the Kyoto Protocol, has been flatly rejected by Margot Wallström, EU environment commissioner. The paper also predicted that Canada would buy emission credits from Russia, a step that has been attacked by business representatives as a significant transfer of wealth for no return. These emission credits - which allow pollution allowances to be transferred - stem from the decline of Russia's industrial base since 1990, allowing it to overshoot its Kyoto targets. Russia joined Canada at the Johannesburg summit in indicating it would ratify the protocol. Russia's participation is critical for the protocol to enter into force, which requires the ratification of countries representing 55 per cent of the industrialised world's emissions.

Canada does not emit enough greenhouse gases for its approval to have a decisive influence but a rejection would be significant because it would mean that there were no countries in the Americas taking on legally-binding emission targets. Some analysts think that could lead to development of a North America Free Trade Area (Nafta) climate initiative, scuppering the UN's ambitions of drawing the US back into its

international coalition on climate change. "Canada is crucial, not because it is required to get Kyoto into force but because it changes the long-term dynamics," said Michael Grubb, professor of climate change at London's Imperial College. Jennifer Morgan, director of the climate campaign of WWF, the environment group, said Canada's ratification would split the north American block. "It is both economically and politically important because it sends a signal about just how isolated the Bush administration is on this." Conversely, if Canada decides against ratification it would strengthen the feeling in the US that the Kyoto Protocol is a European conspiracy, said Philip Clapp, president of NET, a US environment group. "If ratification failed in Canada it would enormously strengthen opposition to Kyoto in the US."

42) BIRDS ARE RESPONDING TO GLOBAL WARMING, BUT FORECASTING IMPACT OF CLIMATE CHANGE WON'T BE EASY, BIOLOGISTS REPORT

Space Daily

October 1, 2002

Internet: <http://www.sciencedaily.com/releases/2002/09/020926065816.htm>

ITHACA, N.Y. -- Earlier springs with warmer temperatures over the past 30 years have prompted a ubiquitous North American bird species, tree swallows, to begin laying eggs, on average, a week or more earlier. But whether these harbingers of global warming are being adversely affected by changing weather patterns isn't clear, biologists in New York, Wisconsin and California report in Proceedings of the National Academy of Science (PNAS). When tree swallows start earlier, they often lay more eggs, say the biologists, referring to data collected by thousands of volunteer citizen-scientists who have watched the birds' nest boxes for 40 years. "We don't know whether earlier lay dates and larger clutch sizes will be good in the long term for populations of tree swallows," says David W. Winkler, a Cornell University professor of ecology and evolutionary biology. "And tree swallows are just one of the many organisms that potentially can be affected by climate change."

After an exhaustive, three-year statistical analysis of bird and weather data, Winkler, Peter O. Dunn of the University of Wisconsin-Milwaukee and Charles E. McCulloch, a biostatistician at the University of California-San Francisco, report the effects of climate change on swallows in the PNAS Online Early Edition, week of Sept. 23, 2002. Their article is titled "Predicting the effects of climate change on avian life history traits." Tree swallows (*Tachycineta bicolor*) are astute weather monitors, Winkler explains, because of three characteristics:

- o They are aerial insectivores, hunting the insects they crave "on the wing." (An adult tree swallow can capture as many as 50 insects before returning to the nest and feeding its young.)
- o Tree swallows are "income breeders" that rely, more than many other species, on their daily foraging intake -- both before and during the spring breeding season. (Tree swallows begin breeding once their source of insect income looks large enough, but the future of their growing family is at the mercy of sometimes-fickle weather.)
- o Insects the swallows need do not fly during cool weather, and swallows will not forage on the ground. (A sudden cold snap and a local shortage of insects can kill 5- to 8-day-old nestlings before their developing bodies learn to thermoregulate and grow insulating feathers. When adult tree swallows are forced by cool weather to travel greater distances in search of insects, they may be forced to abandon their chicks.)

Professional ornithologists rely on trained amateurs in volunteer programs, such as the Cornell Lab of Ornithology's Nest Record Card Program, to report on birds throughout a wide geographic area. In 1999, after studying 21,000 nest records from Cornell's database and similar programs in Canada, Dunn and Winkler reported that the lay date of tree swallows shifted an average of nine days earlier between 1959 and 1991. Since that report, which was among the first to link animal-behavior changes to global warming, Winkler and Dunn have worked with McCulloch and extended the analysis to another key life-history trait -- the number of eggs birds lay each year. "One of the strongest patterns in this data set showed birds that begin earlier in a given season tend to lay larger clutches of eggs," Winkler recalls. "We wanted to see if earlier average lay dates over the past 30 years have led to larger clutches. However, it is interesting to find that, despite the change in lay dates, there has been no significant increase in clutch size across the years." To say more with any certainty will require a much better understanding of how birds respond to climate change -- and more detailed, hands-on research than even the most dedicated legions of volunteers can conduct. Nevertheless, the PNAS authors believe that their statistical analysis of tree swallows' response

can be a template for studies by other researchers of how climate change might affect various plant and animal species. "Tree swallows are doing a fine job of observing seasonal climate conditions and responding in a way that's easy for us to measure," Winkler notes. "Clearly, they're laying eggs earlier on average. Our job as biologists is to learn more about the birds and their food organisms in order to understand the effects of this and other responses to climate change." The study was sponsored, in part, by the National Science Foundation and Cornell University.

43) INDIA NOT TO COMMIT TO UN TARGET ON GHG REDUCTION

Outlook India

October 1, 2002

Internet: http://www.outlookindia.com/pti_news.asp?id=87591

Even as India reiterated its stand not to commit itself to the UN target of Greenhouse Gas Emission (GHG) reductions under pressure from developed countries, a top US official said today his country is not keen on commitment by developing countries and will not ratify the Kyoto Protocol. "As a developing country we will not concede to commit in the second phase or 'even nth phase' of implementation of United Nations Framework Convention on Climate Change and Kyoto Protocol," Union Minister for Environment and Forests T R Baalu told reporters after the preparatory meeting of 35 countries ahead of Conference of Parties (COP-8) on climate change to be held here. "In the foreseeable future it is impossible for India to take up any target commitments", he said. However, senior Climate Negotiator and Special Representative of US Department of State, Harlan L Watson, categorically said "the Bush administration had not asked the developing countries to take up target commitments." "We will not ratify the Kyoto Protocol in the present form but if, in future, there were other protocols, we may consider it," Watson told reporters after the two-day preparatory meeting ahead of COP-8 beginning October 23. Citing serious economic harm as the reason for not ratifying the Protocol, Watson also added that the time set for the measures to be implemented under it was not realistic and thus not achievable. "The problem of climate change is not a short-term one but a long drawn one and needs heavy investments in R&D," he said.

44) ENERGY WORKERS VOTE ON KYOTO

CNW

October 1, 2002

Internet: <http://www.newswire.ca/releases/October2002/01/c6500.html>

TORONTO, Oct. 1 /CNW/ - Canada's largest energy union is meeting the challenge of climate change head on. Delegates to the CEP's national convention being held this week at the Metro Toronto Convention Centre are today discussing a national energy policy that includes promoting the ratification of the Kyoto agreement and a transition program for workers and communities affected by it. "Climate change is real," says CEP President Brian Payne whose union represents some 30,000 workers in the gas, oil, energy and petrochemical industries. "The future of the planet is at stake, he told delegates earlier in the convention. "And as the energy union in this country, it is our responsibility to tell the truth and to be a part of the solution." Prior to the convention debate at 2 pm, a panel of experts will discuss the policy: Mel Watkins, economist with the University of Toronto, Corinne Gendren with the Université du Québec à Montréal. The 50-page comprehensive document also calls for: regional energy grids to emphasize sustainable and renewable energy supply; an industrial policy to use natural gas resources to further develop the petrochemical industry; the Canadianization of energy industries; and a reformed and democratized National Energy Board.

45) ICE 'METEORS' SIGN OF CLIMATE CHANGE: SCIENTIST

CNN

September 30, 2002

Internet: <http://www.cnn.com/2002/TECH/science/09/30/climate.ice.reut/>

MADRID, Spain (Reuters) -- A Spanish scientist says global warming may be to blame for giant blocks of ice which fall from clear skies and rip gaping holes in cars and houses. Jesus Martinez-Frias has spent the last two-and-a-half years investigating so-called megacyrometeors -- ice meteors -- which tend to weigh more than 22 pounds and have been known to leave five-foot holes in houses. He fears the formation of

these hailstone-like blocks on clear days could be a worrying symptom of climate change. "I'm not worried that a block of ice might fall on your head ... but that great blocks of ice are forming where they shouldn't exist," said Martinez-Frias, director of planetary geography at Spain's Astrobiology Center in Madrid. "Components of the atmosphere, like ozone and water, are changing in different levels of the atmosphere ... We think these signs could be evidence of climate change," he said in a telephone interview with Reuters. While Martinez-Frias said he was far from certain as to why the ice meteors formed, he said they were neither hoaxes nor blocks of ice falling from the bars or bathrooms of passing aircraft, as skeptics have suggested. "We're not talking about hoaxes," Martinez-Frias said. "It's very easy to tell real and false ice blocks apart." "It's not water from airplane toilets ... Its isotopic composition bears the signature ... of Iberian rain."

SMASHING WINDSHIELDS

Ice clouds made from crystallized vapor trails of aircraft are well known to pilots, but Martinez-Frias suggests that because global warming involves one level of the atmosphere getting colder while another gets hotter, some ice clouds now remain longer. Their centers then fall through the atmosphere, bouncing and gathering mass, to end up smashing through a car windshields or, more usually, landing softly in a field, he suggested. The first megacryometeor found this year in Spain -- by a startled farmer riding his tractor in Soria -- weighed 35.27 pounds. Three others were found later, bringing the world total over the last decade to more than 50. But Martinez-Frias said only around a fifth of the ice meteors are ever found. An ice meteors weighing around 440 pounds has been found in Brazil, Martinez-Frias said. Other blocks have been found in Mexico and Australia. The blocks form between four and two-and-a-half and six miles above ground, he said. Some scientists doubt whether hail can form on a clear day. "Solid ice cannot form in the absence of thick, highly visible clouds," Charles Knight, a hail expert at the University Corporation for Atmospheric Research in Boulder, Colorado was quoted as saying in a supplement of Science journal. But geologist Roger Buick of the University of Washington in Seattle told the same publication that a model created by Martinez-Frias and his team showing ice can form on a clear day was an "important advance in that it thoroughly documents and provides an explanation for a spectacular phenomenon."

46) INDIA TO HOST CLIMATE CHANGE CONFERENCE

UNFCCC

September 30, 2002

Internet: <http://unfccc.int/press/prel2002/pressrel300902.pdf>

New Delhi, 30 September 2002 - The Government of India and the secretariat of the UN Framework Convention on Climate Change signed today a Host Country Agreement (HCA) that finalized practical arrangements for next month's high-level conference on global warming. The conference, known officially as the Eighth Session of the Conference of the Parties to the Climate Change Convention, is expected to attract some 5,000 participants - including over 100 ministers - from the Convention's 186 Parties. It will be held at the Vigyan Bhawan Conference Center in New Delhi from 23 October to 1 November 2002. The international community will use the meeting to prepare for the entry into force of the Kyoto Protocol. Delegates will also focus on key concerns of developing countries, such as how to gain better access to low-emitting technologies and how to cope with the expected impacts of climate change.

Mr. T.R. Baalu, Minister of Environment and Forests will sign the HCA for the host government. Ms Joke Waller-Hunter, Executive Secretary of the Convention, will sign on behalf of the UNFCCC. "India has a leadership role to play in the climate change arena, and we are extremely pleased to have been invited this year to the vibrant city of New Delhi for our annual meeting. In return, I hope the people of India will benefit from news about our meeting and that they will gain a greater understanding of climate change and its importance for their future," said Ms Waller-Hunter. A high-level segment will take place from Wednesday, 30 October to Friday, 1 November. It will be opened by the Prime Minister of India, Mr. Atal Bihari Vajpayee, and attended by Ministers and senior officials.

47) INDIA TO WELCOME CLIMATE CHANGE DELEGATES

ENS

September 30, 2002

Internet: <http://www.ens-news.com/ens/sep2002/2002-09-30-01.asp>

NEW DELHI, India, September 30, 2002 (ENS) - The next step in global action to deal with a warming climate will be taken in New Delhi in October when the 186 countries that are Parties to the United Nations climate treaty meet to prepare for the entry into force of the Kyoto Protocol. The government of India and the secretariat of the UN Framework Convention on Climate Change (UNFCCC) signed today a Host Country Agreement that finalized practical arrangements for the high-level conference on global warming. It will be held at the Vigyan Bhawan Conference Centre in New Delhi from October 23 to November 1. T.R. Baalu, India's minister of environment and forests signed the HCA for the host government. Joke Waller-Hunter, executive secretary of the UNFCCC, signed on behalf of the secretariat.

"India has a leadership role to play in the climate change arena," said Waller-Hunter, "and we are extremely pleased to have been invited this year to the vibrant city of New Delhi for our annual meeting. In return, I hope the people of India will benefit from news about our meeting and that they will gain a greater understanding of climate change and its importance for their future." The conference, known officially as the 8th Session of the Conference of the Parties to the Climate Change Convention, is expected to attract some 5,000 participants, including over 100 ministers, from the Convention's 186 Parties. A high-level segment will take place from October 30 to November 1. It will be opened by the Prime Minister of India, Atal Bihari Vajpayee, and attended by ministers and senior officials. The international community will use the meeting to prepare for the entry into force of the Kyoto Protocol. The protocol, an international agreement under the UNFCCC, limits the emission of six greenhouse gases by 37 industrialized nations. As signed in Kyoto in 1997, the protocol covered 39 nations, but the United States, which produces some 25 percent of the world's greenhouse gases, and Australia, which would have been allowed to increase its emissions by eight percent, have decided not to ratify the agreement. The protocol will not enter into force until it is ratified by 55 percent of the nations responsible for at least 55 percent of the total greenhouse gas emissions for 1990.

On September 12, Peru became the latest country to deposit its instrument of ratification to the Kyoto Protocol. The total number of ratifications, accessions, and acceptances now stands at 94, representing 37.1 percent of emissions. The European Union and Japan ratified the protocol earlier this year. Canada has not yet decided whether or not it will ratify. Canadian Environment Minister David Anderson pledged at the World Summit on Sustainable Development that his government would submit the protocol to Parliament before the end of this year. Other industrialized nations covered by the protocol that still must decide on ratification include: Croatia, Estonia, Lichtenstein, Monaco, New Zealand, Poland, Russia, Slovenia, Switzerland, and Ukraine. India is not on the list of 37 nations that must limit their emissions. India has neither signed nor ratified, but on August 26, acceded to the protocol thereby accepting the opportunity to become a party to the treaty already negotiated and signed by other states. It has the same legal effect as ratification. The other two major developing nations that emit large amounts of heat-trapping greenhouse gases - Brazil and China - have both signed and ratified the protocol.

The protocol contains legally binding targets by which developed countries must reduce their combined emissions of six key greenhouse gases by at least five percent by the period 2008-2012, calculated as an average over those five years. Cuts in the three most important gases — carbon dioxide, methane and nitrous oxide — will be measured primarily against a base year of 1990. Cuts in three long lived industrial gases — hydroflourocarbons, perflourocarbons and sulphur hexafluoride — can be measured against either a 1990 or 1995 baseline. By reducing greenhouse gas emissions to percent below 1990 levels, the protocol will result in 2010 emissions levels that are approximately 20 percent below what they would have been in the absence of the protocol. Greenhouse gas emission limits for developing countries will be addressed at future negotiations of the Parties to the UNFCCC. Delegates to the conference in New Delhi will focus on key concerns of developing countries, such as how to gain better access to low emitting technologies and how to cope with the expected impacts of climate change. The relationship between efforts to protect the statospheric ozone layer and efforts to safeguard the global climate system will be a topic of discussion.

See Also:

INDIA TO HOST CLIMATE CHANGE CONFERENCE October 2, 2002

<http://www.ippmedia.com/guardian/2002/10/02/guardian4.asp>

48) FARMERS FIGHT GLOBAL WARMING WITH NO-TILL FARMING

AlterNet

September 30, 2002

Internet: <http://www.alternet.org/story.html?StoryID=14079>

On one field, there is only rich, lumpy black earth, free of weeds or debris, below the rows of cornstalks waving gently in the breeze. On another field, you can hardly even see the dirt below a thick layer of woody residue -- dried-up bits of corn cobs, pieces of stalk up to eight inches long, even the crumbly remains of the soybean plants that typically alternate with corn crops on Midwestern fields. A city dweller might think the difference is the matter of a lazy or preoccupied farmer. But in reality, the messier-looking field is an example of a practice that could play a significant role in reducing global warming. The first field is tilled with a standard plow, a massive machine towed by a tractor that grabs the earth and turns it over completely, removing the residue of past crops. The second field is a "no-till" plot, meaning it was not plowed but rather the new crop was planted amidst the waste of the old. There are also "partial till" plots, in which a special plow that turns over the soil to a lesser degree than the standard one is used. When a field is plowed, the turning over and stirring of the soil spurs the release of carbon dioxide, which has been identified as a greenhouse gas contributing to global warming and climate change. Though industry and automobiles are responsible for the majority of carbon dioxide emissions in the U.S., the decomposition of organic matter on farmlands is a significant source of the gas. When a field is not tilled, the decomposition and resultant release of carbon dioxide is vastly slowed.

TO TILL OR NOT TO TILL

No-till farming has grown in popularity over the past decade, as farmers who once would have called the practice "crazy" realize the benefits in lower labor and equipment costs and increased productivity. Labor and time are saved when the farmer doesn't plow the field, and the organic matter sitting on the soil works effectively to decrease water run-off and erosion and boost the soil's nutrient retention. In 2000, about 52 million acres in the U.S. were no-till, according to the group Conservation for Agriculture's Future, for a total of about 17 percent of the country's farmland. The practice had increased dramatically between 1990 and 1995, then leveled off over the past half decade. It wasn't until recently, however, that farmers and scientists began talking about the role of carbon sequestration (meaning 'no-till' or reduction of plowing) in connection with diminishing the greenhouse effect.

A groundbreaking \$15 million project called CASMGS (Consortium for Agricultural Soils Mitigation of Greenhouse Gases) being carried out by 10 universities with funding from the U.S. Department of Agriculture is in the process of documenting the environmental benefits of carbon sequestration in agriculture and developing outreach programs to convince farmers to adopt the practice. CASMGS scientists note that while carbon sequestration doesn't actually remove carbon dioxide from the air, it can significantly slow the expected increase in emissions. If no-till farming were widely adopted in the U.S., they say the projected increase in U.S. carbon dioxide emissions could be cut by as much as 20 percent. "Plants trap carbon during photosynthesis, and that carbon goes into the soil [in the form of plant residue] during harvesting," said Ron Turco, director of the Environmental Sciences Engineering Institute and head of the CASMGS group at Purdue University in Indiana. "We want to keep that carbon in the soil rather than releasing it into the atmosphere as carbon dioxide."

Turco noted that the original carbon content of the soil across the country has been reduced by about 50 percent since John Deere invented the steel plow in the mid-1800s. With widespread no-till, he thinks close to original levels could be restored in as little as 40 years, with 75 to 200 million metric tons of carbon sequestered per year. "In prairie conditions, everything is in equilibrium," he said. "Then you come in with a destructive force like a plow and it causes aeration, things get disturbed. What we want to do is bring the soil back to its original quality." There are economic and environmental drawbacks to no-till, including the fact that more pesticide is usually needed to fight the organisms that find homes in the residue. Farmers who have been using conventional plowing will also have some start-up costs to switch over to no- or partial-till equipment. "What we don't want to do is forget all the other management concerns that have an environmental impact," said Sylvie Brouder, the Purdue scientist in charge of outreach to farmers for that region. "We need to provide guidance to farmers and look at what in the big picture is your environmental and economic benefit." Even with the benefits, it is hard to convince farmers to change traditions and ways

of doing things that have been around for generations. "If you tilled your whole life and your father tilled before you, it's a change," said Turco. "You're used to seeing a field that looks a certain way."

CASH FOR CARBON

As an added bonus on top of the soil quality, labor saving and environmental benefits of no-till farming, there may soon be an added economic incentive. If the federal government passes caps on carbon dioxide emissions, as many are hoping, a market in "carbon credits" could likely develop in which those who practice carbon dioxide reduction could "sell" their credits to industries or manufacturers who fail to meet the cap. Similar markets already exist in sulfur dioxide. Many economists say that if a carbon dioxide cap were enacted, then a carbon credit market wouldn't be far behind. Then, farmers could potentially make a decent profit in credits along with their agricultural revenues. "For farmers, their bottom line is economics," said Charles Rice, head of the CASMGS project out of Kansas State University. "If they can see an economic incentive, and improve the soil at the same time, all the better. It's taking a risk, and if there's a low profit margin than you are less willing to take that risk. That's where the carbon credit market comes in. It could help overcome that risk and fear of change."

There are several ways a carbon credit market could function. Farmers could be given subsidies or incentives from the government for adopting the practice, a measure that could be taken even if emissions caps aren't instituted. Some of the conservation funds allotted in the Farm Bill could be used for carbon sequestration incentives, a move some farmers have suggested. A more profitable version would be the exchange of the credits on a private market, with the credits even potentially being traded on the stock market. The Chicago-based Environmental Financial Products is currently carrying out a project with funding from the Joyce Foundation and the Kellogg Graduate School of Management at Northwestern University to develop a structure that would allow the credits to be traded on the Chicago Board of Trade. "Probably in years to come there will be a private market for carbon credits, as we learn better ways to measure and monitor it," said Bill Ryan, a farmer and former head of the Soil Conservation Service under the first President Bush. "In the short term we could have a public incentive through the Farm Bill."

Estimates of how much the credits would be worth are all over the map, depending on what type of model is developed. They range from a few dollars per untilled acre under a government subsidy program or private trading program based on voluntary emissions reductions, to \$40 or more per acre if a private market based on mandatory emissions caps develops. "If it's based on a very significant reduction required of industry, and industry can buy credits to meet that, it would be very valuable," said Catherine Kling, an Iowa State University economics professor working with the CASMGS project. "If it's based solely on voluntary reductions from companies, on 'green marketing,' then it might be a couple dollars per acre. It depends on what institutional and legal requirements are facing firms." For carbon credit incentives to work, there would be tricky issues to address such as how to monitor whether farmers were practicing no-till and what to do if farmers sold their no-till credits but then decided they were unable or unwilling to continue the practice.

GLOBALIZING CARBON CREDITS

The Kyoto Protocols, which President George W. Bush still refuses to sign, would impose mandatory caps on greenhouse gas emissions. Emissions trading programs were among the options discussed during the Kyoto talks. Already, Canada, Norway, Australia and other countries have been experimenting with carbon credit trading. Turco noted that some Canadian companies have already paid Iowa farmers for carbon credits. He hopes that huge agricultural countries like China and India will also push the practice. Some analysts picture that in keeping with the Kyoto Protocols a huge global emissions trading market covering all greenhouse gases will eventually develop. In this vision, manufacturers and farmers all over the world would receive payment for feeding into "an atmospheric sink" of unreleased carbon dioxide, while carbon dioxide emitters would have to pay "rent" for the right to emit the gas. In that case, a small farmer in Kansas could essentially sell his carbon sequestration credits to a pool where they might be picked up by a multinational company in Japan. A paper by the American Council on Capital Formation (ACCF)'s Center on Policy Research notes that were such a thing to develop, U.S. companies could look to buy cheaper emissions credits from abroad. That would raise all sorts of issues concerning who regulates the market and where the profit from emissions trading goes.

"The biggest obstacle to implementing such a system, should we decide to, is a crassly familiar one: who gets the rent generated by limiting the right to emit CO₂," says the ACCF report. Some environmentalists might find the whole concept of a carbon credit market dubious -- in effect, farmers using a practice that they might well have adopted anyway are helping polluting companies avoid their obligation to cut down on emissions. The concept becomes especially abstract when you consider a global market in which a U.S. corporation could continue its polluting because it is buying credits from a no-till farmer (or other emissions reducer) in China or Russia.

When it comes down to it, switching to renewable fuel sources and developing technologies for industry, automobiles and the like that have less emissions are more critical measures than no-till farming in slowing global warming. "None of this will replace industry doing its part," said Purdue agronomy professor Eileen Kladvko. "But what we're doing is buying some time."

49) ALL COUNTRIES MUST PROMOTE CLEAN ENERGY TECHNOLOGIES: US EXPERT
CHANDIGARH, SEPT 30 (PTI) Outlook India September 30, 2002

Internet: http://www.outlookindia.com/pti_news.asp?id=87175

India as well as other countries have a global responsibility for promoting clean energy technologies so as to promote a robust economy and healthier environment, an official official of the U S Department of Energy said here today. Addressing a session on Energy Efficiency and Renewable Energy(EERE) Robert K Dixon, Deputy Assistant Secretary, Office of Power Technologies, US Department of Energy (DoE), highlighted the opportunities for clean and energy efficient technologies The session was organised by CII (Northern Region) in association with the Public Affairs Section of the U S Embassy, a CII release said. The portfolio of Energy Efficient Renewable Technologies covers areas such as hydrogen, super conducting cables, solar energy, advanced turbines, photovoltaics, microturbines, hydro power and biomass, Dixon said. However, hydrogen was America's clean energy choice for the future as it is flexible, affordable, safe, and usable in all sectors of the economy, besides being pollution free and abundantly available in the environment, he added. The session discussed clean energy technologies and practical options to reduce greenhouse gas emissions, implementation of clean coal and natural gas technologies to provide heat and power and development of renewable energy technologies to produce electricity, the release said.

50) IPCC TO DISCUSS POSSIBILITY OF UNDERGROUND CARBON STORAGE Outlook India
September 29, 2002

Internet: http://www.outlookindia.com/pti_news.asp?id=86726

International Panel on Climate Change will discuss the possibility and cost-effectiveness of underground carbon storage in its November meeting in Canada, a top official has said. "In November, we will convene a meeting of scientists, academics and experts in Regina, Canada, to assess the geological carbon storage possibility," R K Pachauri, Chairman, IPCC, told reporters here. "We will discuss whether there is a possible technology and whether it is cost-effective, and if there is enough scope in it we will come out with a special report," Pachauri said. In the process of geological storage of carbon, it is compacted by mixing it with some other materials and stored underground. Various studies were on to assess this technology but the only known experiment was done off the coast of Australia with carbon-absorbing iron pellets. However, there was no serious option of such a storage facility immediately, Pachauri added. Carbon dioxide is one of the most polluting Green House gases with the longest shelf life of 100 years and US and Canada, together, are responsible for 25 per cent of annual emissions. Various oil companies are reportedly interested in this technology as it might prove cheaper than other options

51) CLIMATE CHANGE: BLAME IT ON CHINA, INDIA

Economic Times of India

September 27, 2002

Internet: <http://economictimes.indiatimes.com/cms.dll/articleshow?artic=23444891>

WASHINGTON: Black carbon soot from coal burning, diesel engines, open fires and other sources is contributing to global warming and climate change in China and India, researchers report. A study appearing in today's issue of the Science magazine is based on computer modeling at the NASA Goddard

Institute for Space Studies by researchers Surabi Menon and James Hansen. "If our interpretation is correct, then reducing the amount of black carbon or soot may help diminish the intensity of floods in the south and droughts in the northern areas of China, in addition to having human health benefits," Hansen said. The research, based on data from Chinese ground stations provided by Yunfeng Luo of the Chinese Academy of Sciences, is continuing in order to see if a similar pattern of disturbances exists in India. Black carbon - a product of incomplete combustion - comes from industrial pollution, traffic, fires, the burning of coal in homes and biomass fuels. It is especially prevalent in countries such as China and India, where cooking and heating are typically done at a low temperatures using wood, cow dung or coal. Unlike carbon dioxide emissions, which add to global warming by trapping heat in the atmosphere, soot emissions may contribute to global warming and climate change by absorbing sunlight, heating the air and making the atmosphere more unstable, according to the study.

52) ICLR LAUNCHES THE NATURAL DISASTER HEALTH RESEARCH NETWORK Canada NewsWire September 27, 2002

Internet: <http://library.northernlight.com/FD20020927730000056.html?cb=0&dx=1006&sc=0#doc>

LONDON, ON, Sep 27, 2002 (Canada NewsWire via COMTEX) -- The Institute for Catastrophic Loss Reduction (ICLR) is launching its Natural Disaster Health Research Network today at a conference being held at the University of Western Ontario in London, Ontario. The Natural Disaster Health Research Network, established by ICLR with operating funding from the Climate Change and Health Office, Health Canada, brings together individuals from the climate change, health sciences and disaster management communities to identify strategies for Canadians to successfully cope with the increasing extreme weather events. "The Institute for Catastrophic Loss Reduction is proud to partner with Health Canada to launch the Natural Disasters Health Research Network," says Paul Kovacs, ICLR's executive director. "Research provides an essential scientific foundation that will allow Canadians to effectively address the growing threat to our health and property due to severe weather."

The goal of the research network is to gain a better understanding of the health and social impacts of natural disasters. ICLR's innovative network will bring together scholars, practitioners and natural disaster management personnel. Together, they will address research gaps in the areas such as mental health, population displacement, the ability of the public health infrastructure to cope with the increase in extreme weather events, and the changing nature of physical injuries and the treatment methods available. "Canadians will see more storms and increased frequency of floods and droughts in decades to come. Action now, including research, will help make our lives healthier in the future," says Dr. Gordon McBean, ICLR's chair of research. The current debate over the Kyoto Protocol has Canadian attention focused on the costs of reducing emissions. According to ICLR, the impact of climate change is being overlooked. "Neglected in this debate are the costs of the impacts of a changing climate on Canadians, their health, their property and their lifestyles," says McBean. "Since Kyoto is only a small step towards reducing global emissions and greenhouse gases, we need to be aware that the climate of Canada fifty years from now will be quite different from the past fifty years." ICLR's two-day workshop - Dealing with Disasters: Impact on Human Health - is being held at Spencer Hall Conference Centre, 51 Windermere Road, London, Ontario, today and tomorrow (September 27 and 28, 2002). Canada's home, car and business insurers founded the Institute for Catastrophic Loss Reduction in 1998. ICLR is a coordinated effort to reduce disaster losses involving member insurance companies, the University of Western Ontario and other partners. The Institute earns contract revenue for specific projects and workshop fees. Member insurers and the Ontario Research and Development Challenge Fund provide ongoing funding. For more information about ICLR, visit our web site at www.iclr.org.

53) KYOTO MAY HELP DEVELOPING NATIONS

The Western Producer

September 26, 2002

Internet: <http://www.producer.com/articles/20020926/news/20020926news16.html>

An international climate change treaty that offers to compensate farmers for adopting environmental practices and for their role as managers of carbon-storing lands could be an important boost for peasant farmers in developing countries, says the United Nations Food and Agriculture Organization. But in its

annual The State of Food and Agriculture report published last week, the FAO called for a simple and efficient system for paying farmers, measuring their contribution to the fight against greenhouse gas emissions, and teaching them how to take advantage of the opportunity. "Even where such measures are being taken, payments for carbon-sequestering land-use changes do not represent a panacea for either the reduction of rural poverty or the mitigation of climate change," the report said. "Nonetheless, carbon sequestration payments can play an important role in promoting sustainable development among the poor ... and may represent an important new means of finance for such efforts." The potential for farmers to make money from a system of carbon-storing credits will also be part of the debate in Canada over whether the government should ratify the Kyoto Protocol on Climate Change.

Kyoto ratification would require Canada to cut greenhouse gas emissions, principally carbon dioxide, to levels six percent below 1990 levels — a real cut estimated at as much as 15 percent by 2012. Industries that are mainly responsible for carbon dioxide emissions have warned that tens of thousands of jobs would be lost and Canada would suffer a competitive disadvantage because the United States is refusing to sign. But in agriculture, opinion is more divided. Kyoto offers the spectre of higher energy costs, but also a new income source for farmers who use environmental practices or who sell grain or straw to ethanol companies. FAO analysts said the same debate is raging over potential costs and benefits to developing world farmers. Adopting such carbon-storing practices as zero or minimum till can increase soil productivity and farmer income, the report said. But poor farmers often do not have the money to make initial investments required to change farming practices.

"Payments for carbon sequestration services offer an interesting way of reducing the cost of capital to low income land users." In the broader debate about whether human activities and the pollution they create really are contributing to global warming, the FAO comes down squarely on the side of those who insist there is a problem. And it says agriculture is responsible for more than 12 percent of emissions, while suffering the consequences of erratic weather, droughts, floods and declining water resources. "The agriculture sector is of key importance in the issue of climate change, both as one of the sources of the problem and as a recipient of its impacts," the report said. It also cautions that storing carbon in land and forests is not a long-term solution. After 20 years or so, land becomes saturated and stored carbon starts making its way back into the air.

54) INTO THE COLD? SLOWING OCEAN CIRCULATION COULD PRESAGE DRAMATIC – AND CHILLY – CLIMATE CHANGE The Christian Science Monitor
September 26, 2002

Internet: <http://www.csmonitor.com/2002/0926/p14s02-sten.html>

Call it global warming's dirty little secret. Those much-publicized scenarios of how carbon-dioxide (CO₂) pollution may gradually heat up the earth don't tell you another key fact: that climate has sometimes changed without warning. It can go from warm to cold – or cold to warm – in less than decade, and stay that way for centuries.

Water-circulation data from the North Atlantic now suggest the climate system may be approaching that kind of threshold. If man-made warming or natural causes push it over the edge, the system will chill down many temperate parts of North America and Europe, even while the planet as a whole continues to warm.

Terrence Joyce, chairman of the physical-oceanography department at Woods Hole Oceanographic Institution in Massachusetts, is one of a handful of scientists trying to raise awareness about this possibility. He says he is "not predicting an imminent climate change – only that once it started (and it is getting more likely) it could occur within 10 years." Mr. Joyce explains that many of the computer simulations of climate change "never predict any abrupt transition." But, he says, such an event could occur. "Abrupt climate change has been a part of our history," he says. That's what happened when the so-called Little Ice Age cut in about 500 years ago. Take a look at Bruegel's famous paintings of skaters on frozen Dutch canals to get an idea of what would be in store for regions that haven't known such harsh winters since we emerged from the Little Ice Age during the last century. There is as yet no conclusive evidence that the Dutch should stock pile ice skates. But Woods Hole director Robert Gagosian feels an urgency to settle the question. He sees enough disturbing information in the North Atlantic data, which oceanographers from

Woods Hole and other institutions have gathered, to call it "strong evidence that we may be approaching a dangerous threshold." He says we need to know whether we are blindly walking toward the edge of a cliff.

North Atlantic water circulation raises this level of concern because it is a key factor in the climate system. Broadly speaking, that system redistributes solar heat from the tropics around the planet. The atmosphere carries heat north and south in the form of warm air and water vapor. The latter releases its heat when it condenses into droplets. That's about half the distribution; ocean currents carry the rest. Winds move heat around quickly. Ocean currents can take centuries. Oceanographers call their stately flow the Great Ocean Conveyor. Warm surface currents distribute tropical heat. Deep currents carry cold water back toward the equator. Together, these currents form an interconnected system that circulates through the North and South Atlantic into the Indian Ocean and the Pacific. The "pump" that drives the conveyor is in the northern part of the North Atlantic. There, the Gulf Stream brings in warm, relatively salty water. This cools as it gives up heat to the winds that warm Britain and Europe. Cold, salty water is relatively heavy. Mingling with Arctic outflows, the Gulf Stream water sinks to great depths and flows southward. More Gulf Stream water flows in to replace it.

This circulation – sucking in Gulf Stream water at the top and forcing it down and out at the bottom – propels the North Atlantic branch of the conveyor. Shut down that pump, and you could have what Dr. Gagosian calls "dramatic" climate change. He explains in a posting to the Woods Hole website that "average winter temperatures could drop by 5 degrees Fahrenheit over much of the United States, and by 10 degrees in the northeastern United States and in Europe." The way to shut down the pump is to dilute the inflow water to the point where it is no longer salty enough to sink deeply and flow southward near the bottom. That seems to be happening now. Last April, Robert Dickson of Britain's Centre for Environment, Fisheries, and Agricultural Science, together with colleagues from Canada, Germany, and Scotland reported in Nature magazine that fresh water has been diluting the North Atlantic for the past four decades. Research by other groups confirms this trend. Joyce says the evidence "strongly suggests" the North Atlantic pump is "threatened by fresh-water dilution." The cause is unclear. It could be a subtle effect of global warming. Changes in air circulation have altered the freezing and melting patterns of Arctic ice generally. Ice in the Arctic Ocean, in particular, has thinned. Also, the Arctic has warmed to the point where melting permafrost now is a major concern. But there is no clear causal pattern to the North Atlantic fresh-water dilution. The urgent need, Joyce says, is for "specific research to clarify what is going on." That includes more upper-ocean salinity measurements and monitoring of the North Atlantic conveyor circulation.

Last December, the National Academy of Sciences released a report urging research to understand abrupt climate change generally. Richard Alley of Pennsylvania State University at University College, chairman of the Academy committee, warned at that time that "it will be a long time, if at all, before we are really good at predicting climate change...." He added, "Any reality may be very different from the predictions, and we need to anticipate changes and surprises." Right now, those climate simulations don't deal with the nasty surprises Gagosian anticipates if the North Atlantic circulation pump shuts down, as it has done in some past climate changes. Instead of half a century or more to adapt to global warming, the next 10 to 20 years might bring a climate change that would change the world and the world economy. In Gagosian's words, it could "freeze rivers and harbors and bind North Atlantic shipping lanes in ice ... disrupt the operation of ground and air transportation ... cause energy needs to soar exponentially ... force wholesale changes in agricultural practices and fisheries." Efforts to curb CO2 emissions to slow global warming would become a secondary issue as people tried to cope with more immediate challenges. Dr. Alley says there's no reason yet for alarm, although there is a case to be made for more intensive research to find out what's happening to North Atlantic circulation. He also sees a larger challenge. If drastic climate change were imminent, there is little we could do to stop it. The best strategy, he says, is to work harder now to build resiliency into agriculture, housing, energy use, and into economies generally. That's essentially the conclusion a US Department of Energy climate-change study group reached 25 years ago.

55) THEY'LL TRADE ANYTHING ... EVEN HOT AIR

New York Post

September 24, 2002

Internet: <http://www.nypost.com/business/57699.htm>

September 24, 2002 -- At last - a trading market for windbags. The NASD said yesterday it will help launch the new Chicago Climate Exchange, which was created to make a market for hot air. Does it mean that popular pundits like Donald Trump, James Cramer and ex-Merrill Lynch analyst Henry Blodget can make a quick buck by opening their mouths on the new exchange? Not really, says Richard Sandor, chairman of the exchange. When the Chicago Climate Exchange opens next spring, it will provide a market for stinky methane gasses and other emissions that cause global warming and are thus subject to regulation. "We're creating a market for companies to get credits when they reduce their emissions from factories, vehicles and landfills, as well as increase the oxygen-producing forests with tree reforestation," Sandor said. The credits can be monetized and traded among companies listed on an exchange. Just plain hot air won't cut it, he said

56) FOSSIL FUEL BURNING BLAMED FOR U.S. PARKS AIR POLLUTION ENS
September 23, 2002
Internet:

http://story.news.yahoo.com/news?tmpl=story&u=/oneworld/20020924/wl_oneworld/1032_1032867808

WASHINGTON, DC, September 23, 2002 (ENS) - The air above five of the most famous United States national parks is often more polluted than that of many urban areas, finds a new report released Monday by three conservation groups. The National Park Service countered with its own report, finding that the results of a 10 year study show that air quality is improving or remaining stable in more than half of the national parks monitored. Both reports blame fossil fuel burning power plants, industrial facilities and motor vehicles for generating the smog and haze that threatens the health and beauty of the nation's parks. The National Park Service (NPS) report "shows that in most parks, air quality exceeds standards set by the Environmental Protection Agency to protect public health and welfare," said NPS Director Fran Mainella. "Our findings also show that some parks occasionally experience pristine air quality conditions, unaffected by air pollution."

The best visibility, the NPS report found, occurs in Denali National Park in Alaska, and in an area centered around Great Basin National Park in Nevada. However, Mainella acknowledged that more work needs to be done to improve air quality and visibility at many national parks. Air pollution now impairs visibility to some degree in every national park, she noted. In 1977, Congress amended the Clean Air Act to establish a national goal of cleaning up the air over national parks and wildlands, called Class I areas. That goal has yet to be reached. "Information in this report will help us to protect air quality related values from the adverse effects of air pollution by communicating information about air quality conditions in parks to the public and to state, federal and tribal authorities," Mainella said. For more than 20 years, the NPS has been studying air quality in national park areas, with monitoring now underway at 60 NPS sites. The NPS air quality monitoring program provides information on ozone levels, acid rain and visibility impairment in parks.

The NPS report found that from 1990 to 1999, of the 28 parks that were monitored for visibility, 22 had improving visibility conditions on the clearest days. Ground level ozone concentrations were monitored at 32 parks, and the results show that while ozone levels in eight parks are improving, in 16 parks they are getting worse. Acid rain monitoring was conducted in 29 parks, including testing for levels of sulfates and nitrates in rain and snow. Twenty-five parks are showing a decrease in sulfate levels, while 14 show a decrease in nitrate levels, the NPS report found. The NPS report agreed with the report issued by the conservation groups in ranking the parks with the worst air pollution problems. "Code Red: America's Five Most Polluted National Parks," a report produced by the National Parks Conservation Association (NPCA), Appalachian Voices, and Our Children's Earth, uses an air pollution index, developed by Appalachian Voices for two earlier studies, to rank the five most polluted national parks based on haze, ozone and acid precipitation.

"In the Great Smoky Mountains, our most polluted national park, ozone pollution exceeds that of Atlanta, Georgia, and even rivals Los Angeles, California," said Harvard Ayers, chair of Appalachian Voices, a nonprofit conservation group focused on protecting forests and communities of the Appalachian Mountain region. Besides Great Smoky Mountains National Park in Tennessee and North Carolina, the "Code Red" report names Shenandoah National Park in Virginia, Mammoth Cave National Park in Kentucky, Sequoia-Kings Canyon National Parks in California, and Acadia National Park in Maine as the parks with the nation's worst air pollution. All of these parks are also cited in the NPS report, titled "Air Quality in the National Parks." The ways in which air pollution harms the parks varies. At Great Smoky Mountains, for

example, ozone pollution has violated federal health standards more than 175 times since 1998 and is damaging 30 species of plants. Acidic mountaintop clouds blanket spruce and fir tree forests, and saturate soils with excess nitrogen.

At Shenandoah National Park, visibility from Skyline Drive and the Appalachian Trail has shrunk to as little as one mile on smoggy summer days, and acid precipitation is ruining streams for native fish. At Sequoia and Kings Canyon National Parks, ozone levels surpassed human health standards on 61 summer days in 2001, posing a risk to sequoia seedlings and blocking views of the Sierra mountain scenery. The NPS report confirms that ozone injury to vegetation has been documented at Ozone injury to vegetation has been identified in Shenandoah, Great Smoky Mountains, Sequoia and Kings Canyon, as well as two additional national parks in California: Yosemite, and Lassen Volcanic National Park. At Acadia National Park, scenic views are impaired and acid rain threatens streams and lakes. Acid rain is also a major problem at Mammoth Cave National Park, where it seeps through the porous karst rock to pollute underground streams and the unique wildlife that depends upon them. The impacts of air pollution are evident throughout the National Park System, charge the groups behind the "Code Red" report. For example, Big Bend National Park in Texas was found to have some of the worst visibility in the western states, and air pollution at this park along the Mexican border is growing worse. Many other parks are not included in the report because they lack complete monitoring data, the groups noted.

Other types of air pollution, such as mercury deposits, pose risks at parks ranging from Acadia to the Everglades in southern Florida. Airborne pesticide residues from agricultural areas threaten park wildlife, the groups warn, and global warming caused by emissions of greenhouse gases could disrupt ecosystems in national parks. Most park air pollution from human sources comes from burning fossil fuels such as coal, oil and natural gas, both reports agree. Power plants and industrial facilities, as well as cars, trucks, planes, trains and construction equipment, all produce fossil fuel pollution. Power plant emissions vary by region, but this one industrial sector ranks among the worst polluters, particularly in the eastern half of the country, the reports note. For example, sulfate particles formed from sulfur dioxide emissions from fossil fuel combustion - mostly from electric generation facilities - accounts for 60 to 80 percent of the visibility impairment in the eastern parks and 30 to 40 percent of the impairment in western states, the NPS report states. Besides damaging visibility and natural resources at national parks, this pollution can also harm human health. "New statistics from the World Health Organization) show that in the United States, air pollution annually kills nearly twice as many people as do traffic accidents and that deaths from air pollution equal deaths from breast cancer and prostate cancer combined," said Tiffany Schauer, executive director of Our Children's Earth Foundation.

The "Code Red" report also assesses progress made during the decade since the passage of 1990 amendments to the Clean Air Act, the most recent changes to the law. "National parks have seen little to no improvement despite the most recent amendments to the Clean Air Act," said Don Barger, NPCA's southeast regional director. "For example, pollution from outdated power plants continues to harm parks and people, when there's no reason older power plants cannot meet modern pollution control requirements." NPS Director Mainella says the agency is working to improve air quality in parks by promoting pollution prevention practices in parks and reviewing permit applications for new and modified air pollution sources near parks. Yet just last month, the Department of Interior approved plans for a new coal fired power plant in western Kentucky that critics charge will increase air pollution at nearby Mammoth Cave National Park, which already suffers from some of the worst visibility in the nation. The "Code Red" groups argue that the Bush administration could, and should, be doing more to clean up the air over national parks.

"Air pollution in the national parks is a national crisis that requires national solutions," said Joy Oakes, director of NPCA's Clean Air for Parks and People campaign. "A key part of the solution is for the Bush Administration to enforce existing pollution laws. Unfortunately, the Administration is abandoning programs essential to cleaning up the air in our parks and communities." The groups argue that the Bush administration must implement and enforce existing programs of the Clean Air Act, such as the Regional Haze Rule, including the Best Available Retrofit Technology (BART) amendment and the New Source Review program. Current Bush administration proposals would eliminate these basic programs, weakening provisions to protect parks, the groups charge, while President George W. Bush's plan for clean air protection, called the Clear Skies Initiative, will not do enough to protect air quality in national parks, the report says. "Code Red" also makes a case for new federal legislation that would make "sizeable cuts in power plant emissions," including sulfur dioxide, nitrogen oxides, mercury and carbon dioxide. New legislation is also needed to cut emissions from mobile sources such as cars and trucks, and to increase the fuel efficiency of motor vehicles. Until these actions are taken on the federal level, the "Code Red" report

urges states to find ways to protect themselves, such as controlling in state sources of pollution. Several states are already moving in this direction, the report notes. Earlier this year, California became the first state in the nation to control greenhouse gas emissions from tailpipes.

In June, North Carolina passed the Clean Smokestacks Act, requiring the state's power plants to slash sulfur dioxide emissions by 74 percent, and nitrogen oxide emissions by 78 percent. Similar legislation has been introduced by Democrats in the U.S. House and Senate, but has been stalled by Republican and White House opposition. "Ironically, as North Carolina takes steps to improve air quality, the Bush Administration has proposed a major step backward - actually weakening the Clean Air Act," noted U.S. Representative David Price, a North Carolina Democrat. "So even though North Carolina will be doing its part to reduce pollution that causes ozone and acid rain, our state will continue to be stricken by pollution coming from other states."

57) US LAWMAKERS MAY DEAL ON DRILLING, CLIMATE CHANGE

Planet Ark

September 23, 2002 Internet: <http://www.planetark.org/dailynewsstory.cfm?newsid=17866&newsdate=23-Sep-2002>

WASHINGTON - The chairman of the congressional committee trying to hammer out a final energy bill indicated that Republican House lawmakers might accept a climate change package if Senate Democrats agreed to drilling in the Arctic National Wildlife Refuge. As Senate and House negotiators try to finish a broad energy bill before Congress adjourns next month, two of the more contentious issues still to be worked out are whether to allow oil drilling in Alaska's ANWR and implementing a program to reduce global warming emissions from industrial facilities like power plants. "The Senate very clearly wants to have climate change in the bill. We very clearly on the House side want to see ANWR in (the bill). There may be room for discussion," Rep. Billy Tauzin of Louisiana told reporters. U.S. President George W. Bush last year withdrew the nation from a global treaty to reduce heat-trapping gas emissions because of concerns such a move would hurt the U.S. economy. Senate Democrats want to spur action through the energy bill.

Tauzin's hint at possible "horsetrading" among lawmakers is an important step to settle major differences between the Senate and House on how to overhaul U.S. energy policy for the first time in a decade. While the House voted in its energy bill to allow drilling in ANWR, the Senate's energy legislation kept the refuge closed to oil firms. Separately, the Senate voted to maintain a federal registry that companies would voluntarily provide information to on their efforts to cut greenhouse gas emissions. However, the registry would be mandatory after five years if it accounted for less than 60 percent of all U.S. greenhouse emissions. The House's energy bill did not include a climate change provision. "There might be a trade there. We'll look for it," Tauzin said. "Everything is on the table."

58) THE FIRST GLOBAL WARMING REFUGEES

The Scotsman

September 20, 2002

Internet: <http://www.thescotsman.co.uk/international.cfm?id=1043362002>

STRIPPED to his shirt sleeves on a desolate polar beach, the Inupiat Eskimo hunter gazes over his Arctic world. The midnight sun catches on the waves surrounding his island village. The town sits amid the ruins of dugouts that his ancestors chipped from the permafrost when Pharaohs were erecting pyramids in the hot sands of Egypt. His children and their cousins play tag on a hillock where his wife's parents and their parents are buried. Thousands of years ago, hungry nomads chased caribou here across a now-lost land bridge from Siberia, just 100 miles away. Many scientists believe those nomads became the first Americans. Now their descendants are about to become global warming refugees. Their village is about to be swallowed up by the sea. "We have no room left here," Tony Weyiouanna, 43, said. "I have to think about my grandchildren. We need to move." Weather dictates survival in the Arctic. Always it has been the fearsome cold that meant life or death. Now, native Alaskans are alarmed by a noticeable warming trend. Average temperatures in the Arctic have risen more than 2.2C since 1971 - about the same time, coincidentally, that the first snowmobile made an appearance.

Mr Weyiouanna remembers: "It was mind-boggling to see a sled move without dogs pulling it." Snowmobile aside, this is still a very rustic village. Its breakwater of sandbags, tires and rusting vehicles is often breached by storms. Recently, four homes tumbled into the sea as villagers huddled in the Lutheran church. Fuel and water tanks teeter just a few strides from the brink. Another gale or two and the entire island - a half-mile at its widest, 10ft at its highest - could be swamped. Mr Weyiouanna's ancestors simply would have loaded their dogsleds and munched inland. But in modern times, moving a town means Shishmaref's 600 residents must vote. It will cost at least £70 million, the US Army Corps of Engineers says. It's a staggering sum even by Shishmaref standards, where a light bulb costs £7 at the Nayokpuk Trading Company.

Residents believe the government will pay, although state and federal officials say no relocation fund exists. It is an upheaval many Americans might face in coming decades. In June, the Bush administration submitted a report to the United Nations acknowledging for the first time that climate change is real and unavoidable. The administration recommends adapting. Still unresolved is whether rising temperatures are caused by smokestacks and traffic jams pumping more heat-trapping emissions into the atmosphere. Or, natural variations in the complex relationship between the oceans, the atmosphere and the sun. The army has a £2.1 million plan to rebuild the island's leading edge with bargeloads of rock. But the money can only be used for erosion control, not relocation. The Corps offers to design a breakwater that is more effective. The other option is to move. Three village women open the bingo hall and stretch the Stars and Stripes across the wall. They unfold two portable, metal voting booths and tack a sample ballot to the door. It reads: "Do you want to relocate the Community of Shishmaref?" To vote: "Mark an X to the right of Yes or No."

NO DANGLING CHADS HERE.

An hour ticks by. Winfred Obruk, who runs the village generator, wanders in. He drops his ballot into the locked box, tapping the lid twice for emphasis. At 63, he says he is ready to abandon the only home he's known. "There's nothing else we can do," Mr Obruk said. "The storms make you feel kind of small. It feels odd to move, but that's nature." For a valid referendum, Shishmaref needs 40 per cent of its 341 registered voters to cast ballots. The village's median age is about 20. Most youths stay up late hunting, playing video games or cruising the beach on 4x4s. By mid-afternoon, some were persuaded to vote. They want to go anywhere, it seems. "I went to school on the mainland," said Leona Goodhope, 19. "And when I came back, my house was gone. They moved it to the other side of the village, or it would've fallen in." At 8pm, the election judges put down their copy of the National Enquirer to hand-count the ballots. Outside, a crowd gathered for bingo. The vote: 161-20. Shishmaref will move. Nobody cheered. The island still could be used as a summer fishing camp, said Mr Weyiouanna. He will become a bureaucrat and co-ordinate relocation planning. "We will be putting money into the move," he said, "and not pouring it into the sea." The favoured spot for this £70 million move? Five miles east.

59) CLIMATE CHANGE AFFECTS DEVELOPMENT - KHALEDA

Gulf News

September 20, 2002

Internet: <http://www.gulf-news.com/Articles/news.asp?ArticleID=63590><http://www.gulf-news.com/Articles/news.asp?ArticleID=63590>

Prime Minister Khaleda Zia yesterday said the impact of climate change adds additional complexities and burden to planning for sustainable development. "It's a real challenge for the governments of the Least Developed Countries (LDCs) to simultaneously address the issues of climate change and sustainable development," she told the inaugural session of a three-day LDC Expert Group Workshop at Dhaka Hotel Sheraton. More than 140 participants from 46 countries and representatives of donor countries and organisations are taking part in the workshop on Capacity Building for Preparation of National Adaptation Programme of Action. The Ministry of Environment and Forest and the United Nations Development Programme (UNDP) organised the workshop in association with the LDC Expert Group on Climate Change. Ministers, political leaders and a large number of environmentalists attended the session.

Addressing the session, the prime minister pointed at the impact of global warming, saying that for some countries it might be mere "lifestyle threatening" but for others it is "life threatening". She said the least developed countries faced the worst effects because of their dependence on agriculture and a natural resources-based economy. Referring to the international summit on global climate to be held in New Delhi

next month, she said the LDCs require more interaction and dialogue among themselves for working out a common strategy before negotiating with larger groups. She assured Bangladesh's total cooperation in these efforts. Khaleda said Bangladesh, as the most densely populated, deltaic and low-lying country, is extremely vulnerable to climate change.

60) STUDY: EARTH TO WARM EVEN IF GREENHOUSE GAS CUT

Reuters

September 19, 2002

Internet:

http://story.news.yahoo.com/news?tmpl=story&u=/nm/20020919/ts_nm/environment_warming_dc_2

WASHINGTON (Reuters) - Earth's climate will warm up over the next 50 years, whether or not greenhouse gases are curbed soon, U.S. researchers reported on Thursday in a NASA study. If nations cut back on emissions, it will not heat up as much, but it will still be hotter than it is now, according to a computer climate model. "Some continued global warming will occur ... even if the greenhouse gases in the air do not increase further, but the warming could be much less than the worst-case scenarios," lead researcher James Hansen said in a statement. If emissions continue to increase at the current rate, global temperatures may increase by 2-4 degrees Fahrenheit (1-2 Celsius) the study found. But if carbon dioxide emissions do not increase any faster than they are now and if nations cut emissions of true air pollutants -- those harmful to humans -- temperatures might only rise 1.4 degrees Fahrenheit (.75 Celsius).

The climate model provided a convincing demonstration that global temperature change of the past half-century was mainly a response to climate forcing agents, or imposed perturbations of the Earth's energy balance, researchers found. This was especially true of human-made forcings, such as carbon dioxide and methane, which trap the Earth's heat radiation as a blanket traps body heat. Hansen is based at NASA's Goddard Institute for Space Studies in New York City, but the research was a collaborative effort among 19 institutions, including seven universities, federal agencies, private industry and other NASA centers, and was funded by NASA. The results appear in the current Journal of Geophysical Research-Atmospheres

61) WORLD FACING INCREASED CLIMATE CHANGE: CSIRO

Abc.net

September 20 2002

Internet: http://abc.net.au/news/scitech/2002/09/item20020918181156_1.htm

Australian scientists are predicting that future climate change will occur more rapidly in the next 100 years, prompted by increasing carbon dioxide levels in the atmosphere. Australian researchers have just completed their first climate model predicting the world's weather thousands of years into the future. CSIRO oceanographer Steve Rintoul says in the next 100 years, even if global warming does not increase, sea ice will still melt in the Antarctic and at the North Pole.

Water from the ice will be too light and fresh to sink into the deep ocean leaving it without fresh oxygen, currents and ocean circulation in the lower depths will slowly grind to a halt. Dr Rintoul says without circulation in the southern ocean, it will not act as a carbon sink, and there will be more carbon dioxide in the atmosphere "As that circulation slows it carries less carbon dioxide from the sea surface down into the deep seas," he said. "That will lead to climate change happening at a more rapid rate than if the southern ocean currents stayed as they are today."

62) BANGLADESH PM CALLS ON POOR NATIONS TO FACE CLIMATE CHANGE CHALLENGES

Space Daily September 19, 2002

Internet: <http://www.spacedaily.com/news/020919151618.7noowqh4.html>

Bangladesh Prime Minister Khaleda Zia called Thursday on both rich and poor nations to work against climate change, as she opened an environmental conference involving representatives from 46 developing countries. Zia, speaking to some 140 delegates from the Least Developed Countries forum, said that greenhouse gases emitted by developed countries also impacted on the poor world. "Public pressure on policy-makers in the developed countries needs to be mounted to address the problem," she said. "We have only one earth to live in. Once some of its parts are affected by environmental disasters, other parts will not remain safe." The 1997 Kyoto Protocol on global warming is opposed by US President George W.

Bush's administration, which says the treaty does not bind China, India and other fast-growing, populous countries to target their emissions. The United States accounted for 36.1 percent of the world's greenhouse gas emissions in 1990.

Environment officials here said Bangladesh, with a population of 129 million crammed into only 147,570 square kilometers (56,977 sq miles), was extremely vulnerable to climate change and global warming from greenhouse effects. "A meter sea-level rise will permanently inundate about 11 percent of Bangladesh territory," they said, adding the vast coastal Sundarban forest, the world's largest mangrove and a UNESCO-declared world heritage site, could be in jeopardy. Zia said climate change added "negative burdens to planning for sustainable development" and noted that poor countries had to meet the challenge of global warming "within their limited resources". She said Bangladesh had taken measures to contain pollution. Bangladesh this year banned production and use of hazardous polybags and is forcing out of the capital, Dhaka, two-stroke three-wheel taxis, which are blamed for emitting polluting exhaust. Bangladesh's environment ministry and the United Nations are organising the three-day conference

63) CLIMATE CHANGE THREATENS LONDON'S FUTURE - REPORT

Reuters

September 14, 2002

Internet: http://reuters.com/news_article.jhtml?type=sciencenews&StoryID=1449570

LONDON (Reuters) - Flooding as a result of global warming threatens one in every 13 British homes and could even erode London's role as a international commercial center, the Independent newspaper said on Sunday. Citing a new government report, it said buildings and land worth 222 billion pounds were under threat from global warming, which it describes as "the greatest threat facing the world community." The report by the government's Energy Savings Trust, which was handed privately to ministers on Thursday, is one of the starkest official warnings yet of the cost of climate change. "A long term policy aimed at slowing down and ultimately reducing car ownership, as well as use, will be necessary to have any real impact on transport emissions," the report said. This month's marathon Earth Summit in Johannesburg was widely criticized by environmentalists and vulnerable Pacific nations for barely touching on the problem of global warming.

The United States was singled out for criticism. President Bush has pulled out of the 1997 Kyoto pact, under which developed nations agreed to rein in emissions of greenhouse gases blamed for warming the atmosphere. About half of the 222 billion pounds of property under threat in Britain is in the Thames region around London, threatening the capital's future "as an international center for trade and commerce," the report said. Some five million people living in 1.8 million homes risk being inundated by rising seas and increased rainfall, as does "61 percent of the total of grade one land in England and Wales."

EDITORIAL

64) INSURING IT ENDS IN A FLOOD OF TEARS by Jeremy Leggett

The Guardian

October 14, 2002

Internet: <http://www.guardian.co.uk/business/story/0,3604,811232,00.html>

Jeremy Leggett is associate fellow at Oxford University's environmental change unit and chief executive officer of Solar Century, the UK's largest solar electric power company. His 10-year history of global warming, The Carbon War, is available via www.carbonwar.com

The unravelling of Anglo-Saxon style capitalism has continued in recent weeks with the realisation that the insurance industry's core business doesn't work.

Competitive paring of rates by insurers to attract premium income, par for the course for years, has meant that even a mild crop of disasters can render insurance unprofitable. This was acceptable as long as investment returns could compensate. Now, with the demise of the bull market and consequent withering of investment returns, they can't. All this is playing out on a stage that is largely ignoring the risk of global warming. But as the United Nations environment programme pointed out in a report this week, this danger

is real and present. As long ago as 1993, I listened to a director of Lloyd's of London warn that enhancing the greenhouse effect could bankrupt not just Lloyd's but the entire global insurance industry. By 1995, I had also heard industry leaders warn of a greenhouse-triggered global insurance crash. In 1997, the world's largest reinsurance company, Munich Re, went further still. It warned that the ripple effects from such a crash could topple global capital markets.

The insurance industry takes well over a trillion dollars in annual premiums. Much of this income is invested. Several hundred billion dollars are retained for property catastrophe losses, which mainly involve earthquakes and climatic disasters. Although losses in recent years have been unprecedented, they have not exceeded a quarter of the reserve pot in any one year. But in a warming world, disasters are likely to be more numerous, and more intense. And to date, amazingly, no climate catastrophe has hit a city in a developed country.

The worst-case scenario for insurers works like this. The dice finally roll unkindly. A full-blown hurricane hits New York, say. A drought-related wildfire sweeps into Los Angeles. It would take only a few catastrophes like these to drain the industry's reserves. A machine-gun volley of smaller catastrophes could have the same effect. Even on current bullet-dodging trends, one of the industry's most eminent climate experts, Andrew Dlugolecki, has warned that, in a world doing nothing about greenhouse gas emissions, net wealth destruction will exceed net wealth creation by 2065. What has the insurance industry done about this threat to its profitability and indeed survival? Virtually nothing. Not a single full-time lobbyist has been deployed. The fossil-fuel industries deploy hundreds. Some companies joined an initiative set up by the United Nations environment programme. Despite UNEP's best efforts, it has become a mere talking shop. Only a few companies have instigated unilateral initiatives. The insurance industry is at its most dysfunctional when it comes to investment. Most of the climate-risk whistleblowers come from underwriting departments. They are people who understand risk. The investment departments, meanwhile, behave as though global warming has no price implications. They invest much of their vast income in energy, mainly in fossil fuels - which is of course the primary source of greenhouse gas emissions.

I have been saying this situation cannot last since 1993. I still believe it cannot last. But the collective irresponsibility of the insurance industry now beggars belief.

Of course, the industry could begin the process of risk abatement belatedly by serious investment in renewable energy. But increasingly the insurance industry is reminiscent of the Bismark. Hit by a few shells from the collapse of the bull market, the ship is ablaze already, without much of a rudder. Global warming could provide the salvoes that sink it at any time, now

65) KYOTO AT THE WTO by Christopher C. Horner

National Post October 11, 2002

Internet: <http://www.nationalpost.com/financialpost/story.html?id=%7B4E4F16D4-6320-4C95-A5C7-AE7BEE56330C%7D>

Christopher C. Horner is a senior fellow at the Competitive Enterprise Institute in Washington, D.C.

The Kyoto Protocol was not formally on the agenda at the Johannesburg World Summit on Sustainable Development. Russia -- one of only two countries now able to dictate Kyoto's fate -- nonetheless made news by declaring, again, that it will soon ratify Kyoto. This announcement, combined with European Union threats, imperil the global trading system. The Bush administration has appeared to be paying little attention. Hopefully, a recent petition to the EU Trade Commissioner by Friends of the Earth-Europe (FOE) will change that. If Russia ratifies, Kyoto will have attained the requisite numbers to go into effect against nations that have voted to accept it. The EU has made clear its intent, either through U.S. participation in Kyoto or otherwise, to extract Kyoto-style economic pain from the United States (which, Bush administration rhetoric notwithstanding, remains a non-ratifying signatory). The EU apparently intends to claim that all U.S. goods are impermissibly subsidized by the United States' refusal to adopt Kyoto-style energy taxes. Last week, FOE fired the first shot in this inevitable conflict, demanding the EU apply penalties against energy-intensive U.S. products in retaliation for the United States not going along with Kyoto.

Such a penalty, or alternatively an EU "eco-dumping" suit, would force the pro-growth World Trade Organization to address anti-growth multilateral environmental agreements (MEAs) such as Kyoto. It is not

clear whether the WTO, confronted with this conflict, would remain true to its pro-growth mission. Such a suit would also trigger a landmark battle over the freedom of states to refuse to adopt the policies of others, without incurring penalty for unfair trade practice. Further, this would raise sharp questions about the Bush administration's curious refusal to withdraw from Kyoto -- as it did from the Rome Treaty's International Criminal Court -- which as a matter of law hobbles the United States' ability to defend itself. Independent of the FOE effort, EU rhetoric indicates it will approach the WTO with a complaint about U.S. economic policies. Doubtless accompanied by specious claims of scientific certainty, its plea would claim that the U.S. refusal to follow the EU's greenhouse gas (Kyoto) path constitutes impermissible protectionism and/or "eco-dumping." Incredibly, the WTO has indicated a willingness to accept such an argument, also advocated by some as a path to "harmonize" the otherwise incompatible pro-trade and anti-energy pacts.

The WTO claims its "overriding purpose is to help trade flow as freely as possible" by eliminating economic barriers to increased productivity, trade and global economy. Kyoto, on the other hand, restricts energy-use emissions and penalizes parties who refuse to abide by energy-use edicts. Energy use is a solid measure of economic activity. Despite being wrapped in "green," therefore, Kyoto is in reality an economic instrument. Kyoto's advocates expressly deny the connection between quality of life, or satisfaction, and increasing gross national product. This represents the antithesis of globalization. Reconciling the WTO and Kyoto documents, as opposed to litigating the conflict, requires involving economic and trade ministers as well as their environmental counterparts. The former individuals tend to possess an awareness and acceptance of the role that economic wealth plays in improving the human and environmental condition; in contrast, most environment ministers often buy into the "people are pollution" ideology and objectives. Further, at that ministerial level lesser developed countries overwhelmingly prefer the WTO's pro-growth goals to the Kyoto agenda, despite the latter's wealth transfers. They know that only a prosperous West can ensure their own escape from poverty and dependence. Now, their conviction is penetrating into the chambers of even some European governments long supportive of Kyoto. Germany's economic minister has spoken out against mindless carbon dioxide suppression.

Still, last year EU Environment Commissioner Margot Wallstrom revealed the mindset of the European policymakers. "[Kyoto] is not a simple environmental issue where you can say it is an issue where the scientists are not unanimous," she said. "This is about international relations, this is about economy, about trying to create a level playing field for big businesses throughout the world." To the EU, Kyoto is about the United States' "unfair tax competition," its government consistently refusing to match the Europeans' zeal for taxing energy use to modify behaviour, particularly repressing automobile use and population. As a result, according to Yale University economist William D. Nordhaus, the United States not ratifying Kyoto "is likely to engender trade disputes because it widens the already large disparities in energy prices between Europe and the United States." Any treaty threatening the economic health of nations will ultimately collapse of its own potential harm, though not without first wreaking havoc. As the Bush administration seeks to reshape U.S. foreign policy, one important step would be to abandon Kyoto once and for all, with its built-in appeasement of ideological extremists seeking to impede global prosperity. To date, however, the Bush administration's abandonment has been purely rhetorical. This is problematic because there is no doubt that both "customary law" (international common law) and Article 18 of the Vienna Convention on the Law of Treaties require a non-ratifying treaty signatory to communicate its withdrawal or be held to "not violate the treaty's purpose or objective." This is why the United States withdrew from the ICC -- Americans could have their standing challenged, for example to object to the abduction of an ICC-indicted serviceman. Similarly, this means Americans would likely be denied standing to object to EU retaliation or enforcement of Kyoto's objectives. That merely adds to the reasons why President Bush should finally and actually withdraw from Kyoto. That act would, however, merely facilitate a fair fight in the looming battle over Kyoto et al. before the WTO.

66) DIRTY AIR FUELS GLOBAL WARMING by David Suzuki

ENN

October 8, 2002

Internet: http://www.enn.com/news/enn-stories/2002/10/10082002/s_48618.asp

While Alberta and the fossil fuel sector trade jabs with clean energy advocates over the Kyoto climate treaty, the science of climate change marches on.

The political world may have been slow to tackle the challenge of global warming, but the scientific community early on recognized the enormity of the problem and set about to better understand the Earth's climate system. One of the more perplexing factors of climate is the role of aerosols. Although most people probably associate aerosols with things like hair spray, scientists actually use the term to refer to fine particles suspended in the air. These particles are a mix of salts, mineral dust, carbon, and other ingredients. Some aerosols come from natural sources, like volcanoes, but most are from human activities, such as burning wood and coal.

These particles are bad for human health and they can also alter the climate. Some of them reflect sunlight back into space — and thus cool the Earth to certain extent — while others absorb sunlight, heat the air, and contribute to global warming.

It is the latter particles, called black carbon or soot, that have especially interested scientists because many of our dirty energy sources like coal, wood, and diesel produce it in large quantities. And scientists say that it may be the biggest single contributor to global warming after carbon dioxide. We can see soot in the air on smoggy days in our cities; it forms part of the brown haze that covers urban areas. But soot is much worse in many developing countries like China and India, which use far more coal and wood as fuel for industry, heating, and cooking. These fuels are inefficient and dirty at the best of times. Using old, wasteful combustion technologies (in many cases simply open cooking fires) makes them even worse. The resulting air pollution in the towns and cities of many developed countries has become a terrible health hazard. Soot is known to cause cancer and is a major cause of illness and death in these areas. All that soot in the air is also having a significant effect on regional climate. A recent study published in the journal *Science* reported that soot emissions from China and India may be responsible for increased droughts in northeast China and floods in southeast parts of that country. Northeast China has suffered from increasingly severe dust storms that may be due to a combination of poor land-use practices (such as overgrazing and forest destruction) and the effects of soot on the area's climate. Soot and other particles in the air are also thought to be blocking sunlight, reducing photosynthesis and lowering crop yields. Last year, a plume of soot and dust from Asian storms actually found its way across the Pacific to North America.

If soot is such an important factor in regional climate change, does it mean that we should be going after China and India to reduce their soot emissions, rather than reducing our own greenhouse gas emissions as is required by the Kyoto Protocol? No. It means we should be doing both. But it should be done fairly. Developed and developing nations are not exactly on a level playing field. Telling an auto company that it needs to make more fuel-efficient SUVs and telling a Chinese peasant that her cooking fire needs to produce less soot are not exactly equal on the fairness scale. And unlike greenhouse gases, which build up in the atmosphere and contribute to an overall warming effect for hundreds of years, soot's effect on climate is more localized and short-term. So we have to address both problems. The Kyoto Protocol offers us a starting point because mechanisms built into the treaty allow developed countries to fund energy-efficiency projects in the developing world and obtain greenhouse gas credits for the emissions reduced. Wise use of such mechanisms could be beneficial to both parties and also start to reduce the substantial health and environmental damage caused by soot.

67) WINDS OF CHANGE : THE FUTURE LOOKS BRIGHT FOR ONE SOURCE OF RENEWABLE ENERGY BY CRISPIN AUBREY *The Guardian* September 25, 2002

Internet: <http://society.guardian.co.uk/societyguardian/story/0,7843,797954,00.html>

Crispin Aubrey is editor of *Wind Directions*, the magazine of the European Wind Energy Association.

The North Sea port of Esbjerg promotes itself as Denmark's one and only oil town, but nowadays its docks are filled with the tall towers, giant white fibreglass blades and solid steel foundations of a rival power supplier. Twenty nautical miles out to sea, the world's largest offshore wind farm is being built. On a windless day, the rows of 70-metre high towers loom up from the depths, each supported by a pile driven up to 26 metres into the sea bottom. Eventually, there will be 80 wind turbines. With the piles alone weighing 150 tonnes each, this is a major marine construction site. It's also a sign that the wind energy industry has entered a new phase in which the seeds of technological maturity are bearing fruit in economies of scale. When the job is finished in November, and the power flowing back to shore through undersea cables, the Horns Rev wind farm will supply enough carbon-free electricity for 150,000

households - about 2% of Denmark's total demand. "This isn't just a collection of windmills," says Jens Nybo Jensen, from the company which backed the development. It will be a real power station."

Horns Rev is supported by government, its grid connection costs met by the state. But there are many other major offshore wind projects moving ahead in Europe, backed by a range of incentives, all driven by the need to combat climate change and meet the targets set at Kyoto. Dwarfing Denmark's ambitions, more than a dozen companies have plans for up to 12,000 megawatts (MW) of wind farms around the shortish coastline of Germany. Some will be built up to 60km from the shore, in water up to 35 metres deep, to avoid coastal wildlife parks. Last year, the first construction permit was granted by the German national maritime authority to the pilot phase of a 1,000 MW development off the North Sea island of Borkum, prompting other developers to accelerate their pace. Off the Netherlands, a privately financed offshore park of 60 large turbines looks likely to upstage a state-backed project of similar size. In Belgium, several rival schemes are on the cards. In Ireland, a 500 MW park off the eastern coast now has approval to go ahead. And even in Britain, a laggard until now, 18 companies have approval to pursue 1,500 MW of offshore plans. The first should start building later this year at Scroby Sands, off the Norfolk coast. All this adds up to more than 20,000 MW planned in northern European seas alone - and an investment of roughly £20bn.

Offshore may be the new frontier - with the stronger and less turbulent wind regime out at sea justifying the extra cost of construction - but larger wind farms are forging ahead on land as well. In Spain, they have been the norm for some time, with multi-turbine developments marching across the plains and sierras. With plenty of space and driving winds, Spain is now second in Europe's wind power league. Scotland is also going big on wind, with 11 planned wind farms of more than 50 MW in size. The largest would have 250 turbines spread across the moors of Lewis, with backing from AMEC and nuclear generator British Energy. Opponents argue that it could devastate the landscape, but local council approval of wind farms has been more forthcoming north of the border than in Wales or England. Across the Atlantic, the US wind industry is experiencing a major revival, with 1,700 MW installed last year alone. Ironically, Texas, right in the Bush backyard, now has the world's largest wind farm, the 250 MW King Mountain scheme, built by a team led by UK company Renewable Energy Systems. One reason why the wind industry has been able to embark on larger projects is that it is now trusted by the banks, whose loans are crucial to its progress. European investment analysts have issued glowing reports over the past year or so, praising the technology's potential. This has brought in a new wave of investors keen to share the clean power dividend. Most dramatically, these include oil giant Shell, which recently bought up two large wind farms in the US, and multinational General Electric, which snapped up Enron Wind after its fortunes got entangled with those of its bankrupt parent. This shift has even brought a smile to the face of Greenpeace, keen to see oil companies in particular moving into renewable energy.

What wind energy has proved is that it is possible to move from the marginal into the mainstream with clear financial incentives and technology innovation, cutting both costs and emissions in the process. A new report from Greenpeace and the European Wind Energy Association projects that wind could be supplying 12% of the world's electricity by 2020 if the threat of climate change is taken seriously. If so, can solar and wave and biomass be far behind, making a 100% renewable supply a feasible reality?

68) EMBRACE KYOTO ... OR WE WILL SURELY FACE A DRY AND DUSTY FUTURE by Bob Carr
Smh.com

September 16, 2002

Internet:

<http://www.smh.com.au/articles/2002/09/15/1032054711097.html>

Bob Carr is the Premier of NSW.

Australia will be hard-hit by global warming unless it acts now on environment protocols, writes Bob Carr. Just over a month ago I stood in a bare, dusty field next to a dried-up dam on a grazing property outside Bourke. This drought is not caused by the greenhouse effect, but it gives us a taste of a burnt-out future. Global warming will shrivel flows in the Murray Darling by 20 per cent and take a lot of arable land out of production. If the planet continues to heat up, Australia will suffer. But let's set aside the environmental imperatives. On grounds of economic self-interest alone Australia should ratify the Kyoto protocol. The network of agreements created by Kyoto mean trading opportunities and incentives for new

industries and huge funds of global capital for investment in clean power. But by standing aside from Kyoto we'll be left behind. In 1998 the NSW Government was the first in the world to legislate for carbon rights, and the Tokyo Electric Power Company has already committed to 3000 hectares of new plantations on the North Coast. Our legislation measures the sequestered carbon locked in the trees. This gives the company carbon credits it "banks" in Japan. Australia will only be able to attract more of this type of investment if we ratify Kyoto. If we don't, it will dry up. Moreover, the protocol creates penalties for non-compliance with environmental standards. Japanese trading houses may only be prepared to buy commodities like coal that have carbon credits linked to them. And just last week Japan announced that it would introduce a tax on coal imports from April, adding an additional \$4 billion to the price of Australia's coal.

AUSTRALIA IS JUST BEGINNING TO EXPORT CLEAN TECHNOLOGIES. Global Renewables has developed a way to transform garbage into energy, which means no landfill and no methane - a gas worse than carbon in greenhouse impact. The company recently signed a joint venture agreement to operate the waste management of China's Taizhou, a city of 5.2 million people. This project, worth \$200 million over three years, will earn \$500,000 in carbon credits each year. These credits have been sold to BP. Global Renewables could not use them here because the Prime Minister has kept Australia out of this world trading system established under Kyoto. What would happen if the Chinese were to declare the 2008 Olympic Games will not only be green, but also Kyoto-compliant? That is, they would generate no net carbon emissions. Australian companies should be at the forefront of achieving this but they would likely be locked out. The cost of climate change on our economy will be harsher than the costs of meeting Kyoto targets. Modelling by the Australian Bureau of Agricultural and Resource Economics from last October estimates that implementation of Kyoto could lead to GDP growing by about 0.17 per cent less than would otherwise be the case by 2010. That's 0.17 per cent less when, through the same period, GDP is expected to rise by about 40 per cent.

Looked at this way, if Australia were to sign the Kyoto protocol by 2010, our economy would take a mere three extra weeks to reach the expected 40 per cent growth. Do we reach our growth potential on January 1, 2010, while doing little to address the biggest environmental threat to our country? Or do we wait until January 22, 2010, while acting in our environmental interest? Some US state governments are ignoring Washington and adopting ambitious greenhouse gas reduction programs. For example, all the New England states have joined with Canada's eastern provinces to reduce emissions to 1990 levels by 2010, and 10 per cent below 1990 levels by 2020. NSW's greenhouse benchmark scheme means energy retailers will have to meet compulsory per capita-based emissions reduction targets every year to 2006-07. Retailers can do this by sourcing electricity from low carbon fuels and renewables like wind and solar, or by introducing measures to reduce demand.

This will stimulate further investment in renewable technologies. It will quicken energy efficiency and we will see new carbon sinks through forestry plantations. It will help ensure that NSW's businesses and industry are not left behind in the Kyoto world. If the NSW measures were to be expanded to the whole of Australia's national electricity market, then 35 million tonnes of carbon emissions would be cut each year. That puts us in the Kyoto targets. The country could then sell 15 million tonnes of abatement credits to German steel manufacturers or Chinese power generators. This would earn Australia as much \$800 million a year. As I read the scientific reports and the economic analysis my mind returns to that dry landscape near Bourke. We must do all we can to avert an even drier, dusty future. With my heart and my head I believe we should ratify the Kyoto protocol.