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GENERAL NEWS

1) NUCLEAR ENERGY'S PLACE USURPED BY WIND AND WAVES

The Observer

February 16, 2003

Internet: <http://politics.guardian.co.uk/green/story/0,9061,896762,00.html>

No more nuclear power stations will be built in the foreseeable future as the Government turns to wind and wave energy to provide Britain's future electricity needs. In a seismic shift in policy, Ministers have agreed to back renewable energy as the best way of meeting the UK's targets to reduce carbon dioxide emissions. The long-awaited energy white paper will plunge the nuclear industry into fresh crisis by rejecting demands to build new plants. Until now, government support for renewables has been patchy due to concern that Britain would not meet its carbon emissions targets.

The white paper, which sets out the UK's future energy strategy, will be unveiled by Patricia Hewitt, the Secretary of State for Trade and Industry, later this month. Sources who have seen its final draft - agreed by cabinet Ministers last week - confirmed that nuclear power had been superseded by renewables as the Government's preferred way of providing power in the future. 'What is clear is that the Government does not want to build a new generation of nuclear power stations if renewables and energy efficiency can deliver,' said one.

However, plans to produce a fifth of the UK's electricity from renewable sources by 2020 have been controversially abandoned. The nuclear industry had wanted to build another 10 stations; however, Ministers are increasingly concerned about their potential as a terrorist target and safety concerns persist on the reprocessing of nuclear waste. Confidence in the nuclear industry has failed to recover since the £650 million bail-out of British Energy, the

privatised nuclear power generator, underlined concerns over its long-term viability. The future of the nuclear industry will be reviewed in 2005 alongside plans for a major increase in funding to the renewable sector.

However, sources said the next two years would be spent examining improvements in 'green' technology in order to create a watertight case against expanding nuclear power plants. Bryony Worthington, energy expert for Friends of the Earth, said: 'We are delighted that the white paper has rejected the nuclear industry's calls for more assistance.' In addition to pledging support for wind and wave energy, the white paper will also place heavy emphasis on reducing carbon dioxide emissions through energy efficiency. The preferred option is to reduce heat lost in homes through boilers and heating systems with a campaign to encourage homeowners to install better insulation.

A European-wide cap on carbon emissions from coal-fired power stations will be brought in during 2005. Environmentalists also welcomed the fact that demands by the nuclear industry to help build a new generation of nuclear plants by streamlining planning policy had been ignored. The white paper also represents a major snub to the national academy of sciences, which has urged the government to end its self-imposed moratorium on building nuclear power stations. Defence analysts have warned that nuclear power stations remain a key - and vulnerable - terrorist target. A report by the influential thinktank close to New Labour, the IPPR, suggested a plane flown into the intermediate level waste stores at Sellafield could lead to 30,000 deaths within two days.

2) RABO INDIA UNVEILS CARBON ADVISORY SERVICES

Business Standard

February 15, 2003

Internet: <http://www.business-standard.com/today/story.asp?Menu=2&story=8134>

Rabo India, the 100 per cent of the Netherlands-based, \$300 million Rabo Bank, has launched carbon advisory services in India. The bank will arrange sale of certified emissions reductions (CERs) under the clean development mechanism from projects in India to the Dutch government. It has also tied up with Winrock International India to offer comprehensive advisory services to clients. It will offer financial and technical resources to projects which take up reduction of the harmful greenhouse gases (GHGs) in the environment. Rabo Bank International had recently signed an agreement with the Dutch government to contract 10 million tonne of GHG emission reductions from sustainable energy projects in developing countries over a 2-year period.

The credits are to be delivered over a 10-year period. "India is one of the major potential sources of CERs identified by Rabo Bank. However, countries like Brazil, Argentina and Philippines also offer comparable advantages," said Rana Kapoor, chief executive officer and managing director of Rabo India Finance. In the first sale of its kind in the country, it is currently arranging for sale of CERs from the Goetze India (GI) Group to the Netherlands. The GI group is selling credits for its 30.6 mw wind energy installations in Maharashtra and Karnataka. It is expected to deliver half a million tonne of CERs over a 10-year period. The tentative price for the sale is \$4.50 per tonne. "Sale of CERS will enhance the financial viability of the project," said Kapoor, since cost of technology, especially in the non-conventional energy sector in a country like in India, is fairly high.

Supporting him, T C Prabhu, executive director, GI Power Corporation, said that in case of biomass, the carbon credits are 7 times those in wind energy installations. "At \$4.50 a tonne, a third of the cost of the project comes in by way of payments for carbon credits," he added. Developed countries are buying carbon credits in anticipation of the Kyoto Protocol becoming effective. The Protocol aims at reducing GHG emissions from developed countries

(annex I countries) by 5.2 per cent compared with the level of emissions in 1990. Developed countries have to reduce emissions by 515 million tonne and have the freedom to reduce their own emissions or to buy carbon credits from emission abatement in non-annex I countries. The Protocol, which was recently ratified by Canada, will become effective once Russia ratifies it. Once ratified, the demand for emission reduction credits will push up the price from the current range of \$3-5 per tonne. India ratified the Protocol in October 2002 and is generally viewed as a major potential source of carbon credits.

3) EU AND US IDENTIFY JOINT RESEARCH INITIATIVES TO COMBAT CLIMATE CHANGE

Cordis

February 14, 2003

Internet:

<http://www.eubusiness.com/cgi-bin/item.cgi?id=103384&d=1&h=240&f=56&dateformat=%25o%20%25B%20%25Y>

Following the conclusion of the first bilateral 'US-EU joint meeting on climate change science and technology research', the two sides have announced plans to initiate collaborative projects in six areas of climate research. The joint meeting took place in Washington from 5 to 6 February, following an invitation from Under Secretary of State for Global Affairs Paula Dobriansky to European Research Commissioner Philippe Busquin.

The delegations identified suitable cooperative research activities in the following areas: carbon cycle research, aerosol-climate interactions, feedbacks and climate sensitivity, integrated observation systems and data, carbon capture and storage, and hydrogen technology and infrastructure. Within these areas, specific initiatives will include studies on the influence of aerosols on clouds, climate and the water cycle in sensitive regions such as the Mediterranean, and the joint development of integrated observation systems to provide the data needed for climate change research.

Other non-greenhouse gas emitting energy sources, for example nuclear and renewable energies, although not discussed in detail, were mentioned as worthy for cooperation in future discussions. Both the US and the EU agreed to designate points of contact to coordinate the development of the projects, and to monitor progress once activities are underway. The two sides also agreed to review the progress of their cooperation at the next joint meeting, which could take place in Italy later this year.

4) ELSAM BEHIND POLAND'S BIGGEST WIND FARM

The Copenhagen Post

February 14, 2003

Internet: <http://cphpost.periskop.dk/default.asp?id=28157>

A Danish-Polish Joint Implementation project under the Kyoto Agreement brings Poland its largest windmill park ever, thanks to Elsam's expertise. Danish energy supplier Elsam has constructed Poland's largest windmill park ever, and is now producing energy for Polish consumers. The turbines, located in the Northwestern corner of Poland, have doubled the country's wind power capacity, and produce enough power to supply 25,000 Polish households.

Poland's power production is primarily based on coal and lignite-fuelled plants. But under recent Polish legislation, an increasing portion of the nation's power consumption will have to be covered under renewable energy forms. The windmill park is the first project in the so-called 'Joint Implementation' directive under the Kyoto Agreement. Under the terms of the

directive, two countries can implement joint projects to reduce emissions of carbon dioxide, and each record a share of the reduction on their own CO2 reports. The Danish and Polish governments are expected to enter a formal framework agreement for Joint Implementation.

With yearly production of approximately 65 million kilowatt-hours, the 15 Elsam windmills will reduce Polish emissions by 45,000 tons of carbon dioxide, 300 tons of sulphur dioxide, and 100 tons of nitrogen. 'Elsam has built up considerable know-how from the erection of our Danish windmill parks, and we've been able to transfer that expertise to Poland. I hope it will contribute to supporting the development of environmentally sustainable energy forms in the country,' said Bjarne Henning Jensen, director of Elsam's Project and Facility department.

5) INDO-US MOVE ON CLIMATE

Business Standard

February 14, 2003

Internet: <http://www.business-standard.com/today/story.asp?Menu=19&story=8077>

The US will help India in dealing with the effects of climate change. The two countries will cooperate with each other in assessing the potential consequences of climate variability. And the US will assist India in a project to devise adaptive strategies to such change. Both countries will work on methods to improve resource management in climate-affected sectors thus increasing their resilience to such natural phenomenon. Further, the countries will jointly work on dissemination of climate-related information in rural areas. The scope of work will also include hydrogen technology, renewable energy and energy efficiency improvement.

6) INDIA EVINCES INTEREST IN RANET TECHNOLOGY

The Hindu

February 14, 2003

Internet: <http://www.hinduonnet.com/thehindu/holnus/06141403.htm>

New Delhi, Feb. 14. (PTI): India today evinced interest in a US- proposed pilot project of modern communication technologies to disseminate climate-related information in rural areas. The proposal was put up at a meeting here between the Secretary, Ministry of Environment and Forests, K C Mihsra and a visiting delegation from US Department of State, led by Susan Gordon, when they identified certain areas for bilateral cooperation, an official release said here.

The US proposal centred on a pilot project to foster dissemination of agro-meteorological information on monsoon in rural areas through development of RANET (Radi and Internet Technologies for Communication of Climate-related Information for Rural Development). This bilateal cooperation is proposed in view of the growing importance of adpative technologies after the Delhi Declaration on Climate Change and Sustainable Development accorded high priority to such technologies.

7) DUTCH BANK, GOETZE IN PACT FOR RENEWABLE ENERGY PROJECTS

Times of India

February 14, 2003

Internet:

<http://timesofindia.indiatimes.com/cms.dll/html/uncomp/articleshow?artid=37411735>

NEW DELHI: Rabobank International has entered into an agreement with the Dutch government to contract 10 millions tonnes of greenhouse gas emission reductions from sustainable energy projects in developing countries. Its first move is a tie-up with the Goetze

India Group for renewable energy projects in Punjab and Karnataka. Under the international framework on checking global warming, developed countries are supposed to reduce emissions of greenhouse gases such as carbon dioxide by an average of 5 per cent over the 1990 levels. One of the ways they can do this is by investing money and technology in clean projects in developing countries, thus winning emission reduction credits in a complicated formula. It's called the clean development mechanism (CDM). This is yet to come into force but governments and companies which have spotted the potential have begun to move bilaterally. The Netherlands, for instance, wants to achieve half its reductions away from its shores - it's cheaper and less trouble. The only thing stopping sections of Indian industry from joining the bandwagon is the price on offer per tonne of carbon.

But on Thursday, Rabo India launched its carbon advisory business in India, tying up with an NGO, Winrock International, to cover the financial and technical aspects of the business. Rabo India's Somak Ghosh says they are interested in wind, hydel and biomass in the renewable energy sector. Prices in this nascent, politically uncertain market are yet to firm up, but Goetze Group's T C Prabhu thinks it's worth it. He says they went into windpower in 1998 to capitalise on the fiscal incentives and recovered their capital cost in two years. At about \$4 a tonne of carbon now, they spot huge business opportunities for windpower in Karnataka and biomass in Punjab, particularly the latter.

The aim is to cash in on whatever is on offer, beating back competition from developing countries such as Brazil, Argentina and the Philippines and be in position when the CDM market opens up with the ratification of the 1997 Kyoto Protocol. This would bring the trade mechanisms into full play and perhaps push up prices. But when this will happen is still an open question. On the same day as business showed interest, an American delegation met an inter-ministerial government team to discuss areas of cooperation on climate change. These include ways of adapting to it, renewable energy and energy efficiency improvement. Both the ministries of power and non-conventional energy sources are keen to use CDM to get their projects up and going.

8) MANKIND IN DANGER OF DESTROYING ITSELF, SAYS MEACHER

Oldham Evening Chronicle

February 14, 2003

Internet: <http://www.oldham-chronicle.co.uk/NEWSF05.html>

The human race is in real danger of wiping itself out, Environment Minister Michael Meacher said today. "Making the change needed to avoid that fate is perhaps the greatest challenge we have ever faced," he said. "There is a lot wrong with our world, but it is not as bad as many people think — it is actually worse." The Oldham West and Royton MP detailed the major problems facing the world as global warming leads to storms and flooding, lack of fresh water, the destruction of forests and farming land, the overuse of natural resources and a rising population. "The ultimate concern is that if runaway global warming occurred, temperatures could spiral out of control and make our planet uninhabitable," he said. Temperatures are set to rise by 5.8C this century, compared with 0.6 per cent in the last, he said.

The number of people affected by flooding increased from seven million in the 1960s to 150 million now, while the number of people hit by cyclones and hurricanes has risen eightfold to 25 million a year in the past 30 years. He said that mass extinctions had taken place on Earth five times in the last 540 million years, one of them involving the destruction of 96 per cent of the species then living. "But while that was previously the result of asteroid strikes or intense glaciation, this is the first time in the history of the Earth that species themselves by their own activities are at risk of generating their own demise," Mr Meacher said.

9) ENERGY SUMMIT FOR CAPITAL PLANNED

The Copenhagen Post

February 14, 2003

Internet: <http://cphpost.periskop.dk/default.asp?id=28136>

Denmark is tapped to host a major conference on sustainable energy later this year. In September or October of this year, Denmark will play host to a major international conference on sustainable energy. The meeting, a follow-up to last autumn's UN Summit in Johannesburg, is designed to expand international cooperation on renewable, CO2-free energy initiatives. Environment Minister Hans Christian Schmidt reported the news last Friday from Nairobi, Kenya, where he had spent the past several days participating in supervisory meetings under UNEP, the UN Environmental Programme. Schmidt offered to host the upcoming conference, tapped as a preparatory meeting to an even larger world conference on renewable energy in Germany in 2004. 'Many countries actually support expanding renewable energy efforts, but we have various approaches to how this technology can be developed further. We need to exchange information and share our experience in this area,' Schmidt said.

During last autumn's Johannesburg summit, the EU countries raised a proposal to increase the percentage of renewable energy used worldwide from 14 to 15 percent by 2010, but the proposal failed due to opposition from the US and the oil-producing countries. As a result, the summit failed to produce a binding agreement for sustainable energy forms. Instead, the EU forged a coalition with like-minded nations, all of which have pledged to promote the development of renewable energy and take their own programmes a step further than Johannesburg's non-binding recommendations. Besides the EU and its candidate-nations, signatories to the pledge include Brazil, Argentina, Chile, New Zealand, Iceland, Norway, Switzerland, Uganda, and several island states acutely threatened by global warming. Another dozen countries are expected to join the partnership in the near future.

10) TROPICAL DEFORESTATION AND GLOBAL WARMING: SMITHSONIAN SCIENTIST CHALLENGES RESULTS OF RECENT STUDY

Smithsonian Institution via Science Daily

February 14, 2003

Internet: <http://www.sciencedaily.com/releases/2003/02/030214074147.htm>

Late last year, Frédéric Achard and colleagues published a controversial article in which they contended that earlier estimates of worldwide tropical deforestation and atmospheric carbon emissions were too high. In the February 14 issue of Science, Philip Fearnside from the National Institute for Amazonian Research in Brazil, and William Laurance from the Smithsonian Tropical Research Institute in Panama argue that the Achard study contains serious flaws rendering its conclusions about greenhouse gases unreliable. The article in question ("Determination of deforestation rates of the world's humid tropical forests", Science, vol. 297, pages 999-1002), which received extensive press coverage, asserted that only about 0.6 to 1.0 billion tons of greenhouse gases (most carbon dioxide and carbon monoxide) were being produced by the razing and felling of tropical forests each year. This estimate is considerably lower than those of earlier studies, which estimated up to 2.4 billion tons annually.

Fearnside and Laurance list seven serious errors or limitations of the Achard study, which, they say, collectively lead to a major underestimate of greenhouse gas emissions. Among the errors they identify is that the Achard team failed to include drier tropical forests--which are also being rapidly cleared and burned--in their estimate. Other concerns include underestimating the amount of biomass--and hence the amount of carbon--contained in

tropical forests. The study assumes that regenerating forests on abandoned lands will re-absorb large amounts of atmospheric carbon. In fact, such forests are often re-cleared after a few years. The study also fails to consider the effects of important greenhouse gases like methane and nitrous oxide, which are also produced by deforestation.

Fearnside and Laurance further assert that the effects on global warming of selective logging, habitat fragmentation, and other types of forest degradation are not included in the Achard study. Selective logging, for example, does not cause deforestation per se but produces hundreds of millions of tons of greenhouse gas emissions each year. "When you look at all these factors, you can't help but conclude that their numbers are too small," said Laurance. "They're suggesting that tropical deforestation and degradation accounts for only about a tenth of the global production of greenhouse gases. Personally, I'd argue that their estimate is two to three times too low." Each year, humans produce seven to eight billion tons of greenhouse gas emissions, which are considered the major cause of global warming. Most emissions are produced by the burning of fossil fuels and tropical deforestation, but the relative importance of these two sources remains controversial.

11) US FIRMS SET GREENHOUSE GAS TARGETS IN BUSH PLAN

Planet Ark

February 14, 2003

Internet: <http://www.planetark.org/dailynewsstory.cfm/newsid/19831/story.htm>

WASHINGTON - U.S. utilities, automakers, oil refiners and other industries said this week they will voluntarily trim carbon dioxide emissions, drawing praise from the Bush administration and sighs from environmentalists who say it is not enough to reduce heat-trapping gases. Representatives of a dozen industries told a news conference they would participate in the new Climate Vision Program being overseen by the Department of Energy and other federal agencies. "These initiatives are a first step in what we expect to be an ongoing engagement with these and other sectors of our economy in the years ahead," President George W. Bush said in a statement.

The United States is the world's biggest emitter of greenhouse gases such as carbon dioxide, blamed by scientists for raising the Earth's temperature. The White House refused to participate in the international Kyoto Treaty to reduce emissions, saying it would be too costly. Instead, the government opted for a program that encourages U.S. firms to set their own targets for carbon dioxide and decide if they meet them. The Sierra Club, Environmental Defense and other green groups say a voluntary effort will do little to curb emissions. They back a Senate bill that would require steep cuts in carbon dioxide.

Energy Secretary Spencer Abraham said the voluntary program aims to reduce U.S. greenhouse gas "intensity" by 18 percent over the next decade. Intensity refers to the output of emissions compared to U.S. economic output. Christine Whitman, head of the Environmental Protection Administration (EPA), said there would be no immediate reductions in carbon dioxide emissions. "It's not going to get any smaller immediately, but we know that the overall impact is going to be over time and will get smaller," Whitman told reporters.

UTILITIES PLAN 3-5 PCT CUTS

Utilities including American Electric Power Co. Inc. (AEP.N), which runs the largest U.S. fleet of coal-fired plants, pledged to collectively cut their carbon output intensity by 3 to 5 percent by the end of 2010. Utilities account for 40 percent of all carbon dioxide emissions, more than any other industry sector. But a cut in intensity could actually mean that carbon dioxide emissions from utilities would increase by 16 percent over the period, said Jeremy Symons, an analyst with the National Wildlife Federation. That is because while utilities seek

to reduce carbon dioxide output per unit of power generated, overall emissions would likely increase, Symons said.

On the electric front, the effort is headed by the Edison Electric Institute, whose 40 members include the largest U.S. utilities. The reduction targets are an aggregate for all members, and some utilities may come in above or below them. A spokesman for Edison Electric Institute defended the targets as "fairly ambitious," and said the plan would slow carbon dioxide growth with the aim of eventually reversing it. Oil refiners, another major source of carbon dioxide, set a goal of a 10 percent reduction in emission intensity by 2012. Linn Draper, president of America Electric Power (AEP) and head of the Business Roundtable of the nation's largest 150 companies, said banks and other industries could also help reduce greenhouse gases. Semiconductor manufacturers and mining, cement and aluminum makers are also taking part in the voluntary plan.

GIFT TO UTILITIES?

Environmental groups criticized the voluntary program as a gift to utilities from the Bush administration, which last year relaxed pollution limits on old, coal-burning power plants. Carl Pope, director of the Sierra Club, said the program's focus on greenhouse gas intensity was a "shady accounting scheme" and that emissions would continue to rise. Green groups and Senate Democrats back legislation reintroduced this week that would cut carbon dioxide emissions by 21 percent by 2009. The bill, offered by Sen. Jim Jeffords, a Vermont Independent, Democratic Sen. Joseph Lieberman and others, would impose the first limits on carbon dioxide. The Bush administration has also proposed a plan to reduce emissions of other pollutants by 2018.

12) FOREST PRODUCTS INDUSTRY TO REDUCE GREENHOUSE GASES 12%

GreenBiz.com

February 14, 2003

Internet: http://www.greenbiz.com/news/news_third.cfm?NewsID=23894

WASHINGTON, D.C., Feb. 13, 2003 - The American Forest & Paper Association, representing the U.S. forest, paper and wood products industry, has pledged to reduce its greenhouse gas intensity as part of the president's voluntary plan to address climate change. The association "applauds the President's initiative to address climate change through enhanced research in technology and science, incentives and voluntary efforts," said AF&PA president and CEO W. Henson Moore in a letter to the Administration committing his group to the plan. The plan recognizes that "only a strong economy will allow us to make the investments we need" to reduce our emissions, Moore wrote.

AF&PA members have under way a number of programs to try to meet the president's climate objectives, and have collectively pledged to pursue them. Among them are inventorying and reporting on greenhouse gases, enhancing sequestration in managed forests and products, improving technologies and energy efficiency, using co-generation, and increasing use of renewable energy and recycling. "Based on preliminary calculations, we expect that these programs will reduce our greenhouse gas intensity by 12% by 2012 relative to 2000," Moore said in the letter. He also promised to refine AF&PA's estimates in a year, and in two years to evaluate members' progress and determine if additional reductions or changes to their greenhouse gas programs are appropriate.

The industry has already taken significant steps to reduce its greenhouse emissions, Moore said. It will continue to derive more than half of its energy needs from renewable energy, or biofuels, Moore told the Administration. The industry leads all other manufacturing sectors in onsite electricity generation, meeting more than half of its own energy needs through highly-

efficient co-generation processes, he said. The letter described several industry programs that AF&PA will use to achieve its goals. A critical program is sequestration -- storage -- of carbon in forestlands and manufactured products. More than 114 million acres of forests are enrolled in AF&PA's Sustainable Forestry Initiative program, the world's largest sustainable forestry program. Under the SFI program, forests are managed under rigorous standards for protecting soil and water resources, contributing to biological diversity, conserving unique features and aesthetic values, and enhancing forest productivity. Additionally, the industry produces products that store carbon for decades or longer.

Research and development is also part of AF&PA's solution. One technology under development would allow for increased burning of renewable biofuels with lower emissions and greater efficiency. Another project, in partnership with the Department of Energy, is biomass gasification. This technique potentially could make the U.S. forest products industry totally energy self-sufficient and a generator of net surplus power, according to Moore. Another program is recycling, which avoids greenhouse gas emissions from products prematurely disposed of in landfills. The industry has achieved 48% recovery rates for all paper products, and has a current goal of 50%. Moore cautioned that his industry's success will depend partially on the administration's efforts to "manage the activities of all government agencies, especially the promulgation of regulatory requirements" that may cause increases in greenhouse gas emissions. "We strongly encourage the Administration to address regulatory requirements where the negative climate impacts outweigh any environmental benefit," he said.

13) EU MUST CLAMP DOWN ON CAR AIR CONDITIONING

Eddie weekly summaries

February 14, 2003

Internet:

http://www.edie.net/gf.cfm?L=left_frame.html&R=http://www.edie.net/news/Archive/6641.cfm

Air conditioning in cars will be subject to tighter EU legislation currently in preparation, to curb the rise in emissions from vehicles that now require more energy to keep their interiors cool and more fluorinated gases to pump their air conditioning units. Without tighter control, mobile air conditioning is expected to account for 10% of total greenhouse gas emissions from cars. At a European conference on reducing greenhouse gases, EU Environment Commissioner Margot Wallström said that proposals were currently being drafted for legislation to curb fluorinated gas emissions, including those from air conditioning systems.

Given that air conditioning is rapidly becoming a standard feature of new cars and is predicted to add another 30 million tonnes of carbon dioxide emissions by 2010, another 50 million tonnes by 2020, Wallström said that the EU must also act to curb the trend in more energy-intensive cars. Consumers might be surprised to learn that even the most fuel efficient and low emission cars were churning out more gases than they were tested for, because fuel consumption measurements on new cars do not include the weight and operation of the air conditioning unit, said Wallström.

The EU is considering phasing out hydrofluorocarbons (HFCs) currently used in air conditioning, which would entail a transition period to enable manufacturers to switch to alternative cooling technology. Wallström said that while the legislation was being prepared, the EU would remain open to suggestions from industry on the feasibility of and alternatives to eliminating HFCs, while staying on target to reduce greenhouse gases under the Kyoto agreement. Commissioner Wallström also announced that she would join a delegation to Russia in March to encourage the country to ratify the Kyoto protocol (see related story), whose implementation was now "technically and economically feasible", she added.

14) WILD COAL FIRES ARE A 'GLOBAL CATASTROPHE'

New Scientist

February 14, 2003

Internet: <http://www.newscientist.com/news/news.jsp?id=ns99993390>

Wild coal fires are a global catastrophe, scientists are warning, burning hundreds of millions of tonnes of coal every year and contributing to climate change and damaging human health. These fires can rage both above and below ground and may contribute more than three per cent of the world's annual carbon dioxide emissions, which are thought to be causing global warming. Scientists note that if coal-producing countries could tackle the infernos, it might be a cost-effective way to meet their targets under the Kyoto protocol, drawn up to cut the emission of greenhouse gases.

"I don't think it's an exaggeration at all to say it's a global catastrophe," says Glenn Stracher, a US geologist at East Georgia College, Swainsboro. As well as releasing carbon dioxide, "the fires cause human suffering - respiratory, skin diseases, increases in heart problems and asthmatic conditions. They are responsible for a lot of illnesses". "Estimates for the carbon dioxide put into the atmosphere from underground fires in China are equivalent to the emissions from all motor vehicles in the US," Stracher told delegates at the American Association for the Advancement of Science conference in Denver. The fires also release noxious chemicals into the air which condense to contaminate soil and water with substances like mercury, selenium and sulphides, according to research by Stracher, to be published in the International Journal of Coal Geology.

FOREST FIRES

Coal fires occur wherever there is coal, but major fires blaze in Indonesia, China, India and the US. Alfred Whitehouse, of the Office of Surface Mining in Jakarta, Indonesia, says there may be up to 1000 fires blazing underground in that country alone. Underground fires can be particularly dangerous as they can burn for decades and ignite forest fires in times of drought. Surface fires tend to be doused eventually by rains, but underground fires burn until they exhaust the coal or hit the water table, he said. Indonesia has been plagued with coal fires for two decades, ever since a drought induced by the weather phenomenon El Niño in 1982. Whitehouse said his office had managed to quell 106 of the 263 fires they had identified by digging the fires out.

Although coal seam fires have occurred spontaneously far back into geological history, they are much more common now. Mining activities like welding, using explosives, or miners simply discarding cigarette butts can ignite them. "It's almost always someone's hand," said Whitehouse, adding that 63 fires are currently being monitored in the US.

SMOTHERING GROUT

Stracher's research suggests coal wildfires in China burn 200 million tonnes a year, equivalent to about 20 per cent of the total used by the US for power generation. Paul van Dijk, of the International Institute for Geo-Information Science and Earth Observation (ITC) in the Netherlands says the ITC is currently working with the Chinese government to use satellite remote sensing technology to detect and monitor underground coal fires in China. Mining engineer Gary Colaizzi told the conference his company, Goodson and Associates, has invented a heat-resistant grout that smothers the coal fires. It is made of sand, fly ash, cement, water and foam and has the consistency of shaving foam.

See Also:

UNDERGROUND FIRES WREAK HAVOC, BLAZING COAL SEAMS THREATEN WILDLIFE AND STROKE GLOBAL WARMING, The Guardian, February 15, 2003, Internet: <http://www.guardian.co.uk/international/story/0,3604,895906,00.html>

HIDDEN COAL FIRES CREATE VISIBLE PROBLEMS, ENS, February 14, 2003, Internet: <http://ens-news.com/ens/feb2003/2003-02-14-06.asp>

15) GOV'T TO LAUNCH ENVIRONMENTAL FUEL TAX IN 2005

Mainichi Shimbun

February 14, 2003

Internet: <http://mdn.mainichi.co.jp/news/20030214p2a00m0dm017000c.html>

Japan plans to launch an "environmental tax" on vehicle fuel in 2005 to achieve target levels of greenhouse gas emission reductions set in the Kyoto Protocol, officials said Friday. Under the protocol, Japan has to cut greenhouse gas emissions by 6 percent from the 1990 level during the period between 2008 and 2012. Although the government has been calling on businesses and individuals to voluntarily work towards this goal, emissions of carbon dioxide (CO₂) - a major contributor to the greenhouse effect - have been on the increase.

The government is now discussing the possibility of introducing an environmental tax on vehicle fuel and other products in fiscal 2005 in a desperate effort to cut CO₂ emission and achieve the Kyoto Protocol target, said Environment Minister Shunichi Suzuki. Officials tried to justify the tax, which is unpopular with businesses, by saying that without its introduction Japan will not be able to achieve protocol targets. At the request of the Environment Ministry, a panel of environment experts will soon begin discussing methods of taxation, tax rates and usage of tax income, and then present the results of their study in the summer of this year, the officials said.

16) AIR TRAVEL TO KNOCK UK CO₂ EMISSIONS OFF TARGET

Planet Ark

February 14, 2003

Internet: <http://www.planetark.org/dailynewsstory.cfm/newsid/19821/story.htm>

LONDON - Britain is unlikely to deliver on its pledges to curb emissions of carbon dioxide, with pollution from air travel threatening to undo progress by industry and other sectors, said a team of government advisors this week. The independent Sustainable Development Commission said existing measures to cut emissions of greenhouse gas carbon dioxide (CO₂) were unlikely to achieve even two thirds of the government's targets, and maybe less than half.

The government's goal is to cut CO₂ emissions by 20 percent from 1990 levels by 2010. "Our analysis shows that the UK will fall well short of the government's goal for reducing emissions of carbon dioxide, the principal greenhouse gas, unless further measures are taken," said commission chairman Jonathon Porritt. Particularly worrying were emissions from air travel, which had been excluded from government calculations and were putting at risk targets set out in the government's 10-year transport plan, said the commission. Porritt urged ministers to use a white paper on future energy policy, due shortly, to put in place extra measures. The government is banking on renewable energy sources such as wind turbines, as well as increased energy efficiency, to bring big reductions in emissions. Britain was on track to meet targets on total greenhouse gas emissions set out in the Kyoto Protocol, the commission said. Under Kyoto, the UK is committed to cutting total greenhouse gas emissions by 12.5 percent from 1990 levels over the period 2008-2012.

17) U.S. INDUSTRY PLEDGES VOLUNTARY GREENHOUSE GAS CUTS

ENS

February 13, 2003

Internet: <http://ens-news.com/ens/feb2003/2003-02-13-10.asp>

WASHINGTON, DC, February 13, 2003 (ENS) - Top officials from the Bush administration are showcasing a list of voluntary industry commitments to reduce the emission of greenhouse gases as evidence that the President's plan to combat global climate change is working. Critics belittled the administration's claims and its voluntary plan, calling it reckless, and warning that it is likely to increase, rather than reduce, greenhouse gas emissions.

"Voluntary goals for reducing global warming pollution make no more sense than voluntary standards for drinking water or toxic cleanup," said Katherine Silverthorne, director of World Wildlife Fund's U.S. climate change program. "With public health and safety and our environment at risk, failure to establish legally binding reduction targets is simply irresponsible." Unveiled Wednesday by Department of Energy Secretary Spencer Abraham, Climate VISION - which stands for Voluntary Innovative Sector Initiatives: Opportunities Now - is a voluntary, public-private partnership aimed at encouraging reductions in the projected growth of America's greenhouse gas emissions. "It is important to remember that government itself will not appreciably reduce greenhouse gas emissions," Abraham said. "Industry, and commercial businesses and ordinary Americans living their daily lives, will."

The program is the cornerstone of the President's commitment to reducing the nation's greenhouse gas intensity by 18 percent. Greenhouse gas intensity is the ratio of emissions to economic output. In February 2002, President George W. Bush made this commitment and urged American businesses and industries to make efforts to move toward that 18 percent goal. The United States is responsible for more than 25 percent of worldwide greenhouse gas emissions, which are widely believed to be the major cause of global warming. At Wednesday's event, Abraham said the administration has received voluntary commitments from American industries that will enable the nation to reach the President's goal. He praised voluntary efforts from a wide array of industry organizations representing automakers, chemical companies, mining operations, nuclear energy, oil and gas companies as well as the iron and steel industry.

As an example, Abraham pointed to the American Petroleum Institute, which says it will increase the aggregate energy efficiency of its U.S. refinery operations by 10 percent from 2002 to 2012. The American Chemistry Council, representing 90 percent of the chemical industry, has agreed to an 18 percent overall greenhouse gas intensity reduction target by 2012, the energy secretary said. Yet critics fear that relying on industry to act voluntarily will do little to curb emissions. Some believe the administration is using greenhouse gas intensity in order to cloak a policy of inaction. "Wasting crucial time with these intensity reduction targets does more harm than good," Silverthorne said. Reducing greenhouse gas intensity is not the same as reducing greenhouse gas emissions.

Intensity is a relative indicator, expressed in kilograms of emissions per dollar of economic output, explained Bill Prindle, policy director of the American Council for an Energy Efficient Economy (ACEEE). "Their approach is clever in that it shows apparent progress by reducing intensity," Prindle said, "but we would have to double our current rate of intensity reduction to see meaningful drops in emissions." ACEEE research shows that the Bush policy will result in a 13 percent increase in emissions, only two percent less than emissions levels without these new voluntary commitments.

Critics point to a host of other policies, including the Clear Skies initiative and the failure to push for meaningful increases to fuel efficiency standards, as further evidence the

administration has no desire to cut greenhouse gas emissions. In 2001, soon after taking office, President Bush withdrew Clinton era support for the Kyoto Protocol, an international accord to reduce global greenhouse emissions through a system of legally binding limits on 37 industrialized countries. The President has been adamant in his opposition to any policy that mandates reductions in emissions. The science behind global warming is uncertain, the administration argues, and mandating reductions could harm economic growth. Supporters of the President's policy believe that voluntary agreements by industry are the best way for the nation to achieve reductions in greenhouse gas emissions without serious economic turmoil. "I am not aware of voluntary programs that have failed," said Dr. Linn Draper, chairman, president and chief executive officer of the American Electric Power Company and the chairman of the Business Roundtable's Environment, Technology and the Economy Task Force. "I think that we ought to try a voluntary program and see how well it works," Draper added. "I think it would be a big mistake to say it's not going to work before we even try it."

But environmentalists and many Congressional Democrats, as well as some Republicans, are convinced that the President's faith in voluntary, industry led initiatives is misguided. "Though they may make for good P.R., voluntary programs like this just don't produce results," said Senator Joseph Lieberman, a Democrat from Connecticut. "At the 1992 summit in Rio the U.S. agreed to the Convention on Climate Change and signed up to a 'voluntary' goal of reducing emissions to 1990 levels by the year 2000. Our greenhouse gas emissions proceeded to increase by 14 percent between 1990 and 2000. We cannot afford to fall again for the false promise of promises alone," Senator Lieberman said. Last month, Lieberman, and fellow Senator John McCain, an Arizona Republican, introduced a bill that would establish a market based emissions credit trading system to reduce greenhouse gas emissions.

On Wednesday, Lieberman, along with Senators Jim Jeffords, a Vermont Independent, and Susan Collins, a Maine Republican, reintroduced the Clean Power Act, which would use an emissions trading program to mandate industry cuts to emissions of carbon dioxide, sulfur dioxide, nitrogen oxides and mercury. This contrasts with the Bush administration's Clear Skies initiative, which does not address carbon dioxide emissions from power plants. Working with the administration and its Congressional allies will not be easy, Jeffords said. "Their actions so far on air quality matters have not fostered an atmosphere of trust and cooperation."

But the administration appears unfazed by the steady stream of criticism. The voluntary commitments the administration has lined up, Abraham said, are "impressive testimony to the ability of the private sector to get the job done." As the administration praised industry efforts, industry representatives commended the President for focusing on voluntary efforts, rather than mandates, to reduce greenhouse gas emissions. "The President's climate initiative is a critical first step towards reversing the growth in U.S. greenhouse gas emissions," said Edison Electric Institute president Thomas Kuhn. "By encouraging voluntary, cost effective solutions, it will curb emissions without undermining our energy supply or putting the brakes on economic growth." Environmentalists could not disagree more, said Sierra Club's executive director Carl Pope. "This irresponsible policy simply provides cover for polluters to spew more heat trapping pollution into the air. If you really want to help your friend quit smoking, you don't make it easier for him to buy cigarettes."

See Also:

EMISSIONS REDUCTION PLAN TOUTED, Washington Post, February 13, 2003; Internet: <http://www.washingtonpost.com/wp-dyn/articles/A64898-2003Feb12.html>

U.S. LAUNCHES NEW PLAN TO CUT GREENHOUSE GAS EMISSIONS, Japan Today,

February 13, 2003, Internet:

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WEAK RESPONSE ON GLOBAL WARMING, New York Times February 14, 2003,

Internet:

<http://www.nytimes.com/2003/02/14/opinion/14FRI3.html?ex=1045803600&en=62412402aacd2d99&ei=5062&partner=GOOGLE>

WHITE HOUSE TOUTS VOLUNTARY POLLUTION CUTS; ENVIRONMENTALISTS DIFFER, The Washington Post, February 12, 2003, Internet:

<http://www.nrdc.org/news/newsDetails.asp?nID=889>

PRESIDENT BUSH'S CLIMATE CHANGE PLAN VIOLATES KEY PRINCIPLES OF JUST CLIMATE CHANGE POLICY, Redefining Progress, February 13 2003, Internet:

<http://www.enn.com/direct/display-release.asp?objid=D1D1364E000000F35ACA1441AE0DC6EC>

18) GLOBAL TEMPERATURES STAY HIGH IN 2002 - UK

Planet Ark

February 13, 2003

Internet: <http://www.planetark.org/dailynewsstory.cfm/newsid/19813/story.htm>

LONDON - Global temperatures have kept rising and 2002 was one of the warmest years on record while many greenhouse gases reached their highest ever levels in 2001, a British government report said this week. Data analysed by the UK Meteorological Office's Hadley Centre for Climate Prediction and Research found that last year joined 2001 and 1998 as the top three warmest since records began in 1860. "This report does show that the UK is making good progress to tackle its greenhouse gas emissions, but much more needs to be done if we are to stabilise greenhouse gas concentrations in the atmosphere at a safe level," Environment Minister Michael Meacher said in a statement.

Scientists say greenhouse gases such as carbon dioxide, from vehicle and industry emissions, cause temperature increases by trapping the sun's heat in the atmosphere. Meacher said in a statement that Britain was on track to exceed its target under the United Nations Kyoto Protocol of cutting greenhouse gas emissions by 12.5 percent below 1990 levels by 2008-2012. The report said the UK could still achieve its own higher target of a 23 percent cut. A government paper on the future of the energy sector is due in the next couple of months. A report last year advocated increasing energy from renewable sources to 20 percent by 2020 as a way of meeting climate goals. Climate change scenarios for the UK by the Hadley Centre suggest a future of hotter, drier summers and warmer, wetter winters.

19) STATES TARGET GREENHOUSE GASES

Stateline.org

February 13, 2003

Internet: <http://www.stateline.org/story.do?storyId=287775>

States are taking steps to reduce America's contributions to global warming in the face of federal inaction. The Bush administration favors voluntary programs encouraging companies to track and reduce their emissions of greenhouse gases-- like carbon dioxide and methane-- that scientists believe are contributing to a rise in global temperatures. With the United States producing a quarter of the world's greenhouse gases, many states have taken matters into their own hands by regulating utility emissions or carbon dioxide from vehicles.

Eileen Claussen, president of the Pew Center on Global Climate Change, said, “States are perceiving a vacuum in federal leadership and are moving forward on their own, sometimes in cautious ways, and with the notion they they’re going to experiment with some different approaches.” States are perceiving a vacuum in federal leadership and are moving forward on their own.

California’s innovative law on curbing greenhouse gases requires state air regulators to start a program by 2009 to cut emissions from automotive vehicles. New York Gov. George Pataki promoted a similar plan in his State of the State address, and the U.S. Congress is considering a national limit on the release of carbon dioxide. State action is building momentum for dealing with carbon dioxide on the national level, Claussen said. (Stateline is funded by the same philanthropy that supports the Pew Center on Global Climate Change.) In his State of the Union address, President Bush called for action on a “Clear Skies” initiative that promises reductions in three power-plant pollutants: mercury, sulfur dioxide, and nitrogen oxide. But the plan doesn’t cover carbon dioxide, a gas emitted from transportation-related sources, such as cars and buses, that accounts for 32 percent of U.S. greenhouse gas emissions.

Three states—Massachusetts, Maine and Connecticut--- sued the U.S. Environmental Protection Agency in January, arguing that the Bush administration is jeopardizing the health of its residents and violating clean-air laws by failing to regulate carbon dioxide emissions. Thus far, no other states have plans to follow their lead.

In the absence of a mandatory national policy, many states have forged ahead to try to lower emissions. In May 2002, New Hampshire became the first state to legislatively require fossil fuel plants to reduce emissions of four pollutants, including carbon dioxide. Other states are undertaking educational campaigns to reduce greenhouse gases, turning methane gas from landfills into energy, promoting carpooling and natural gas vehicles. Oregon became the first state to use its Capitol to generate solar power last year. There’s a growing expectation that a lot of the leadership on environmental energy is going to come at the state level. Barry Rabe, University of Michigan professor . “Whether or not the federal government acts, state actions historically have influenced greenhouse gases,” said Barry Rabe, a professor of environmental policy at the University of Michigan and chief author of a study conducted by the Pew Center on Global Climate Change. “There’s a growing expectation that a lot of the leadership on environmental energy is going to come at the state level.”

State approaches to greenhouse gases are varied:

- * In December, New Jersey partnered with churches to promote the use of renewable energy.
- * Massachusetts was the first state to establish a multi-pollutant cap that includes carbon monoxide for six power plants in April 2001.
- * A Nebraska program uses crop rotation to increase the amount of farmland that absorbs carbon from the atmosphere.
- * Wisconsin established mandatory reporting for large carbon dioxide generators.

Regional cooperation is proving increasingly possible. New England governors and the premiers of five eastern provinces of Canada reaffirmed goals in August 2002 to develop a common framework for reducing greenhouse gases. Many states ramped up their “green” programs after President Bush rejected the Kyoto Protocol, a 1997 climate treaty that has been ratified by most of the world’s industrial countries. Bush said the treaty, in which nations agreed to limit greenhouse gas emissions, would hurt the U.S. economy.

20) EXXON CEO BACKS MANDATORY EMISSIONS REPORTS

Planet Ark

February 13, 2003

Internet: <http://www.planetark.org/dailynewsstory.cfm/newsid/19808/story.htm>

HOUSTON - Exxon Mobil Corp. (XOM.N) Chief Executive Lee Raymond said this week companies should be required to report carbon emissions before any rules are created to target cuts in gases blamed for global warming. "We voluntarily report our emissions and back mandatory reporting based on effective and reliable procedures as essential preconditions to policies that target emission reductions," Raymond told a Cambridge Energy Research Associates conference. Exxon Mobil has long been the focus of environmentalists' anger for its perceived reluctance to acknowledge the growing scientific data showing the role fossil fuels play in climate change.

Carbon dioxide emissions from smokestacks and tailpipes are widely believed to contribute to global warming, which scientists say could lift sea levels and submerge island states and sharply alter weather patterns, increasing the frequency of severe storms. Raymond said Exxon Mobil was researching cleaner energy sources, including hydrogen-based technologies, but said tremendous advances were needed for economically viable alternatives. "To make a real reduction in emissions without impairing prosperity, we will need technology comparable to that deployed in the effort to explore space, to engineer new types of drugs based on recombinant technology or to develop personal computing," he said.

Last year, Exxon Mobil said it would donate \$100 million to Stanford University to research viable energy technologies to reduce greenhouse gas emissions. General Electric Co. (GE.N), Schlumberger Ltd. (SLB.N) and Germany's E.ON AG (EONG.DE) have also sponsored the project. Measuring emissions from companies that burn fossil fuels is seen as a precursor to developing an emissions exchange or "cap and trade" system under which polluters who exceed their pollution allotment can buy other companies' excess emission rights. Supporters, including many industries, have said such a trading system is the most economical method to reduce greenhouse gas output.

The European Union issued a proposal earlier this month to improve its monitoring of greenhouse gas emissions, and is expected to launch an emissions trading system in coming years. The Chicago Climate Exchange said last month it would launch an Internet-based market this spring for carbon dioxide and methane, another greenhouse gas. The Bush administration, which pulled the United States out of the global warming Kyoto Protocol pact in 2000, has been collecting written pledges from industries to curb greenhouse gas emissions in a drive to stave off mandatory controls, The New York Times reported in January.

21) ENERGY IN THE SPOTLIGHT

The Guardian

February 13, 2003

Internet: <http://politics.guardian.co.uk/comment/story/0,9115,894399,00.html>

The government's much-anticipated and much-delayed energy policy white paper - discussed at cabinet yesterday - may confuse more than it will convince. Early indications were that government policy would be decisively tipped in favour of the environment. This would mean that Britain would see more energy produced from renewable sources like wind and help the country cut the amount of carbon dioxide produced. Then came the £650m bail-out of British Energy, the privatised nuclear power generator, and now a proposed £60m hand-out for deep coal pits, which will save 2,000 jobs but make reducing greenhouse gas emissions harder. What these in fact show is that the government's previous adherence to a market approach has failed.

Britain's energy policy is now very much in the visible hands of the state. This is a good thing. A new pattern of energy consumption and power production will only come into being with the connivance of ministers. This is required because Britain's traditional energy sources are either too dirty (coal), running out (North sea gas) or past their expiry date (nuclear). Ministers need to take political decisions that may not advance their political prospects, but which help the country's long-term needs. What this translates to is committing large amounts of cash for renewable energy sources and improving energy efficiency. The forthcoming white paper will need targets on reducing carbon dioxide emissions and getting green technologies from the drawing board to the wind farm. Such goals will have to be more ambitious than the ones the government is struggling to meet already.

The question, though, is not the government's intent but whether it is committed to delivery. For example, leaks suggest that the government will want renewables to generate a fifth of the total energy produced in Britain by 2020. At first glance, this should help considerably to alleviate climate change. In fact it will not, as even at this level renewables will only replace the contribution now made by nuclear power, which produces a lot of waste but none of the atmosphere-altering kind. This is not a green light for more nuclear power stations. As the Institute of Public Policy Research recently pointed out, the new nuclear reactor designs are unproven, the problem of long-term storage of nuclear waste remains unsolved and the heightened terrorist threat makes nuclear more likely to be part of the past rather than the future.

The real gains to be made in reducing carbon dioxide will come from energy efficiency. This means a radical plan to alter the amount of heat lost in homes through boilers and heating systems. There are some simple gains to be made - tighten the building regulations which allow twice as much energy use in a new home than in Germany. Again money is needed - to convince people to spend £300 to install cavity wall insulation that will save them £100 a year. The real problem is that unless radical new ways of generating cash are found, the Treasury will be reluctant to hand out billions of pounds. Some cash might be found from business - a recent paper by energy consultants Oxera suggested that if the social cost of carbon was taken into account on corporate balance sheets, many large companies would be in the red. Ultimately the taxpayer will pay - possibly through higher taxes. But a better solution would be higher electricity prices. Higher prices mean more money for investment and a dampening of society's insatiable demand for energy. It may sound unappealing - but it is better than the lights going out.

22) CLIMATE LINKED TO RURAL POVERTY

ENS

February 13, 2003

Internet: <http://ens-news.com/ens/feb2003/2003-02-13-09.asp#anchor3>

LONG BEACH, California, February 13, 2003 (ENS) - A team of scientists has examined the relationship between climate and income, and has concluded that the climate plays an important role in determining the distribution of rural poverty. The scientists, led by Alan Basist of the National Oceanic and Atmospheric Administration's (NOAA) National Climatic Data Center, analyzed upper level soil wetness data along with population densities and economic data from the most recent U.S. Census. They also used climate data provided by NOAA to identify relationships between climatic and agricultural production, per capita income, and land value in rural districts across the United States and Brazil.

The climate data, including surface temperature and wetness, were derived from the Special Sensor Microwave Imager, flown by the Defense Meteorological Satellite Program. Another climatic variable, the vegetation health index, was derived from NOAA's polar orbiting environmental satellites. Three separate analyses were conducted for rural counties in Brazil

and the United States. The first analysis established that climate is correlated with income. Higher temperatures are associated with reduced income in both Brazil and the United States. Over the United States, higher incomes correspond with higher amounts of upper level soil moisture. In Brazil, lower incomes correspond with lower amounts of soil moisture.

The second analysis showed that the predicted value of land, or net revenue, has a strong direct relationship with income. Areas with more valuable land have higher incomes. The third analysis separated the impact of the climate from other factors that affect farm productivity. Findings reveal that climate explains most of the variation in agricultural production. The evidence from the United States and Brazil reveals that climate influences income, and plays a role in determining rural poverty. It is more difficult to generate income in places with lower productivity. This is evident even in the United States, which has plenty of access to capital and modern technology. The results of the study, which was funded by the World Bank, were presented February 11 at the annual meeting of the American Meteorological Society in Long Beach.

23) EU ENVIRONMENT COMMISSIONER MARGOT WALLSTRÖM COMMENTS ON VOLUNTARY COMMITMENTS BY US INDUSTRY TO REDUCE GREENHOUSE GASES

EU

February 13, 2003

Internet: <http://www.eurunion.org/News/press/2003/2003011.htm>

“Business must be part of the solution to climate change. I therefore welcome any measures by business to reduce greenhouse gas emissions over and above business-as-usual. It is difficult to see to what extent this is the case with the commitments announced now by the Business Roundtable in the US and endorsed by President Bush. Most of the sectoral commitments do not include an objective to cut greenhouse gas emissions in absolute terms, and some do not even contain quantified objectives at all.

“President Bush's goal announced a year ago is only to reduce the greenhouse gas intensity of the US economy but not absolute emissions. Under this goal US emissions are likely to increase by over 30% between 1990 and 2012 as efficiency gains will be outweighed by economic and population growth. The European Union by contrast is now legally bound under the Kyoto Protocol to reduce its emissions by 8% over the same period, and we are putting into place the policies to achieve this target, for example an internal EU emissions trading system. I am convinced that many in the US understand that a policy based solely on voluntary commitments and with unambitious targets is not enough to tackle climate change.”

24) HAGEL SEEKING A LARGE INCREASE IN RENEWABLE FUELS

The Independent

February 13, 2003

Internet: http://www.theindependent.com/stories/021303/new_hagel13.shtml

Legislation that would dramatically increase the amount of renewable fuels used in the United States will be introduced today by Sen. Chuck Hagel, R-Neb. The bill Hagel and Senate Minority Leader Tom Daschle, D-S.D., are sponsoring would expand the use of renewable fuels, such as ethanol from corn and sorghum, as well as biodiesel from soybeans. The centerpiece of the Daschle-Hagel bill will be a Renewable Fuel Standard (RFS), which would gradually increase the nation's use of renewable fuel from around 1.7 billion gallons annually to 5 billion gallons a year by 2012. The RFS in this bill is modeled after Hagel's Renewable Fuels for Energy Security Act of 2001. "The new legislation is not a gallon-by-gallon mandate, and would not force the use of ethanol or biodiesel in places where compliance may

be difficult," Hagel said. He said the bill be a boost to Nebraska's producers and growing ethanol industry.

Nationally, the bill is estimated to replace 66 billion gallons of foreign crude oil; save \$34 billion on foreign oil purchases; create more than 200,000 jobs nationwide; and boost U.S. farm income by more than \$6 billion a year. Hagel also said demand for grain (mainly corn, but also sorghum) would grow an average of 1.4 billion bushels. Soybean demand would increase by 144 million bushels. According to Bob Dinneen, president of the Renewable Fuels Association, the Hagel-Daschle bill would help set the stage for an additional 5 billion gallons of ethanol production annually.

Increasing the volume of renewable fuels as a result of the Hagel-Daschle bill would also have a positive environmental impact. According to the Renewable Fuels Association, ethanol-blended fuels reduce vehicular emissions of carbon dioxide, methane and other gases that contribute to global warming. The Argonne National Laboratory has determined that for every gallon of gasoline replaced by ethanol, greenhouse gases are reduced by 30 percent. Last year, the laboratory reported that ethanol-blended fuels reduced CO₂-equivalent greenhouse gas emission by approximately 4.3 million tons in the United States. That reduction is equivalent to removing the annual greenhouse gas emissions of more than 636,000 cars from the road. This reduction is due, in part, to the "carbon cycle," whereby much of the carbon dioxide released when ethanol-blended fuels are used is reabsorbed by biomass plants, like corn, during growth. These biomass plants provide the feedstocks for ethanol production.

The Hagel-Daschle bill would have a huge impact on Nebraska's already growing ethanol industry, said Todd Sneller, administrator of the Nebraska Ethanol Board. He said Nebraska has six ethanol plants in operation, with two more under construction and another one that could be reactivated. Sneller said the potential of those plants could push the state's ethanol production to 425 million to 450 million gallons by the end of the year. That would equate to using 220 million to 240 million bushels. Based on last year's state corn crop, that represents one-quarter of all the corn grown in Nebraska. Developing more renewable fuel production facilities, such as ethanol plants, would create more of a geographical dispersal across the county and make them less of a potential terrorist target, Sneller said.

Also, having ethanol plants located across the country would save millions of gallons of fuel each year that would be required to ship corn and other renewable fuels crops to other parts of the country for further processing. "We do not have a lot of oil refineries in the United States and a terrorist attack on one of those refineries could have a catastrophic impact, disrupting not only the transportation sector, but the entire economy of this country," Sneller said. Also, he said targeting more corn to domestic energy production will help offset lower corn exports. According to a recent report by the U.S. Department of Agriculture, corn used by ethanol producers offset a 25-million-bushel reduction in exports last month. With world corn production expected to be on the rise, especially with bigger corn crops in Argentina and Ukraine, that could mean larger exports from those countries and reduced U.S. exports. "To cushion the economic impact from massive reduction in exports, we can help offset that by developing more domestic industrial uses for corn, such as ethanol production," Sneller said.

25) CONOCO CHAIRMAN ADVOCATES N. AMERICAN ENERGY PACT

Planet Ark

February 13, 2003

Internet: <http://www.planetark.org/dailynewsstory.cfm/newsid/19810/story.htm>

HOUSTON - ConocoPhillips (COP.N) Chairman Archie Dunham advocated a North American energy pact similar to the North American Free Trade Agreement during a speech

at a Houston energy conference this week. Mexico would benefit most by opening its market to American investment, Dunham said. Unlike Canada, Mexico reserved its sovereignty over energy resources under NAFTA. "The result is that U.S.-Mexico energy trade has not prospered to the same degree as that between the U.S. and Canada," he said.

U.S. and Canadian companies would be able to invest directly in Mexican natural resources, Dunham said. And any return could be reinvested in the company, as opposed to passing it on to the Mexican government, which is currently required by Mexican law. Environmental policies, such as emissions trading, could be adopted on a continental basis, he said.

26) 'CLEAN' PROJECTS LIKELY TO BYPASS INDIA

Economic Times
February 12, 2003
Internet:

<http://economictimes.indiatimes.com/cms.dll/html/uncomp/articleshow?artid=37205032>

NEW DELHI: When it comes to environment, "one step forward, two steps back" is fast becoming the rule. While China and central American countries like Brazil and Costa Rica have made their way up on the list of preferred destinations for Clean Development Mechanism (CDM) projects, India is lagging behind — thanks to lack of policy, investment climate and techno-economic potential, in precisely that order. This comes at a time when the United Nations Framework Convention on Climate Change (UNFCCC) is expecting more than 200 CDM projects to take off in '03. The executive board of the CDM has simplified the documentation, issued an indicative baseline and spelt out monitoring procedures for small-scale projects recently.

This should be good news for countries like India where there is no dearth of proposals related to renewable energy plants of less than 50 MW capacity, and in areas of fuel switching and methane capture. However, an expert poll reveals that the host country approvals required for CDM to take off may themselves act as barriers. Agreeing with the findings of the poll conducted by Point Carbon, a Norwegian agency, director general of TERI and chairman of Intergovernmental Panel on Climate Change, RK Pachauri, says, "Despite potential, the much-touted CDM may prove to be a damp squib in India. This is because the international perception is that it is very difficult to do business here."

According to the expert poll, host government approval is crucial to minimise transaction costs (like time, effort, resources to locate, negotiate and complete a deal), which in turn reduces total project cost. However, the experience of the World Bank's Prototype Carbon Fund so far is not very promising — it has had a hard time getting government approvals, it says. This is true of China too, which is otherwise an investor's favourite due to its huge potential, favourable investment climate and fast growth.

According to the poll, by the time the Asian giants (India and China) put their CDM apparatus in place, others in Central America, including Mexico, would have gained CDM experience. With methane gas capture from mines, landfills and pipelines (flaring) being most attractive, South Korea and Chile may also score over the others because they also have a policy in place. Under the UN Framework Convention on Climate Change, the developed countries can invest in environment-friendly projects in developing countries. The polluting greenhouse gases reduced through these projects will be deemed reduced by the investing country. CDM, under the Kyoto Protocol, allows developed country investors to earn carbon credits from non-GHG emitting projects in developing countries to be settled against their own emission reduction targets.

In order to make this market-based mechanism work, operational entities — consultants of sorts — have to be appointed in developing countries. The executive board has received 11 such applications — from Asia Pacific, Western Europe and other regions. A couple of accreditations should come through in two months. While India submitted six such proposals earlier, Preeti M Bhandari, director, policy analysis division, TERI, points out that they are for 'CDM-like' projects and India does not as yet have a CDM policy in place. According to Mr Pachauri, even if it takes off, CDM may not be large in terms of size of transactions — around \$40-50bn by '12.

27) SWISS CEMENT INDUSTRY AGREES TO CO2 CUTS

Pressetext

February 12, 2003

Internet: <http://www.presetext.com/pte.mc?pte=030212033>

Bern (pte, Feb 12, 2003 14:04) - Switzerland's cement industry has become the first sector to join forces with the government in setting targets to reduce carbon dioxide (CO2) emissions. In a signed agreement, the sector has pledged to reduce emissions between now and 2010. The agreement was made under the government's Energy Switzerland programme, which aims to achieve a ten per cent reduction in CO2 emissions compared with 1990 levels. The target is required by national law. Under the agreement, the cement industry is prepared to reduce the amount of CO2 produced by fossil fuel combustion processes by 44 per cent. This should largely be achieved through the replacement of fossil carbon-based fuels with renewables. A second binding target is to reduce the amount of CO2 resulting from manufacturing processes by 30 per cent.

Switzerland's federal agency for the environment, forests and landscape (Buwal) expects to conclude around 30 similar agreements with various financial sectors under the Energy Switzerland programme this year. Despite expected progress, Buwal says the government has not ruled out the introduction of a special CO2 tax to help it meet the ten per cent target.

28) UK 'MAY FAIL ON CLIMATE CUTS'

BBC

February 12, 2003

Internet: <http://news.bbc.co.uk/2/hi/science/nature/2748977.stm>

The UK Government is unlikely to meet its pledge to cut a key greenhouse gas, a respected advisory group says. The advisers, the Sustainable Development Commission, say measures for significantly reducing carbon dioxide (CO2) emissions are lacking. They praise ministers for working to achieve a more modest international commitment to cut greenhouse gases. And they say there is a need for political leadership to boost climate change policies. The commission has published a report, UK Climate Change Programme: A policy audit, which it says is a contribution to the government's review of the programme, promised for later in 2003. The UK is committed under the Kyoto Protocol, the international agreement on tackling climate change, to cut emissions of six greenhouse gases to 12.5% below their 1990 levels by between 2008 and 2012.

HEADING FOR FAILURE

The commission says: "We believe the UK is likely to achieve its Kyoto target... Few other countries can claim that. It is a positive point, which we must build on in encouraging greater efforts internationally." But the government has also promised to cut emissions of CO2, the main greenhouse gas produced by human activities, to 20% below their 1990 levels by 2010. The commission says its analysis shows the UK "will fall well short" of this goal "unless further measures are taken".

It says measures to achieve the goal "are simply not in place. The UK is unlikely to achieve even two-thirds of that reduction, and maybe less than half." The commission adds: "This is not a reason to abandon the goal, but to redouble efforts to achieve it. There is still time to do so. "And there are great benefits, not only for the long term by helping to slow global climate change, but immediately through business opportunities for low-carbon technologies and by giving ourselves a better quality of life all round.

NO NEW THINKING

"The emissions reductions from the 10-year transport plan are particularly at risk. And international air travel, not even included in the calculations or the goal, threatens to blow away all the good work in industry and other sectors." In one key finding, it says: "Looking beyond 2010, the UK projections do not yet show the radical shift needed towards a low carbon path, nor are the policies in place to achieve more sustainable patterns of energy generation and consumption." Jonathon Porritt, chairman of the commission, said: "These are disturbing findings. The Government must now seize the opportunity of using the energy White Paper to bring us back on track for 2010, and set us on a low-carbon path into the longer term." Publication of the White Paper, spelling out the government's policy proposals on energy, is expected in March. Walter Menzies, a member of the Sustainable Development Commission, told BBC News Online: "It's not all bad by any means - it's more a question of 'could do better'.

LIVING IN HOPE

"I think the big litmus test is the White Paper. If ever there were a test of government policy on sustainable development, it'll be that. "It's a hugely difficult question, but we've been quite encouraged by our discussions with ministers and officials. "Internationally, the government has driven things forwards on climate change, but domestically I'm not so sure. "We're looking forward to the Prime Minister making his first substantial speech on sustainable development. Watch this space." Other measures the report calls for include progress on energy efficiency, transport, combined heat and power schemes, and renewable energy sources.

See Also:

GREENHOUSE GAS WARNING, Sky News, February 12, 2003, Internet:
<http://www.sky.com/skynews/article/0,,31500-12244748,00.html>

29) TEMPERATURE RISE ANOTHER CORAL ENEMY

The Courier Mail (Queensland,Australia)

February 12, 2003

Internet:

http://www.thecouriermail.news.com.au/common/story_page/0,5936,5969964%255E3102,00.html

CLIMATE change will be so dramatic by the end of this century the ocean in the southern Great Barrier Reef will have reached temperatures now only seen in the tropics, new CSIRO research predicts. Separate experiments have shown the warming, predicted to be between 1-4deg, would theoretically be enough to kill many corals by a process called coral bleaching. The report has reopened the long-running debate about whether the Reef really is in trouble or if it scientists and conservationists are crying wolf. In the past two decades there have been warnings the Reef was at dire risk of succumbing to crown of thorns starfish, pesticides, mud,

fertilisers, overfishing, climate change, rising sea levels and a newly discovered problem known as white disease.

A small but increasingly vocal group of scientists, including James Cook University marine geologist Bob Carter, is convinced there is no credible threat to the marine park. Professor Carter, an expert on sediment, said there had been no increase in muddiness in the Great Barrier Reef lagoon since European settlement and nor would there be for another 100,000 years at current rates of development. He pointed to a Productivity Commission report last year which said the Reef was still in good condition, with the exception of some inshore reefs, and an international study late last year which found the Reef was in excellent condition compared with reefs in other countries.

However, Roger Jones, from CSIRO Atmospheric Research, said his work showed that although sea temperatures would climb more slowly than land temperatures, the waters of the southern sector of the Reef may reach up to 31deg in an average summer by 2070. Even by 2030 temperatures could rise half to 1deg above 1990 levels, enough to cause bleaching seven to nine times every decade in sensitive inshore areas. By 2070 bleaching could occur nine times a decade, the events would be more intense and recovery times longer.

"There is still uncertainty because of the state of scientific knowledge on global warming and possible future variables such as economic growth rates and the impact of programs to limit greenhouse gas emissions," he conceded. "Recovery has been good in the four bleaching events since 1991, but whether that will continue we just don't know yet." A scientist said yesterday he believed the dreaded crown of thorns starfish could be helping the Reef rather than eating it into extinction. "It's still only a theory that we are not too sure about yet," said Australian Institute of Marine Science researcher Ian Miller. The first plague of the black spiky starfish was discovered around Green Island off Cairns in 1962 and has since moved unrelentingly along the Reef. But some scientists think the starfish aids coral diversity by controlling dominant species.

30) BRITAIN FACES DROUGHT AND FLOODS BY THE 22ND CENTURY

Independent

February 12, 2003

Internet: <http://news.independent.co.uk/uk/environment/story.jsp?story=377588>

Britain's climate will heat faster in the next 100 years than at any time since the end of the Ice Age, with droughts in summer and floods in winter becoming more common in the south and east, the Government warned yesterday. The changes are inevitable, said the Department for Environment, Food and Rural Affairs, using data from the Hadley Centre, Britain's premier climate-study facility. The Environment Agency, responsible for monitoring recent river flooding and protecting the British environment, said tackling the effects of climate change was already proving costly, and added: "Our emergency workforce is the 'thin green frontline' when it comes to flood events."

The gloomy picture of a climate out of control, and of defences being overwhelmed, brought renewed calls for faster and more radical government action, especially by the United States, the largest generator of the carbon dioxide that is a key greenhouse gas leading to warming. The analysis found that on average Britain would warm by between two and five degrees centigrade in the coming century, though the rise would be greater over land, reaching up to eight degrees centigrade in the south and east. To stabilise the levels of carbon dioxide would become harder, the Defra report said. "We're already seeing the some change created by the greenhouse emissions of the Seventies," said Geoff Jenkins, head of the climate prediction group at the Hadley Centre. "We expect the trend to continue."

In the south and east, which are most affected by the continental land mass, summer sunshine will increase by 20 per cent, but winter rainfall will increase by 25 per cent, and summer rainfall could halve. "The United Kingdom is facing a future of unprecedented change," Defra said. "Cutting emissions now and in the future will go some way to prevent the worst effects, but our past emissions mean some degree of change is inevitable." A spokesman for the environment group Greenpeace said: "Things need to be done now. Global warming is happening and it will affect people in the developing world more than anywhere else. Many lives are going to be lost to global warming unless action is taken now. One would hope that this report is a spur for White House action."

America has been reluctant to make firm commitments to reducing carbon dioxide emissions, having snubbed the Kyoto Treaty, which was intended to reduce emissions from industrialised countries below their 1990 levels by 2010. Britain has committed itself to meeting those targets. But measurements taken by the Hadley Centre show "carbon feedback" from forests and natural vegetation – as rain forests are cut down and burnt – is rising and could accelerate global warming even further. The atmospheric concentration of many greenhouse gases reached their highest levels in 2001; global temperatures continued to rise with 2002, 2001 and 1998 being the hottest years on record. Defra said it had strategies in place to cope with flooding.

31) RED SQUIRRELS EVOLVING WITH GLOBAL WARMING

New Scientist

February 12, 2003

Internet: <http://www.newscientist.com/news/news.jsp?id=ns99993382>

Red squirrels are rapidly evolving in response to global warming - they are the first mammals in which such genetic changes have been seen. The discovery could bode well for other species struggling to adapt to new conditions, say researchers. Andrew McAdam, at the University of Alberta, Canada, and colleagues monitored four generations of squirrels in the Yukon, Canada, over 10 years. They found that female squirrels now give birth on average 18 days earlier in the year than their great-grandmothers. They then used a statistical technique to separate changes in behaviour resulting from an individual's flexibility from those resulting from genetic changes, where the frequency of certain genes increases from one generation to the next.

The technique is called quantitative genetics, and has long been used in agriculture. It attributes about 15 per cent of the observed shift in birth date to genetic factors. "Because climate change is happening so fast, the perceived wisdom is that mammals won't be able to undergo evolution to keep up with that," says Lesley Hughes, who researches the effects of climate change on species at Macquarie University in Australia. "But this work offers a little glimmer of hope, at least for some species."

LIVE LONG AND PROSPER

The driving force behind the evolutionary changes is that the warmer climate means that females with a genetic propensity to give birth earlier are more likely to have offspring that prosper. These early-borns have a head start on their younger peers. They are bigger and more independent when autumn comes and it is time to store food, says Stan Boutin, another member of the team. The work joins a growing body of evidence that many living things are changing their abundance, distribution and behaviour in response to increasing global temperatures. Genetic changes have been shown in American mosquitoes but this is the first study that demonstrates a genetic shift in a mammal. However it is unlikely that humans have started to evolve in response to climate change. "We have been able to overcome so many of

the selective pressures that would normally be important because of medical breakthroughs," says Boutin.

See Also:

GLOBAL WARMING CAUSING GENETIC CHANGES; UPI, February 12, 2003, Internet: www.upi.com/view.cfm?StoryID=20030212-030811-3739r

32) A DEEP-SIX FIX; COULD BURYING FOSSIL-FUEL EMISSIONS SAVE THE CLIMATE?

US News

February 10, 2003

Internet: <http://www.usnews.com/usnews/issue/030210/misc/10carbon.htm>

"These guys are wacko!" was earth scientist Sally Benson's initial reaction several years back when two prominent scientists gave a talk about an answer to global warming that sounded too good to be true. Carbon dioxide from fossil fuels traps heat as it builds up in the atmosphere, and most scientists think the trend, if unchecked, bodes a scorching future. So why not catch the stuff before it goes up smokestacks, the speakers proposed? Why not simply bury it underground or in the ocean depths?

Today Benson heads a U.S. Department of Energy effort to explore just that idea, which is seeming less wacky every day. Last November, Energy Secretary Spencer Abraham announced that the Bush administration would invest as much as \$90 million in research on burying carbon dioxide. BP and ChevronTexaco are studying the strategy, called carbon sequestration. Test projects in Canada and the North Sea are yielding encouraging results. Even many environmentalists support sequestration research. Says David Hawkins, director of the Natural Resources Defense Council's climate center: "The challenge of climate change is too large and looming too close in time for us to ignore the contribution that carbon storage could make."

Not in my ocean. Carbon sequestration schemes target emissions only from factory and power plant smokestacks, not from the tailpipes of cars and SUVs. And stripping carbon dioxide from the stew of chemicals emitted by these big polluters could be costly. Further, while carbon dioxide is hardly nuclear waste, there's a heated controversy about the safest place to put it. Just last August, Greenpeace helped scupper a test project that would have injected carbon dioxide into the North Sea, asserting that marine burial could damage ocean ecosystems. Underground repositories, for their part, might leak.

But if sequestration worked, the payoff could be huge. Most scientists concur that to prevent drastic global changes--which could include shifts in ocean currents, inundated coastlines, and expanded deserts--the atmosphere's carbon dioxide concentration will have to be capped at about twice its levels before the Industrial Revolution 200 years ago, when large-scale fossil fuel use began. That would mean limiting global emissions of the gas to current levels within two decades, even as the world's population increases and energy consumption jumps in the Third World as poor nations grow richer. We can't bury all the excess, says Benson, but carbon storage could "make a huge dent," buying precious time in which to shift from coal, oil, and gas to new, greener energy sources.

The world's first commercial-scale sequestration effort is already underway on a natural-gas rig off the coast of Norway. Each week, workers pipe 20,000 tons of carbon dioxide--an amount equivalent to the output of a 150-megawatt coal-fired power plant--into the porous rock of a saltwater aquifer more than half a mile below the seafloor. The source of the carbon dioxide isn't a power plant but the natural gas itself. It comes out of the well containing a high

percentage of carbon dioxide, which must be stripped out before the fuel can be sold. After Norway levied a tax on offshore carbon dioxide emissions in 1996, the rig's owners decided to bury the waste gas instead of venting it.

Good seal. So far, the aquifer seems to be gas-tight. Scientists monitoring it had a scare recently when seismic images seemed to show that carbon dioxide had seeped into the clay-and-shale cap sealing the aquifer. But it turned out they had been fooled by an upward curve in the cap. Late last year, the Energy Department announced that it, too, would investigate whether the gas could be stored in deep saltwater aquifers (freshwater reservoirs are too precious to contaminate). The project is slated for the Ohio River Valley, in part because of the many power plants in the region. To forestall climate change, such formations would have to store the carbon dioxide for centuries. It will be at least a decade before geologists will be able to say with any certainty whether aquifers can contain the gas over the long term. But if they can, the search for storage space would be over. It's been estimated that deep saline aquifers in the United States alone could hold 500 billion tons of carbon dioxide, room enough to store centuries' worth of U.S. emissions, at current levels.

An ongoing experiment in a declining Saskatchewan oil field is exploring another type of repository--one that many say is a surer bet than aquifers. Two hundred miles to the south, the Great Plains Synfuels Plant near Beulah, N.D., turns coal into clean-burning natural gas, producing carbon dioxide as a byproduct. Two years ago the plant began piping carbon dioxide north to the Weyburn oil field. There it's pumped deep underground to help squeeze extra output from the well--a common practice in fields that have begun to run dry. Depleted oil and gas fields have less than a tenth of the total storage capacity of the world's saline aquifers, but they've successfully stored oil and gas for tens of millions of years--a "bulletproof indication" that these formations don't leak, says Steven Pacala, codirector of the Carbon Mitigation Initiative at Princeton University. Engineers will be monitoring the Weyburn field to see whether it can still trap gas after being tapped for oil.

Far more controversial are plans for disposing of carbon in the deep sea. The oceans naturally soak up about one third of industrial carbon dioxide emissions; in principle, they could mop up a lot more. In fact, if the entire amount of carbon dioxide needed to double atmospheric concentrations were stashed in the oceans, their carbon content would rise by only 2 percent. Lured by these kinds of figures, scientists have investigated two strategies for sequestering carbon in the seas. The ill-fated North Sea experiment would have tested one approach: simply pumping liquefied carbon dioxide to depths of thousands of feet. Researchers originally planned to inject several tons of it into the waters off the Kona coast of Hawaii to see how the gas would disperse and dissolve, but environmental activists blocked the test. The team then sought to move it to Norway, but green groups fought it there, too. "Instead of trying to put the smokestack underwater, we should be investing massively in energy efficiency and renewables [like solar and wind power]," argues Kert Davies, research director for the U.S. office of Greenpeace. Even scientists who think the scheme is worth studying have doubts about large-scale efforts, fearing that dumping billions of tons in the oceans could smother deep-living organisms and have unintended--and dire--effects on climate. Field tests of a second approach have given critics fresh ammunition.

Scientists have long speculated that they could encourage the growth of single-celled marine algae by fertilizing the ocean with iron, a scarce nutrient. In theory, the plants would gobble carbon as they grew and store it away in the depths as they died and sank. But when scientists spread iron fertilizer in waters south of New Zealand recently, they found that although the algae did flourish and absorb extra carbon dioxide from the water, it took fully 1 ton of iron to sequester 1,000 tons of carbon. Moreover, the iron-gorged algae cranked up their production of two harmful gases--isoprene, itself a greenhouse gas, and methyl bromide, which is known to damage the Earth's protective ozone layer.

Wherever the gas is buried, engineers also face the challenge of capturing it in the first place. One idea is to retrofit big emitters like coal-fired power plants with "scrubbers," which would chemically strip the gas from the exhaust. A second, more radical strategy would extract carbon dioxide from coal or oil without burning it. Experts have high hopes for the technology, much of which is already in use in synfuels plants. Not only does it yield a stream of carbon dioxide, but it also produces the cleanest fuel of all--pure hydrogen gas, needed for the fuel-cell cars that the Bush administration is encouraging. Many energy gurus talk about a future in which power stations would generate both electricity and hydrogen for cars, all without producing any climate-warming emissions.

For now, either approach is far too expensive: as much as \$100 per ton of carbon emissions avoided. The Energy Department's research program aims to slash costs to \$10 per ton or less by 2015. Private R&D is vital, too. But mobilizing the private sector may mean giving companies financial incentives to trim their emissions. Hawkins of the Natural Resources Defense Council advocates a system of tradable emissions credits--like the one that prompted utilities to scrub acid-rain-causing sulfur from their exhaust streams. Another approach is levying a tax on carbon emissions.

The Bush administration has opposed such measures and this month will announce plans for a voluntary reduction program. Last month, however, 13 major corporations--including DuPont, Ford, and Motorola--and the city of Chicago pledged to create their own pilot credit-trading system, called the Chicago Climate Exchange. The participants agreed to reduce their emissions by 1 percent a year for four years. Any member that achieved deeper cuts would be granted credits, which could be traded to companies having trouble meeting their goal. It's too soon to say whether carbon sequestration is the answer to the greenhouse gas problem, a stopgap, or a dead end. But like many other advocates, Princeton's Pacala says he no longer feels depressed about global warming. "Envision the solution," he says, "and you lose the despair."

33) A FADING GREEN HOPE FOR CLIMATE

US News

February 10, 2003

Internet: <http://www.usnews.com/usnews/issue/030210/misc/10carbon.b.htm>

It was a comforting dream while it lasted: Carbon dioxide spewed into the air from tailpipes and smokestacks would speed up the growth of forests. The forests in turn would store the carbon in wood and soil, staving off climate change. The theory even undergirded the Kyoto Protocol, which allows countries to meet greenhouse gas targets by planting trees as well as by trimming industrial emissions. But the latest research has delivered an unpleasant wake-up call.

Plants need carbon dioxide for photosynthesis and growth, so it wasn't unreasonable to imagine that rising carbon dioxide levels would act as a planetary fertilizer. In 1996, a team of researchers led by biogeochemist William Schlesinger of Duke University began testing the theory. They pumped tons of carbon dioxide daily from towers rising over an experimental forest of loblolly pines outside Chapel Hill, N.C. Meters measured gases entering and leaving the pine needles; bands on the tree trunks assessed their month-to-month growth. The initial results were reassuring: When the researchers increased ambient levels of the gas by about 50 percent, to levels expected by midcentury, tree growth jumped by up to 25 percent.

But the longer they studied the forest, the more complicated the picture looked. For starters, the growth spurt lasted just four years. Later, the trees settled back to growing only about 6 percent faster than their neighbors. "The trees quickly run down key nutrients in the soil," explains Schlesinger. Trees grown in carbon-dioxide-enriched air also compensated by

pumping more of the carbon down through their roots to microbes in the soil. Instead of storing the carbon in the soil as humus, these organisms released much of it back into the air as carbon dioxide.

After seven years amid the loblolly pines, Schlesinger has concluded that we can't rely on the forests of the future to store our excess carbon dioxide. "I would count on nothing," he says flatly. To some scientists, that's an argument for taking matters into our own hands and looking for ways to bury the gas. To Schlesinger, though, it underscores the hazards of tinkering with natural systems. He thinks that the best solution to global warming is to burn less coal, oil, and natural gas. "Rather than trying to gather up marbles that have spilled, let's not spill 'em in the first place." -B.C.

34) ASIAN POLLUTION CLOUD CHANGING CLIMATE, STUDY SAYS

National Geographic

February 10, 2003

Internet: http://news.nationalgeographic.com/news/2003/02/0210_030210_TVdust.html

When factories, power plants or automobiles spew pollutants into the air, these emissions take to the wind and travel wherever it blows. A toxic blend of soot, ash, acids and other airborne particles crosses borders and oceans—polluting faraway places and affecting climate, rainfall and causing acid rain. An international consortium of researchers from three different projects are investigating one of the world's most potent sources of air pollution: the so-called "Asian Express," created over the last decade by rapid Asian industrialization, which is driving changes in the Earth's atmosphere. A series of recent studies tracked the brown pollution cloud along its annual transpacific migration. Each spring, strong winds blow east from Central China, gathering dust which acts like a sponge, soaking up pollution from East Asia's thick blanket of smog.

This dirty particulate stew most directly threatens Japan, Korea and Taiwan. But this brown cloud can blow eastward across 6,000 miles of ocean to the United States in only four to 10 days—too little time for the air to be cleansed over the sea. Given the pass-along nature of pollution, however, researchers point out that every region of the world makes its contribution. "The amount of pollution we get from Asia is probably not dramatically different from what we send to Europe, and Europe sends to Asia," says Barry Joe Huebert, an atmospheric chemist at the University of Hawaii in Honolulu. "We have to think of atmosphere chemistry and its impact on air quality and climate as global issues."

Huebert and other authorities on wind borne pollution presented their findings in December at the annual meeting of American Geophysical Union. Their research identified the major sources of pollution and quantified how much reaches North America. "The ultimate use of this data will be for setting policy for the use of fossil fuels and other pollutants we put into the atmosphere," said Huebert. During spring 2001 and 2002, hundreds of scientists from 13 countries joined forces to study air pollution from Asia. The international team tracked and sampled dust plumes from ground stations, aircraft, ships and by satellite.

ATMOSPHERIC AEROSOLS

Huebert headed the research team for the Aerosol Characterization Experiments, or ACE-Asia, which concentrated on aerosols—tiny solid or liquid particles suspended in the atmosphere. Some aerosols come from natural sources like dust from volcanoes and deserts. But most come from human activities like burning wood and coal. Asia is one of the largest sources of aerosols on the Earth. Aerosols can harm human health by causing asthma and through exposure to the carcinogens they harbor, including arsenic, lead, chromium, selenium and other toxic materials. Aerosols powerfully affect the environment and climate. They

absorb the acids that create acid rain. They reflect sunlight and influence rainfall patterns, affecting weather and global climate change. Understanding the way they affect climate is one of the more perplexing problems for atmospheric scientists. Atmospheric scientists are puzzling over the interaction of aerosols and other factors like greenhouse gases—carbon dioxide and other gases that trap the sun's heat and warm the Earth's atmosphere.

ALTERING CLIMATE

"While many parts of Earth are warming up because of greenhouse gases, in places where there are huge concentrations of aerosols, there is actually cooling," said Huebert. In April, for example, the surface cooling effect of aerosols downwind of Asia is 10 percent higher than warming caused by greenhouse gases, Huebert notes. When you increase temperature differences between places, it may increase the severity of storms, like hurricanes," Huebert says. "One possibility is that this could cause more severe storms, more droughts and more floods." Although the climatic impact of this cooling is still being assessed, scientists do know that these temperature disparities have great impact on the water cycle. "When air is warmer than the Earth below it, you reduce evaporation and the formation of clouds—which reduces rainfall," explained Huebert.

GOOD AND BAD NEWS

Researchers presented good news as well as bad. One study, Transport and Chemical Evolution over the Pacific (TRACE-P), "sniffed air coming out of China to learn what was being emitted," says project leader Daniel J. Jacob, an atmospheric chemist from Harvard University in Cambridge, Mass. Jacob's team tested for about 100 different "species" of pollutants, including greenhouse gases, aerosols and ozone. Although nothing on the list had significantly improved since 1994, "there hasn't been the kind of explosive growth that was predicted," Jacob says. An exception was soot and carbon, caused by low-tech polluters like wood- and dung-burning stoves and cooking fires, as well as dirty industries. "There was also a lot of biomass burning from forest fires in Cambodia and Thailand," Jacob says.

ASIAN OZONE COMES TO CALIFORNIA

Another study examined ozone levels reaching California from across the Pacific and discovered that they are 30 percent higher than levels detected in 1985. "The increase in ozone is surprising," says David P. Parrish, an atmospheric chemist with the National Oceanic and Atmospheric Administration Aeronomy Lab in Boulder, Colo., and head of the Intercontinental Transport and Chemical Transformation study. "It was larger than we expected. It reduces the room we have to mess up our own air." "To address the problem, we will need an international consortium of governments willing to make policy based on the best available scientific consensus," Huebert says. In a world where prevailing winds can push pollution clouds like the Asian Express halfway around the world in a week's time, these new findings underscore how no nation is an island.

35) ARAB STATES CLAIM CO2 TARGETS COULD CAUSE SLUMP

Independent

February 9, 2003

Internet: <http://news.independent.co.uk/business/news/story.jsp?story=376612>

Powerful Arab oil producers have hardened their stance on climate change in a defiant statement dismissing claims that oil consumption is the main cause of global warming. In a deliberate challenge to the United Nations-led consensus on climate change, ministers of 13 Arab oil producers claimed they had an inalienable right to continue producing oil and to continue increasing the region's wealth from oil sales. But at the same time the bloc, which

includes leading producers such as Saudi Arabia, Kuwait, Iraq and the United Arab Emirates, claimed they deserved substantial compensation and new technology subsidies if the world pressed ahead with cuts in oil use.

Their lengthy and at times contradictory declaration, signed during a regional conference on energy and the environment in Abu Dhabi last week, claimed environmental protection and climate change were pretexts to damage the region's economic interests. "Such unfounded allegations and doubts would make victims of the oil and gas sector, and may result in a recession in world demand, thus harming the interests of producers," it read. In another passage, the signatories of the so-called Abu Dhabi Declaration said they "re-affirmed the necessity of a continuous and unobstructed supply of oil and gas to international markets". Their blunt dismissal of the climate change case will be read with dismay by climatologists, the UN and environmentalists, as it appears to strengthen the anti-Kyoto Protocol camp led, ironically, by the United States.

Speaking in Abu Dhabi a day after the declaration was signed, Claude Martin, the director-general of the wildlife charity WWF International, accused the signatories of "living in denial". The Arab world, he said, had only three or four decades before their oil reserves ran out and new sources of energy emerged. "That is the bottom line: diversify your economies," he said. "Denial will not lead anywhere and just leads to delays. It's bad politics and does not serve the interests of their countries." The declaration was signed by states accounting for roughly 40 per cent of global oil and gas production. Worryingly for the UN, it makes clear that the Arab world plans to exact a heavy price for accepting future cuts in its oil revenues, which is expected to involve substantial help in developing new technologies and industries.

Continued oil production, the signatories insisted, was central to tackling poverty in the region and to ensuring the "sustainable development" of their economies – code for guaranteeing the long-term protection of their oil exports. However, the statement repeatedly stressed the need for oil producers to make their industry as environmentally friendly as possible, for example by focusing on clean production techniques, by developing new techniques to dispose of CO₂ safely, by completely cutting waste gas "flaring", and by supporting lead-free and low-sulphur fuels. Although the statement fails to set any regional targets for CO₂ reduction, seasoned observers believe its numerous concessions on the environment suggest Arab states will eventually accept climate change is a reality. Many younger Arab ministers are thought privately to accept that the scientific case has been made, but are determined to ensure their economic wealth and political survival are not harmed in the process.

36) MCCREEVY URGED TO HONOUR PLEDGE ON CARBON TAX

Examiner (Ireland)

February 8, 2003

Internet: http://www.examiner.ie/pport/web/ireland/Full_Story/did-sgqasYGg3lkYY.asp

FINANCE Minister Charlie McCreevy was urged yesterday to follow through on his promise to introduce a carbon tax as soon as possible. The Green Party have called for the measure in each of Mr McCreevy's budgets over the past six years. Environment Minister Martin Cullen has also backed the move as a means of reaching Ireland's commitments under the Kyoto protocol. The tax will apply to coal, gas, petrol, diesel and other fuels.

At the publication of the Finance Bill this week, Mr McCreevy said the public must start to be aware that the introduction of the carbon tax next year will increase the cost of fuel and electricity. But the rate at which the tax will be introduced has yet to be confirmed by Mr McCreevy. The Government was afraid to introduce the tax as it would have inflationary implications and harm the competitiveness of the economy, Mr McCreevy said.

Mr McCreevy set up an inter-departmental working group to examine the options available to him in introducing the tax. The report of the group is being considered by him. Last night Green Party finance spokesman Dan Boyle said the carbon tax should be introduced as a substitute for other taxes, although he felt this was unlikely. "The minister is looking for sources of additional funding rather than reforming the system," he said.

37) RUSSIA: WILD CARD IN KYOTO PACT

Wired

February 8, 2003

Internet: <http://www.wired.com/news/politics/0,1283,57499,00.html>

Fears are mounting among environmentalists that the Bush administration has embarked on a fresh effort to kill an international treaty on reducing greenhouse-gas emissions by pressuring Russia to bow out, too. Late last year, Canada joined Europe in ratifying the controversial Kyoto Protocol, which President Bush had famously declared "dead." That left Russia as the last variable in the tense worldwide wrangling over the protocol's fate. If it gets ratified -- as President Vladimir Putin announced last year it would -- enough countries would be on board to trigger worldwide implementation.

That would be a political setback for the United States, which has recently been trumpeting its own program to reduce pollution by encouraging large corporations to make voluntary efforts. A lineup of 14 prominent U.S. corporations, including DuPont, Ford Motor Company and Motorola, announced in January that they were forming the Chicago Climate Exchange for trading greenhouse-gas emissions. To many observers, Russia seemed to change its public stance on Kyoto following a recent visit to Moscow by Harlan Watson, the State Department's senior climate negotiator and special representative. Whether Watson was working behind the scenes to encourage the Russians not to ratify the treaty, or it's merely a matter of timing, speculation has been rampant that the United States has been flexing its diplomatic muscle. "Many, many people think that they are trying to push Russia out of Kyoto," said Alexey Kokorin, who handles climate-change issues for the Russian branch of the World Wildlife Fund, adding that given the expected secrecy behind any U.S. efforts, he had no hard facts to go on. The Bush administration rejected the Kyoto Protocol in March 2001, leaving many to conclude that the treaty was doomed. But that July in Bonn, Germany, a compromise version of the treaty was agreed upon. It sets targets for reductions in emissions of heat-trapping gases below 1990 levels.

Watson could not be reached at the State Department for comment, but U.S. officials have denied lobbying Russia on Kyoto. However, the two countries now plan to work together to formulate policy on climate change -- and will hold a conference this fall in Russia on the topic. The central issue is economics. Many experts believe that the protocol would have a positive economic impact in Russia, since the new system would feature buying and selling of so-called emissions credits. Russia, with its vast geography, would be in a position to sell credits.

But in January, Russia began emphasizing potential economic disadvantages of the protocol. "Concern about the economic impact on the United States is one of the key considerations that led President Bush to reject the Kyoto Protocol," Watson reminded his hosts during his visit to Russia. Alexey Kuraev of the Russian Regional Ecological Center said that while behind-the-scenes pressures would be difficult to detect, the U.S. government's public opposition to the protocol has forced Russia to change its own thinking. "Naturally the U.S. government does not officially pressure Russia not to ratify the Kyoto Protocol," Kuraev said. "But after the United States withdrew from Kyoto, some of the influential Russian politicians started to say that Kyoto lost economic value for Russia."

But the creation of the Chicago Climate Exchange indicates that, even with no U.S. participation in Kyoto, it will be closely involved in emissions trading. Some speculate that the United States is trying to provide political cover to establish its own approach to mitigating global warming. "We hear the United States is going to propose to Russia to develop a new international agreement on greenhouse gases that would be an alternative to Kyoto," said Kuraev. "This fact slowed down ratification of Kyoto by Russia also."

38) GERMAN NUCLEAR POWER EXIT JARS WITH CO2 GOALS - DATF

Planet Ark

February 7, 2003

Internet: <http://www.planetark.org/dailynewsstory.cfm/newsid/19732/story.htm>

FRANKFURT - Germany's plans to give up nuclear power and fill the supply gap from coal, gas and renewable sources conflicts with its greenhouse gas reduction targets, the country's nuclear industry lobby said. "Depending on the share of each energy resource (other than nuclear) that will mean between 80 and 130 million tons of additional CO2 (carbon dioxide) emissions," the president of the Berlin-based Deutsche Atomforum (DAfF) said in a statement.

Gert Maichel, who also heads German utility RWE's (RWE.G) energy plant division RWE Power, said this total dwarfed the reduction in carbon dioxide emissions that Germany still had to make under the Kyoto pact on global warming. "Compared to that (amount of CO2 emissions), the 24 million tons of CO2 which we still need to cut, to fulfil German Kyoto commitments, seem small," Maichel said. The German government aims to entirely ditch nuclear power, which accounts for almost a third of German power generation of 550 terawatt hours (TWh), by the early 2020s.

Germany is also pressing on with political targets to slash emissions of greenhouse gases, which largely rule out the promotion of "dirty" coal-based technology. The Kyoto Protocol, agreed by the United Nations in 1997, aims to reduce the developed world's output of the gases which trap heat in the atmosphere with potentially grave long-term consequences for the global environment. Maichel said a EU proposal to make power firms manage their decommissioning funds - money kept to pay for the dismantling of old nuclear plants - separately from the rest of their balance sheet was legally unfounded. "As long as there is no harmonisation in (nuclear) waste disposal within the EU, firms in Germany will be disadvantaged, as they have taken high precautionary measures due to sophisticated (German) laws," he added.

The European Parliament has called for a change in legislation to stop power companies with large decommissioning funds from using the money to buy up competitors. Nuclear power aside, coal makes up 52 percent of Germany's annual power production and gas nine percent while renewables and minor sources provide the rest.

39) RUSSIA URGED TO RATIFY KYOTO PROTOCOL: WWF AND GREENPEACE CALL ON EU HEADS OF STATE FOR SWIFT ACTION

WWF

February 7, 2003

Internet: http://www.panda.org/news_facts/newsroom/other_news/news.cfm?uNewsID=5781

Brussels, Belgium - In a joint letter, WWF and Greenpeace have today called upon EU Heads of State and governments to put further pressure on the Russian government for timely ratification of the Kyoto Climate Treaty by the Russian Federation. The letter, jointly signed

by Claude Martin, Director General of WWF International, and Gerd Leipold, Executive Director of Greenpeace International, appeals to EU Heads of State to send President Putin a letter urging ratification of the Kyoto Protocol this spring.

WWF and Greenpeace are concerned that the extraordinary leadership shown by EU governments will all have been for naught unless the EU and its partners act quickly and decisively in this matter. Without external pressure the process will be further delayed, which will contradict Russian statements made at the World Summit for Sustainable Development in Johannesburg last September, where Russian Prime Minister Mikhail Kasyanov promised swift ratification of the Kyoto Climate Treaty.

WWF and Greenpeace suggest that EU Heads of State's requests to Russia should indicate interest and willingness to assist in the implementation of the treaty through joint implementation and inventory projects, and state that the ratification of the Kyoto Protocol will give Russia additional advantages in the development of gas exports to European markets. Timing is critical, in that if ratification is not considered and endorsed by the Spring session of the Duma, then it will likely be put off by at least one year, due to upcoming Duma elections this autumn and presidential elections in March 2004.

Russia's ratification is the last step for the Kyoto Climate Treaty to enter into force. Currently 104 countries have ratified the treaty, accounting for a total of 44.07 per cent of the industrialized countries' emissions in 1990. The treaty requires, however, that the ratifying countries represent 55 per cent of the emissions - which can only be achieved if Russia ratifies.

40) PREMATURE DASH FOR HYDROGEN WOULD NOT BE BENEFICIAL FOR ENVIRONMENT

Eddie weekly summaries

February 7, 2003

Internet:

http://www.edie.net/gf.cfm?L=left_frame.html&R=http://www.edie.net/news/Archive/6625.cfm

A premature 'dash for hydrogen' to fuel vehicles, using up the world's renewable energy resources to produce the gas would not be environmentally beneficial, according to a new study by researchers in the UK. At the end of last month, US President George W Bush announced that he would be pushing for an additional US\$1.2 billion for research into hydrogen fuel (see related story). But at the same time, UK researchers are warning that the development of the hydrogen economy – in particular how hydrogen is produced – needs to be carefully thought out if there are to be environmental benefits.

According to the report by researchers from the Energy Saving Trust, the Institute for European Environmental Policy and the National Society for Clean Air, the best medium term strategy for cutting greenhouse gas emissions would be to focus on more efficient use of fossil fuels, and to introduce fuel cell vehicles using hydrogen produced from biofuels. This would mean that mass market fuel cells should only be introduced at a rate consistent with the ability of biofuels to supply the gas. Focusing on developing hydrogen power as the replacement for the current "unique" fossil fuel dependence of vehicles could preclude the development of other, comparatively beneficial technologies. Rather than using renewable energy to generate hydrogen – until a time when there is a surplus of renewable energy – higher carbon savings would be achieved by displacing electricity from fossil fuel power stations.

“There is no doubt that, long-term, the transport sector could use substantial amounts of hydrogen from renewables,” said co-author Richard Mills of the National Society for Clean Air. In the medium term, however, hydrogen will come from natural gas, he added. The cheapest route to producing hydrogen is from gas, according to the study, and there would be some potential carbon benefits if high efficiency fuel cell vehicles were used. However, according to Mills, it would make more sense to burn the gas directly in vehicles. There would also be benefits – though not as great – if fuel cells were used in petrol or diesel hybrid vehicles.

However, there would be significant carbon benefits if woody biomass was used to produce fuel for cars. This could take the form of hydrogen, methanol, or ethanol. Woody biomass would offer a cheaper and faster route to hydrogen than using renewable energy. If 25% of the UK’s agricultural land were planted with indigenous wood crops subsequently being converted to methanol, ethanol or hydrogen, most or even all of UK road transport demand could be satisfied, according to the study. There are reasons other than shorter term environmental benefits and costs for developing fuel cell vehicles, admits the report. This includes helping to build competitive advantage for a country’s car industries, which can be done by encouraging niche markets, developing expertise and experience.

41) GREENHOUSE GAS WATCHDOG IS TOO GREEN, SAYS REVIEW

Sydney Morning Herald

February 6, 2003

Internet: <http://www.smh.com.au/articles/2003/02/05/1044318669396.html>

The agency that oversees the reduction of Australia's greenhouse gas emissions has been accused of ignoring industry concerns to pursue a pro-environment agenda. An independent review, by the former Howard Government minister Warwick Smith, also recommended that the Australian Greenhouse Office (AGO) be merged with the federal environment department, and that negotiations on the global Kyoto protocol be left to the Department of Foreign Affairs and Trade. "There remain perceptions in some areas that the AGO is still not pursuing a whole-of-government agenda and, in particular, has a bias towards environment at the expense of industry interests," wrote Mr Smith, who is now a director with Macquarie Bank.

He has made seven recommendations about the future of the agency, created by the Federal Government in 1998. Since then the agency has had to deal with the often divergent claims of industry and environmental groups, but has been without a permanent head since the middle of last year. Mr Smith recommended that the office lose its independent status and be merged with the federal environment department after industry representatives complained to him that the agency was ignoring their concerns for the sake of environmental outcomes.

While the agency should still continue to play a role in domestic policy formulation, Mr Smith recommended that it should "take a subordinate role on international greenhouse issues to the Department of Foreign Affairs and Trade". A further review should also be undertaken to see if other agencies would be more effective managers of the AGO's almost \$1 billion in programs to cut greenhouse gas emissions. The federal Environment Minister, David Kemp, yesterday accepted five of the review's seven recommendations but said the office would retain its executive agency status.

Other recommendations, including the direction the office should allow the Department of Foreign Affairs to take a lead role in international negotiations, were accepted, though the department said this formalised an existing arrangement. A spokeswoman for Dr Kemp said that industry needed to be consulted on greenhouse issues because it was responsible for most

of Australia's emissions. "Even if all the households in Australia cut their energy consumption by half it wouldn't produce the kind of big cuts industry can provide," she said.

The Prime Minister, John Howard, last year ruled out Australia ratifying the Kyoto protocol because it was not in the country's best interests. But the Federal Government remains committed to meeting its Kyoto-negotiated target of reducing greenhouse gas emissions to 108 per cent above 1990 levels by 2010. Last year's audit of emissions found Australia would miss that target, with emissions predicted to be 111 per cent above the 1990 levels by 2010. The Opposition spokesman on the environment, Kelvin Thomson, said the Smith review had been a "flop", producing nothing more than a "collection of shallow insights". "There is no leadership or sense of direction on climate change while all the evidence of drought and bushfires suggests the situation requires urgent attention," he said.

42) HAZY VISION, INEXPLICABLE INDIAN TACTICS AT ENVIRONMENT MEET

Financial Express

February 6, 2003 Internet:

http://www.financialexpress.com/fe_full_story.php?content_id=27475

The Asian Brown Cloud is back in the news, this time clouding the Global Ministerial Environment Forum underway in Nairobi. The Indian delegation arrived at the meet not just insecure in the knowledge that the cloud was on the official agenda, but also armed with a healthy dose of churlishness, evident in the refuge it took in scientific ambiguity and global politics while attempting, unsuccessfully, to evade any discussion over it. To be sure, we accept that the preliminary United Nations Assessment Report released last year fails to satisfactorily answer questions on the nature and impact of the cloud.

Moreover, environmental waters have indeed been muddied by politics: In so far as it establishes a (premature) link between the cloud and global warming, the report can be used by the developed world to pressurise developing countries (DCs) to reduce their greenhouse gas emissions, an obligation which the Kyoto Protocol exempts them from, much to the First World's consternation. This is especially probable, given that past such attempts — made regularly at multilateral environment fora — have all failed. We also endorse India's demand that similar studies be undertaken around the globe. After all, there is little reason to believe that industrial development-related pollution is limited to the Asian continent.

Nevertheless, the Indian attempt to sweep the cloud under the carpet is regrettable. For, the following facts are rather unambiguous. The haze/cloud (parties have begun bickering over semantics!) does exist. India's overwhelming reliance on fossil fuels, the widespread practice of clearing land for agriculture by burning trees, and use of bio-fuels do contribute to air pollution. And, indoor air pollution has led to close to 500,000 premature deaths in the country, with millions others suffering from related maladies. Now, contrast the above with the signals that have emanated from Nairobi. By failing to acknowledge the existence of a development-oriented environmental problem, has the government effectively diluted its oft-articulated commitment to sustainable development?

Worse still, does this mean that concrete action to tackle air pollution will be on hold till a more damning report arrives on the scene? It would have been far more desirable for the government to have taken a positive, albeit aggressive, stance of admitting to the existence of the haze, and of highlighting measures taken to promote green fuels, to make available clean technology et al, without mincing words on the need to further refine the study. Publicising voluntary remedial strategies adopted would have served a dual purpose: One, it would have reassured its people that India takes air pollution seriously, and two, it would have worked to counter global pressure to clean up our act. Alas, too often have Indian policymakers substituted tactics for strategy.

43) MINISTERS FIGHT OVER POSSIBLE \$1B KYOTO FUND

The Ottawa Citizen

February 6, 2003

Internet: <http://canada.com/national/story.asp?id=CA3E76F2-2600-4C78-96E6-B150F164B0B0>

Federal cabinet ministers are scrapping over how to spend up to \$1 billion that Finance Minister John Manley is expected to allocate to Kyoto initiatives in next week's budget. Although the amount set aside for Kyoto will remain a secret until the budget is tabled, estimates range from \$500 million to \$1.2 billion. But instead of being allocated to specific programs in the budget, that money will be put in a pot and divvied up later, when the government can agree on how to spend it, sources said.

The four ministers heading the departments of Natural Resources, Environment, Transport and Agriculture were supposed to send a joint memorandum to cabinet in January, asking for funding for climate change programs in the upcoming budget. But the four ministers couldn't agree on which programs to fund. Environment Minister David Anderson has said publicly that his top priorities are a tax incentive for consumers who purchase environmentally friendly cars and a rebate program for people who upgrade energy efficiency in their homes. But Natural Resources Minister Herb Dhaliwal said earlier this week that his top priorities for climate change would be investments in new technology and partnership funds with the provinces and industry. The department also wants funding to renew energy efficiency programs that are ending this year.

Transport Minister David Collenette has long boosted increased train travel as a way to reduce greenhouse gases. Meanwhile, the Agriculture Department under minister Lyle Vanclief wants programs that would allow farmers to sell the carbon dioxide absorbed in their fields for greenhouse gas credits. An incentive program for ethanol -- a grain-based fuel with fewer greenhouse gas emissions than gasoline -- has support from half a dozen cabinet ministers and 95 Liberal backbenchers. The ethanol industry alone is asking for a \$400-million subsidy.

Canadian Alliance environment critic Bob Mills said this week that the disagreement is evidence that the government has no coherent plan to meet the Kyoto target of reducing Canada's annual greenhouse gas emissions by 240 tonnes by the year 2010. The government came out with a Kyoto plan before Prime Minister Jean Chrétien ratified the protocol in December 2002, but the plan contained no specific cost estimates or timelines. "You have to be specific. If it just gets thrown into a pot, it gets frittered away," Mr. Mills said. "They don't have a plan. They don't have a plan at all."

One of the reasons the ministers and officials were unable to reach consensus is that they did not know how much money would be allocated to climate change. The prime minister's top priority for this budget was health care, and no other budget figures had been completed until the federal-provincial health accord was reached last week. As a result of last week's first ministers' meeting, the budget will contain a commitment to spend an additional \$17.3 billion over the next three years in "federal investments" for health care. Of that amount, \$3.9 billion was previously promised by the federal government in its 2000 health accord and \$3.4 billion will be spent on federal programs -- leaving only \$10 billion in "new" money to be transferred to the provinces for health care. The military is expected to reap an additional \$800 million for each of the next three years.

The budget is also expected to provide \$30 million in the coming year to fight homelessness and \$500 million to increase the national child tax benefit for poorer families. The current

disagreement over Kyoto is a continuation of years of infighting between officials in the Environment Department, who wanted to move aggressively to curb greenhouse gases, and those in Natural Resources, who were concerned about the economic impacts on the oil and gas industry.

44) FOREST FOR THE FUTURE

Daily Post

February 6, 2003 Internet:

<http://icnorthwales.icnetwork.co.uk/news/regionalnews/page.cfm?objectid=12612783&method=full>

SCIENTISTS in North Wales are creating mini time machines to study which trees will thrive in the changed climate of 2083. And the research being carried out by the University of Wales, Bangor, could point the way to planting the right trees now to soak up increased levels of carbon dioxide, 80 years ahead. Working at the Henfaes field station on the outskirts of the village of Aber, near Llanfairfechan, the experts are developing the Free Air Carbon Exchange (Face) - the first of its kind in the UK - which will mimic future atmospheric conditions.

The team, led by Douglas Godbold, professor of forest sciences, will use Face to measure how trees will react to climate change conditions in Wales. Key to the project will be a unique system of pipes, with minute holes, to feed young trees, mostly pine, birch, oak and birch, with constant measured and regulated releases of carbon dioxide (CO₂). Instead of being inside greenhouses, the project is carried out in the open air. "The trees will be encircled by the pipes," said a university spokeswoman. "Initially the first cycle of controlled experiments will take between three to four years and there will be no harmful consequences to the local atmosphere, flora or fauna."

Professor Godbold, who has experience of working on a similar facility in Italy, said: "The single factor common to all predictions of climate change is that atmospheric carbon dioxide levels will increase. "While governments can set targets to reduce activities such as the burning of fossil fuels, that contribute carbon dioxide to the atmosphere, one of the measures that can be taken to balance the situation is to plant more trees, which absorb it as a form of fertiliser."

At Bangor scientists are interested in two areas of research - at what point increased planting will help balance things out, and what species of trees will thrive in 50 to 80 years. Prof Godbold said the National Assembly's new afforestation strategy recognised the need for new areas of woodland in Wales. "It also includes a move towards continuous cover forestry involving growing a rotation of mixed broadleaved and evergreen trees of varying ages which are individually felled on maturity. "We need to find out now what trees are going to thrive best in 80 years' time and that is why the Face facility is so important. It will enable us to identify the optimum mix of trees which will thrive, not only in today's climate but also in the future."

* Traditional means of study of CO₂'s effects have been confined to pot-grown plants and greenhouse facilities such as the Centre for Ecology and Hydrology's at Henfaes.

45) WIND POWERS WORLD WILDLIFE FUND HEADQUARTERS

ENS

February 5, 2003

Internet: <http://ens-news.com/ens/feb2003/2003-02-05-09.asp#anchor7>

WASHINGTON, DC, February 5, 2003 (ENS) - The World Wildlife Fund's (WWF) Washington DC headquarters will soon derive 10 percent of its annual power needs from wind energy. The environmental group's headquarters is in a 235,759 square foot facility with eight floors plus a two level parking garage, housing several businesses in addition to WWF's U.S. operations. "Wind energy is an important part of the solution to global warming," said David Sandalow, executive vice president of WWF. "Like us, millions of Americans are eager to buy clean energy and be part of the solution."

The use of clean renewable energy resources helps reduce carbon dioxide and other heat trapping gas emissions that cause global warming and release other toxic pollutants. The WWF's commitment to renewable energy is in keeping with its efforts to combat global warming through its Climate Change Program. The wind energy used by WWF will be produced by The Mountaineer Wind Energy Center, the largest wind power project east of the Mississippi River. The output from Mountaineer, located on Backbone Mountain in West Virginia, is marketed by Community Energy, Inc. and delivered in the DC metro area through Washington Gas Energy Services.

46) COMMISSION ACTS TO IMPROVE MONITORING OF GREENHOUSE GAS EMISSIONS

EU

February 5, 2003

Internet:

http://europa.eu.int/rapid/start/cgi/guesten.ksh?p_action.gettxt=gt&doc=IP/03/187/0|RAPID&lg=EN&display

The European Commission today proposed the strengthening of the existing EU system for monitoring greenhouse gas emissions to bring it in line with obligations under the Kyoto Protocol. This proposal will help the EU and the Member States to comply with their international commitments in the area of Climate change. It will improve the completeness and transparency of EC greenhouse gas data and EU climate change policies. Notably, the new system will introduce further harmonisation of emission forecasts in addition to reinforcing the EU rules applying to monitoring of greenhouse gas emissions. The new monitoring system will also cover the Kyoto Protocol's so-called 'flexible mechanisms' (emission trading, the Clean Development Mechanism and Joint Implementation) and registries. Thereby, not only emissions, but also emission rights will be monitored through the new system.

Environment Commissioner Wallström said : "To ensure that the EU is on track to meet its Kyoto target and deliver the agreed reduction of greenhouse gas emissions, we need a more effective system to check emissions trends. Current emissions forecasts carry a lot of uncertainty and need to be improved. We are therefore proposing some additional common rules in this area." The proposal for a European Parliament and Council Decision would replace the existing Council Decision 93/389/EC on the monitoring of greenhouse gas emissions in the EU and includes the following improvements:

* It reflects the reporting obligations and guidelines for the implementation of the UN Framework Convention on Climate Change ("UNFCCC") and the Kyoto Protocol, as set out in the political agreement and legal decisions taken at major Climate change conferences held in Bonn and Marrakech in 2001(COP6 and COP7). As a result, more information on the methods used to collect the emission data will be available, as agreed in the rules on the inventory system of the Kyoto Protocol.

* It provides for further harmonisation of emission forecasts at Member State and EU-level, for example, the methodologies and models used, as well as underlying assumptions and key input and output parameters will have to be reported .

* It widens the scope of Greenhouse Gas Monitoring in the EU which, in future, will cover areas such as the flexible mechanisms and registries established under the Kyoto Protocol. As a result, the emissions of the six greenhouse gases will be monitored and Emission rights will also come under surveillance.

Currently Member States have to report on their climate change programmes and emission projections annually. In future they would have to do so only every two years, but the latter data will be substantially refined through the new monitoring system. The Commission proposes to strengthen the surveillance of emissions forecasting as there is a need for more comprehensive and detailed data in this area. These emission forecasts are a central aspect of ensuring the EU's compliance with the commitments under the Kyoto Protocol. In order to improve comparability between Member States, projection information needs to include:

- * Projected emissions "with measures" and "with additional measures", as mentioned in the guidelines of the UNFCCC
- * clear identification of the policies and measures included in the projections
- * results of 'sensitivity analysis' performed for the projections
- * descriptions of methodologies, models, underlying assumptions and key input and output parameters

47) WINNIPEG COMMODITY EXCHANGE EYES EMISSIONS TRADING

Reuters

February 5, 2003

Internet:

http://story.news.yahoo.com/news?tmpl=story&u=/nm/20030206/wl_canada_nm/canada_energ_kyoto_credits_col_1

WINNIPEG, Manitoba (Reuters) - The Winnipeg Commodity Exchange is proposing to trade credits in carbon dioxide emissions to help Canadian companies reach targets under the Kyoto accord, the WCE said on Wednesday. "As Canada's only commodity exchange, we think we have a lot to offer in this area," said Bruce Love, the exchange's marketing director. "It's really a business opportunity for us."

Canada on Dec. 17, formally ratified the Kyoto accord on global warming despite fierce opposition from major energy producers in the country. The accord requires Canada to reduce greenhouse gas emissions by 6 percent below 1990 levels by 2012. Emissions are now roughly one-fifth above 1990 levels. "There really aren't a lot of details on what the implementation of Kyoto in Canada is going to look like, that's a matter before the federal government right now," Love said. The 116-year-old exchange, which has open outcry markets for canola, barley, feed wheat and flax futures and options, has set up a separate company to explore electronic trading of carbon credits, called Canadian Climate Exchange Inc.

It would enable companies that reduce emissions below government-set targets to trade their credits with those that emit large amounts of greenhouse gases, Love said, adding potential users include petrochemical companies. The new company has not yet begun discussions with federal government players, Love said. Last year, the World Bank estimated \$500 million of carbon emissions, or roughly 200 million tonnes, have changed hands since trading began in 1996. A voluntary carbon emissions market launched in the United Kingdom last April had attracted about 800 companies to open trading accounts by Jan. 31, far short of the 6,000 expected. European Union environment ministers agreed in December to create the world's first mandatory international carbon trading system in the EU by 2005 -- a market some analysts have said could be worth \$8 billion by 2007. (\$1=\$1.52 Canadian).

48) GLOBAL WARMING MAY WORSEN MERCURY POLLUTION - UN

Planet Ark

February 4, 2003

Internet: <http://www.planetark.org/dailynewsstory.cfm/newsid/19693/story.htm>

NAIROBI - Mercury pollution must be tackled before global warming exacerbates its noxious effects, the United Nations warned yesterday in its first report into the worldwide dangers posed by the heavy metal. The U.N. Environment Programme (UNEP) said activities from gold mining to burning coal in power stations had tripled mercury levels in the air since pre-industrial times. Mercury works its way into the food chain, with women and children most at risk from poisoning, which can cause brain and nerve damage resulting in impaired coordination, blurred vision, tremors, irritability and memory loss. "Mercury levels have to be reduced and we want governments to start to take steps to do this immediately," UNEP Executive Director Klaus Toepfer told reporters at a conference of environment ministers in the Kenyan capital Nairobi. "Things could get worse in the coming years, as increases in temperature also appear to help the spread of the mercury."

UNEP's first report into the global impact of mercury pollution said more than 1,500 tonnes of the hazardous substance is pumped into the skies every year by power stations, with Asia and then Africa the worst culprits. Small-scale mining, where mercury is used to help extract gold and silver from ores, is another main source of the pollution, releasing about 400-500 tonnes of mercury each year. UNEP said a U.S. study found about one in 12 women there had mercury levels in their bodies above those deemed safe by national authorities. Scientists predict that as a result, up to 300,000 babies in the United States could be at risk of brain damage with possible impacts from learning difficulties to impaired nervous systems. Mercury poisoning also threatens animals such as otters, minx, osprey, eagles and some whales which feed on fish, which scientists say are readily contaminated by mercury pollution. UNEP hopes up to 100 environment ministers will attend the five-day conference at its Nairobi headquarters, which opened yesterday, to discuss how to implement resolutions from the Johannesburg World Summit on Sustainable Development in September.

49) INDUSTRY MAY SOFTEN TO AUSTRALIAN KYOTO STANCE

ABC

February 4, 2003

Internet: <http://abc.net.au/news/newsitems/s776680.htm>

There are indications Australian industry could soften its stance against Australia becoming a signatory to the Kyoto protocol to reduce greenhouse gas emissions. The Australian Industry Group (AIG) has been engaged in a consultation process with its members to look again at the benefits versus the disadvantages of signing up to the treaty. The Business Council of Australia has been doing the same thing.

AIG deputy chief executive Heather Ridout says businesses and industry need more information about the full effects of ratification. "I don't think at the moment businesses would feel confident enough to sign on to a protocol or to support the signing on to a protocol that's going to push up the costs of their doing business and make them less competitive in terms of trade," she said. "The options to redress that need to be put in place much more squarely in the minds of business and that's a dialogue we're having with government and others in the community who are interested in the issue."

50) NEW TECHNOLOGY COULD CUT GREENHOUSE GASES

Number 10

February 4, 2003

Internet: <http://www.number-10.gov.uk/output/Page7135.asp>

New technology could help to achieve big cuts in greenhouse gas emissions over the next 50 years, a report has concluded. The ICCEPT (Imperial College Centre for Energy Policy and Technology) report was commissioned to analyse the potential of low carbon technologies. It highlighted the most promising options for reducing carbon emission reductions as:

* Renewable energy - Solar energy alone could meet world energy demand using less than 1% of land currently used for agriculture.

* Energy efficiency - It is estimated that one half of future emissions could be eliminated through improved energy efficiency.

* Hydrogen - As a fuel carrier and store rather than an energy resource, hydrogen has the ability to provide energy with no local emissions other than water vapour.

The main conclusion is that it would be technologically and economically feasible to move to a low carbon emissions path, and achieve a virtually zero carbon energy system in the long term, if we used energy more efficiently and developed and used low carbon technologies. Prime Minister Tony Blair has expressed his support for technological solutions, particularly to reduce green house gas emissions.

51) EARTH A SOLUTION TO AIR POLLUTION? SCIENTISTS CONSIDER INJECTING GREENHOUSE GASES INTO GROUND

Chicago Tribune

February 3, 2003

Internet: <http://www.ledger-enquirer.com/mld/ledgerenquirer/news/nation/5093869.htm>

CHICAGO - (KRT) - The plan to landfill air pollution might seem laughable. As a stopgap solution to global warming, scientists have proposed capturing several billion tons of carbon dioxide from the air and injecting it deep into the earth for long-term storage. No one knows whether vast amounts of the greenhouse gas would stay put 2 miles below ground.

Nevertheless, an increasing number of experts - including some environmentalists - believe the idea isn't as harebrained as it might sound.

With carbon dioxide emissions rising steadily in the U.S. and around the world, countries are casting about for ways to reduce the heat-trapping pollution. In the meantime, scientists say it can be unloaded into dark reaches of the earth, including saline aquifers, depleted oil wells, coal seams and the ocean. The sprawling Illinois Basin, which extends into Indiana and western Kentucky, offers an ideal location to study three of the methods, say Illinois State Geological Survey officials. They are leading a multistate effort to bring up to \$10 million in federal funding to the region to study and, perhaps, begin testing the technique.

Last month, the U.S. Department of Energy expanded funding to inspire state agencies, industries and universities to research and test the technique - known as carbon sequestration - on an unprecedented scale. The government wants to create four to 10 regional partnerships to study whether it is possible to capture emissions from coal-fired power plants and unload them into deep saline formations below 35 states, including Illinois. Theoretically, the briny aquifers - below those used for drinking water - could hold all the carbon dioxide from coal burning power plants for the next 100 years, according to Secretary of Energy Spencer Abraham. Others say storage could last for hundreds of thousands of years. The technology exists, and though prohibitively expensive, the costs should decrease over the next decade with more research, experts say.

Environmental groups call storage "one viable option," as long as the captured carbon would not be dumped into the ocean, where it has unknown effects on marine life. Others believe carbon storage could not only boost the domestic coal industry, but also could help the world gradually transition from fossil fuels to renewable fuels. Still, by most accounts, it would at least double the cost of energy, and there is little incentive for power plants to install expensive capture technology. Questions remain over the possible health hazards if the carbon escaped: In a bizarre catastrophe, Cameroon's Lake Nyos emitted a cloud of carbon dioxide in 1986, asphyxiating about 1,700 villagers. And environmental groups such as the Union of Concerned Scientists and the Natural Resources Defense Council, though supportive, warn against developing the technology at the expense of other solutions.

"It's promising, but there's more that needs to be done to make sure (carbon dioxide) stays where you put it," said David G. Hawkins, director of the NRDC's Climate Center. "It fits very well with an issue before Congress: whether to start regulating carbon dioxide from coal-fired power plants." In some regions of the country, depleted oil and natural gas reservoirs or coal deposits could be used to hold carbon dioxide. For the last two decades, carbon dioxide has been injected into mature oil fields in west Texas to produce additional oil, a process known as enhanced oil recovery. Coal seams, meanwhile, are more experimental and may absorb carbon dioxide and release methane as a recoverable product to increase natural gas supplies. Both methods have advantages that could help offset costs.

"If we're successful with sequestration, we could continue to use coal resources as a major bridge to these new fuels over a period of decades," said Robert Finley, director of the Center for Energy and Earth Resources at the State Geological Survey, who is working with state geological surveys of Indiana and Kentucky as well as Argonne National Laboratory, near Lemont, Ill., and several gas and electric companies. "At the same time, we could avoid the release of carbon into the atmosphere." In a report, Finley added, "In fact, with certain innovative combustion technologies now under study, emissions of nitrogen oxide and sulfur oxide also might be economically sequestered along with a carbon dioxide-rich flue-gas stream."

Carbon dioxide, produced from burning carbon-containing fuels, including oil, coal, natural gas and wood, is largely blamed for trapping heat and causing climate change. Since the beginning of the Industrial Revolution, the amount of carbon dioxide in the atmosphere has increased by 33 percent. Scientists are worried about it doubling by the end of the century, said Howard Herzog, of the Massachusetts Institute of Technology, who has been studying carbon disposal for more than a decade. Mounting evidence links that increase to the burning of fossil fuels. Fossil fuels provide 85 percent of the world's primary energy, however, and electricity use is expected to grow by 2 percent annually in the U.S. and by 3 percent internationally over the next two decades, according to Scott Klara of the National Energy Technology Laboratory.

"In the last four years, carbon sequestration has really come into its own," said Ed Rubin, professor of environmental engineering and science at Carnegie Mellon University. Carbon dioxide can be captured from a power plant's flue-gas stream - the volume of gas after coal has been burned - by scrubbing it with a chemical solvent that absorbs the carbon dioxide. Once it's regenerated into a concentrated stream, it can be pressurized until it becomes a liquid. Then it can be pipelined to a storage site. The process works best in sandstone formations with a thick cap rock over them, said Sally Benson, deputy director of the Lawrence Berkeley National Laboratory, who is developing technology to monitor carbon once it's underground. "Carbon dioxide has to flow through pore spaces in the rock, and the rock underground is like brick, some is even like sand. It takes a lot of energy to wiggle through pore spaces, so a catastrophic failure is difficult to imagine."

Still, the prospect of leaks will likely always haunt sequestration. "Hopefully if it comes out, it will be so slowly that no one notices," Herzog said. "But you also have to look at whether it's out in the atmosphere and causing trouble. You want it down there until we're no longer worried about climate change. In reality, the bulk of it can stay down there thousands of years." As part of the federal program, American Electric Power, one of the largest power plant operators and polluters in the nation, is collaborating on a \$4.2 million carbon sequestration project in the Ohio River Valley, which has the largest concentration of power plants in the nation. Over the next two years, researchers will conduct seismic surveys of the massive Mt. Simon Sandstone in West Virginia, which extends as far west as Illinois and Wisconsin. The project also involves drilling a 10,000-foot exploratory well. "If we can't prove this could be a permanent repository, it will be a hard sell as a policy option for mitigating greenhouse gas," said Dale Heydlauff, AEP's senior vice president of government and environmental affairs.

52) COTTON TESTS GREENHOUSE CREDENTIALS

Cotton World

February 2, 2003

Internet: <http://www.cottonworld.com.au/articles.php3?rc=280>

GREENHOUSE gas emissions from cotton production in Australia will soon be assessed for the first time. The Australian Cotton CRC and Greenhouse CRC (co-operative research centre) will hold their first planning meeting next Thursday, to map out future directions for greenhouse gas research in cotton. Dr Gary Fitt, CEO of the Cotton CRC, and Dr Chris Mitchell, CEO of the Greenhouse CRC, will host the meeting at the Australian Cotton Research Institute, Narrabri. The cotton industry hopes to clarify its part in the greenhouse story and ensure the sustainability of production practices, Dr Fitt says.

Greenhouse gas emissions remains one of the few areas of potential impact on the environment that has not been studied extensively. Preliminary research on nitrous oxide (an important greenhouse gas), supported by the Cotton CRC and the CRDC, will form the basis of future research. This research is led by Dr Peter Grace of the Greenhouse CRC and Dr Ian Rochester of the Cotton CRC. The program is a joint venture between the centres, supported by the Cotton and Grains Research and Development Corporations, the Australian Greenhouse Office and government. The Australian Greenhouse Office is the first government agency dedicated to monitoring and managing greenhouse gases. Thursday's agenda includes an outline of current research; identification of research gaps and opportunities; an overview of desirable structures, funding and participants, including opportunities for co-ordination of funding and resources; and establishment of research priorities. Agriculture is a relatively minor contributor of greenhouse gas, but it is the main source of methane and nitrous oxide emissions. Within agriculture the chief culprits are animals (mainly cattle, sheep and feedlots), cultivation, cropping (particularly from fertiliser use), fires and management practices.

53) POWER STATIONS THREATEN PEOPLE AND WILDLIFE WITH MERCURY POISONING GLOBAL STUDY OF THIS HAZARDOUS HEAVY METAL RELEASED

UNEP

February 3, 2003

Internet: <http://www.unep.org/Documents/Default.asp?DocumentID=277&ArticleID=3204>

Nairobi, 3 February 2003 - Mercury poisoning of the planet could be significantly reduced by curbing pollution from power stations, a new report released by the United Nations Environment Programme (UNEP) suggests. The report, compiled by an international team of experts, says that coal-fired power stations and waste incinerators now account for around

1,500 tons or 70 percent of new, quantified man-made mercury emissions to the atmosphere. The lion's share is now coming from developing countries with emissions from Asia, at 860 tons, the highest. "As combustion of fossil fuels is increasing in order to meet the growing energy demands of both developing and developed nations, mercury emissions can be expected to increase accordingly in the absence of the deployment of control technologies or the use of alternative energy sources," says the report.

Artisanal mining of gold and silver, which is happening in an increasing number of less developed nations, is another significant source of mercury pollution, releasing an estimated 400-500 tons of mercury annually to the air, soils, and waterways. Mercury is used to extract these precious metals from ores, resulting in elevated exposures and risks for the miners and their families, as well as contamination of the local and regional environment. Once in the atmosphere, this hazardous heavy metal can travel hundreds and thousands of miles, contaminating places far away from the world's sites where the pollution was originally discharged. Reducing other pollution from power stations may also reduce the threats from mercury to humans and wildlife in indirect but equally important ways.

Temperature can also influence releases of mercury from contaminated sediments and soils into rivers, lakes and other freshwaters, the report suggests. Here it can convert to methylmercury, one of its most poisonous and hazardous forms, and build up in fish and other aquatic life forms with potentially harmful impacts on adults and infants. Numerous studies have linked brain damage in babies to mercury poisoning of their mothers as a result of eating contaminated fish. Fish is still a beneficial food, and low to moderate consumption is considered safe and a healthy dietary practice. However, people who eat higher amounts of contaminated fish or marine mammals such as seals, may be at risk of mercury poisoning. Most people are primarily exposed to methylmercury through eating contaminated fish. However, additional mercury exposures can occur through dental amalgams and certain occupational activities. Also, personal use of skin lightening creams and soaps, mercury use for religious, cultural and ritualistic purposes, use in some traditional medicines, use of vaccines and some other pharmaceuticals containing mercury preservatives (such as Thimerosal/Thiomersal) and mercury in the home and working environment can contribute to elevated exposures.

A study of women in the United States, also cited in the new report, has found that about 1 in 12, or just under five million have mercury levels in their bodies above the level considered safe by the United States Environmental Protection Agency. Just three years ago, the United States Research Council estimated that about 60,000 babies born each year in the U.S. could be at risk of brain damage with possible impacts ranging from learning difficulties to impaired nervous systems. However, based on more recent exposure data published by the US Centers for Disease Control and Prevention, some scientists think the number of at risk babies could be as high as 300,000. Globally the number could run into the millions.

Klaus Toepfer, UNEP's Executive Director, said: "Mercury is a substance that can be transported in the atmosphere and in the oceans around the globe, travelling hundreds and thousands of miles from where it is emitted. It has long been recognised as a health hazardous substance". For example the Mad Hatter, of Alice in Wonderland fame, was so called because hatters used mercury to strengthen hats and were once exposed to high levels of mercury vapours. "This new report, requested from UNEP by governments two years ago, shows that the global environmental threat to humans and wildlife has not receded despite reductions in mercury discharges, particularly in developed countries. Indeed it shows that the problems remain and appear, in some situations to be worsening as demand for energy, the largest source of human-made mercury emissions, climbs," he said. "There are many compelling scientific, environmental and health arguments for curbing pollution linked with energy production. The mercury report gives us another compelling reason to reduce society's dependence on carbon intensive energy supplies," added Mr Toepfer.

Acid rain, again often the result of power station pollution, may be aggravating the problem. High levels of acidity in rivers, lakes and streams, also appears to trigger releases of mercury from soils and sediments and its conversion into methylmercury. The findings may explain why so many fish in parts of the world where acid rain has been an issue are contaminated. For example in southern and central Finland, an estimated 85 per cent of pike weighing a kilo or more, have methylmercury concentrations that exceed international health limits. Other important sources of mercury releases include cement production, chlor-alkali production, crematories, manufacture of electrical switches, thermometers, fluorescent lamps, dental amalgams and rubbish tips containing wastes such as old batteries and other mercury-containing products. Slash and burn agriculture and the clearing of forests may be increasing releases of mercury to rivers. Meanwhile, mercury contamination in parts of Europe may be affecting the tiny organisms that regulate the fertility of soils, says the study. This may also be having an indirect effect on climate change as soil microorganisms play a key role in the storage of carbon from the atmosphere.

These are some of the findings to emerge from the global study of mercury carried out by experts for UNEP. The report is being presented to environment ministers from across the world who are attending UNEP's Governing Council, and will form the basis for political decisions that will set the course for global action on mercury for years to come. The Council is meeting at the organization's headquarters in Nairobi, Kenya, from 3 to 7 February 2003. The findings also come in advance of World Water Day, which happens on 22 March and is being organized by UNEP. It will be celebrated at the World Water Forum taking place in Kyoto, Japan. Here the findings will have special significance. Several thousand people were made ill or died in Japan in the 1950 and 60s as a result of eating seafood heavily contaminated by mercury in Minamata Bay.

The experts who have compiled the report are asking governments attending the GC to consider a list of options for addressing the dangers of mercury. These include reducing risks by reducing or eliminating the production, use and release of mercury; substituting other non-mercury based products and processes; launching talks for a legally-binding treaty; establishing a non-binding global programme of action; and strengthening cooperation amongst governments on information-sharing, risk communication, assessment and related activities. They also recommend around a dozen "immediate actions" including public awareness programmes targeted at sensitive populations such as pregnant women; waste disposal facilities for the safe destruction of obsolete, mercury-containing pesticides and pollution control technologies for power stations.

54) WEST FLAYED FOR BIASED ECO POLICIES

Gulf News

February 2, 2003

Internet: <http://www.gulfnews.com/Articles/news.asp?ArticleID=76201>

Arab Energy and Environment Ministers, in a joint declaration adopted here yesterday, lambasted the industrialised world for enforcing limitations on oil usage and production on the pretext of environmental protection. The voice was raised in the joint 'Abu Dhabi Declaration on Environment and Energy', which was adopted on the sidelines of the Environment and Energy 2003 Conference and Exhibition. The twin event is being organised by General Exhibitions Corporation (GEC) and Environmental Research and Wildlife Development Authority (ERWDA).

The declaration was adopted at a meeting of the ministers yesterday . The meeting was opened by Obeid bin Saif Al Nasiri, the UAE Minister of Petroleum and Mineral Resources, who said the meeting brought together the Arab ministers in charge of energy and

environmental affairs for the first time to discuss two major elements of life, energy and environment. The minister said: "We are here to try and formulate a common Arab position towards two elements of modern life, namely environment and energy, and this move will underline the Arab contribution towards the global endeavours." Saying the Arab countries are the leading oil and gas producers, Al Nasiri called for finding balanced policies which preserve "our rights in achieving sustainable development without damaging the environment." He also thanked the Arab ministers for adopting the Abu Dhabi Declaration on Environment and Energy which, he said, will soon be implemented by the member countries.

The declaration, which was approved by the Arab ministers, observed that trends to enforce biased limitations on oil usage on the pretext of environmental protection, can have a negative effect upon revenues arising from oil exports by the producing countries and, therefore, affect adversely local and related regional development opportunities. Discussing various issues pertaining to the environment, the declaration called upon the industrialised countries to pay their contribution to achieve global sustainable development.

The joint declaration of the ministers also criticised the industrialised world for its biased policies towards oil producing countries, particularly the Arab states. The ministers also rejected the industrialised world's claims that climate change and its negative results are merely caused by consumption of hydrocarbons. The declaration said: "There is still scientific uncertainty related to the phenomenon of climate change and its results. There is no scientific confirmation that this phenomenon is primarily a result of emissions resulting from the consumption of hydrocarbons." It said that such unfounded allegations and doubts will make the oil and gas sector a victim, and may result in a recession in world demand, thus harming the interests of the producers. The ministers also called upon the industrialised countries to fulfil their obligations towards developing countries to support and facilitate transfer of environmentally safe and sound technology for energy production in line with international treaties.

The declaration also called upon the industrialised countries to live up to their commitments such as the UN Framework Convention on Climate Change and the Kyoto Protocol, which they signed in the various environmental agreements and treaties. They also asked them to compensate the Arab countries whose economies are mainly based on the production and sale of oil and gas, for all the economic and social damages those countries may suffer at their hands. The declaration, which reiterated that the energy sector is facing a real challenge in achieving sustainable development at the Arab level, urged for the integration of Arab energy markets and for intensified investment in this area. It urged the developed countries to adopt policies leading to reduction of differences in energy markets, in particular policies, to avoid any discriminatory treatment by consumer countries on oil and gas, through the imposition of taxation or the introduction of any unfair support for other sources and types of energy. They said this would lead to a reduction in demand for oil and gas and harm the revenues of producing countries and their development.

The industrial countries were also urged to restructure their tax systems to reflect the carbon content of the fossil energy sources, and the damages resulting from atomic energy, and abolishing all aspects of subsidies provided to coal and atomic energy. It expressed great concern over the expansion of nuclear programmes of some countries in the region, which are refusing to let in the International Atomic Energy Agency (IAEA) to inspect their military and peaceful nuclear and hydropower generation programmes. "These activities, resulting from the use of radioactive material, are harmful for the region's population, the wildlife and the marine life due to its leakage to groundwater. Other possible trans-border effects might affect the coming generations, with negative impact on the use of atomic energy for power generation."

55) STUDY: WARMING WORSENER DROUGHT

USA Today

January 31, 2003

Internet:

http://story.news.yahoo.com/news?tmpl=story2&cid=676&ncid=716&e=19&u=/usatoday/20030131/ts_usatoday/4828112

Global warming probably made the recent drought in the USA worse than it otherwise would have been, say the authors of a study published today in the journal Science. It also could increase the risk for future severe droughts. The study is the latest in a number of reports linking severe weather problems -- drought, monsoons and melting polar ice -- to global warming, the gradual heating of Earth's atmosphere by the burning of fossil fuels. Federal climate scientists Martin Hoerling and Arun Kumar wrote the study. The report comes as the White House is due next week to unveil budget plans for next year on global warming research. Thursday, the administration is expected to unveil a list of voluntary pledges from American industries to cut the emission of gases said to cause the phenomenon. President Bush has called for an 18% drop in such pollution by 2012 as an alternative to the stricter limits of the Kyoto Protocol, the international climate treaty that the administration rejected in 2001. Global warming, although accepted by many, provokes controversy among government, science and industry about what effect it has on the planet. The study compared drought in the USA, southern Europe and southwest Asia from 1998 through 2002 with unprecedented warming of seawater in the western Pacific and Indian oceans. An existing "warm pool" in those oceans grew warmer during that period. The study attributes that rise to global warming.

The warming, an increase of 2 degrees Fahrenheit, combined with the drying effects of a La Niña weather pattern in the eastern Pacific during the same time, Hoerling said. The combination shifted tropical rainfall and caused the jet stream to move north of its usual location, the study said. This meant many major winter storms missed most of North America. As a result, many parts of the country grew drier, including much of the West, parts of the South and the Eastern Seaboard. Some areas received as little as 50% of normal rainfall. "Absent this warm-pool warming, the likelihood is that the drought would not have been as severe and prolonged," says Hoerling, a meteorologist in the National Oceanic and Atmospheric Administration's Climate Diagnostics Center in Boulder, Colo. Kumar is with NOAA's Climate Prediction Center in Camp Springs, Md.

Drought, which persists in several Western states, could have occurred without global warming or La Niña, a climate phenomenon in which cooler eastern Pacific waters produces drier conditions. But it would not have been as bad or as persistent, Hoerling says. The study "should make a number of people sit up and take note," says Kevin Trenberth, the head of climate analysis for the National Center for Atmospheric Research.

56) CLIMATE PARTNERSHIP WITH ROMANIA MOOTED

The Copenhagen Post

January 31, 2003

Internet: <http://cphpost.periskop.dk/default.asp?id=27499>

Denmark formalized a climate agreement with Romania under the Joint Implementation projects of the Kyoto Protocol yesterday. Denmark has entered a framework agreement with Romania on joint future climate projects. The agreement will transfer dearly needed new technology to Romania to conserve energy and limit air pollution. In return, Denmark can write off the carbon dioxide reduction on its national climate report.

The so-called Joint Implementation projects under the Kyoto Protocol open the possibility for industrialized countries to launch energy projects in other countries- notably in Eastern Europe- where cutbacks in CO2 emissions from disabled power plants or disused factories can be implemented more cheaply. Environment Minister Hans Christian Schmidt, who signed yesterday's agreement with Romanian Ambassador Vlad-Andrei Moga, predicts that the partnership will help Denmark reach its ambitious climate objectives under the Kyoto Protocol. The last phase of an initial project in Romania is currently under negotiation. Denmark has also entered a general climate partnership with Slovakia, and is in talks for similar national programmes with Russia, Ukraine, Poland, Estonia and Bulgaria.

Meanwhile, Danish power plants and environmental organizations are anxiously awaiting the government's promised climate strategy, which has been repeatedly postponed. According to daily newspaper Politiken, the nation's taxpayers will foot a hefty bill if Denmark has any realistic chance of reducing its carbon dioxide emissions by 21 percent between 2008 and 2012.

57) AIR POLLUTION AND CLIMATE CHANGE – TACKLING BOTH PROBLEMS IN TANDEM

United Nations Economic Commission for Europe

January 31, 2003

Internet: http://www.unece.org/env/emep/pr03_env02e_h.pdf

Scientists and policy makers should no longer treat air pollution and climate change as distinct problems, because the two are very closely related. The recent Workshop on Linkages and Synergies of Regional and Global Emission Control, organized under the UNECE Convention on Long-range Transboundary Air Pollution by the International Institute for Applied Systems Analysis (IIASA), looked at the numerous links between these two policy areas. It concluded that these links are so important that they merit close cooperation.

Air pollution affects the regional and global climate both directly and indirectly. Ozone in the lower layers of the atmosphere contributes to global warming even more than some greenhouse gases included in the Kyoto Protocol, and particulate matter in the atmosphere also has important climate impacts. However, although black carbon, or soot particles, has a warming effect, other particles, for instance sulphates and nitrates, may cool the climate. The current high levels of sulphates and nitrates mask the effects of climate change to some degree. Through cuts in sulphur and nitrogen emissions necessary to protect human health and the environment the climate impacts of the greenhouse gases may actually show more quickly. On the other hand, measures to cut black carbon emissions, for instance from diesel combustion, will have double benefits, protecting both human health locally and also the climate regionally and worldwide.

Methane has a direct negative impact on climate (it is one of the Kyoto Protocol greenhouse gases) and it contributes to ground-level ozone levels. Methane emissions (mainly from agriculture, energy and waste management) have grown very rapidly since pre-industrial times. Cutting these emissions will reduce health- and ecosystem-damaging ozone levels and reduce the extent of climate change. While indications of the climate impacts of increasing greenhouse gas concentrations can already be seen in the rise of mean temperatures and the increase in the numbers of extreme climate events (floods and droughts), most impacts are likely to happen over the next 50-100 years. Some gases, like carbon dioxide, stay in the atmosphere for a very long time, so measures to reduce emissions only start to show an effect after a few decades. In contrast, ozone, black carbon and methane can be controlled to show effects much sooner (10-20 years). Cutting these pollutants could help reduce some climate impacts while waiting for longer-term measures to pay off.

Besides such links between atmospheric effects, there is also a strong link between the sources of emissions. Energy production and transport are responsible for most CO₂ emissions and much of the air pollution. Cutting energy consumption and car use will therefore have double benefits. Synergies can also be found in agriculture: cutting ammonia emissions could lead to an increase of some greenhouse gas emissions, but the same reduction levels can also be achieved by an integrated strategy that will even cut some of the greenhouse gases. The UNECE Convention's Centre for Integrated Assessment Modelling, run by IIASA, estimates that the cost of reaching the 2010 air pollution objectives in the Convention's Gothenburg Protocol could be reduced by at least €5 billion if European countries cut CO₂ emissions in line with the Kyoto Protocol (without CO₂ trading). Similar results have been found for China or Mexico.

While closely related, air pollution and climate change have mostly been treated as separate problems. At the international level, efforts under the UNECE Convention on Long-range Transboundary Air Pollution have helped cut air pollution levels in Europe. Sulphur emissions are 60% lower than in 1980, nitrogen oxides are down by 25% compared to 1990 and other pollutants are also starting to decline. At the global scale the United Nations Framework Convention on Climate Change has brought together more than 180 countries to agree on measures to combat climate change. More needs to be done, both to bring air pollution down to safe levels and to cut greenhouse gas emissions to halt climate change.

Taking certain climate change measures will yield additional benefits through improved local and regional air quality. Certain air pollution abatement measures will also help protect the regional and global climate. Much, though not all, is known about such links, but systematic studies are lacking. The UNECE Convention's Cooperative Programme for Monitoring and Evaluation of the Long-range Transmission of Air Pollutants in Europe (EMEP) has begun to integrate these links into its assessment so that measures to further cut air pollution will lead to win-win situations. It is also seeking cooperation with scientists of the Intergovernmental Panel on Climate Change to move this work forward

58) U.S. TO JOIN INTERNATIONAL FUSION RESEARCH PROJECT

Reuters

January 30, 2003

Internet:

http://story.news.yahoo.com/news?tmpl=story&u=/nm/20030130/sc_nm/bush_fusion_dc_1

WASHINGTON (Reuters) - The United States will join an international research project aimed at harnessing the power of fusion and turning it into a clean and safe source for energy, President Bush said on Thursday. ITER, the International Thermonuclear Experimental Reactor, is a fusion research project that is already a joint operation of Britain, other European Union nations, Russia, China, Japan and Canada. Bush said he would like to see fusion energy turned into a source for clean, safe, renewable and commercially available energy by the middle of the century.

"Commercialization of fusion has the potential to dramatically improve America's energy security while significantly reducing air pollution and emissions of greenhouse gases," Bush said. Bush drew fire from Europeans for withdrawing the United States from the Kyoto treaty aimed at taking steps to reduce greenhouse emissions blamed for global warming. At home, environmentalists have questioned his commitment to the environment because he wants to open Alaska's Arctic National Wildlife Refuge to drilling.

Fusion is the energy source that powers the sun. It occurs in the sun when the intense heat and pressure within the sun's core cause light atoms to collide and fuse together. This creates heavier atoms and releases energy. But fusion energy has been hard to make on a commercial

scale. ITER plans to build a demonstration fusion power plant. Bush directed Energy Secretary Spencer Abraham to represent the United States at ITER meetings in February in St. Petersburg, Russia.

59) BP SHOWCASES EMISSION REDUCTION TECHNOLOGY IN ABU DHABI

Mena Report

January 30, 2003

Internet:

<http://www.menareport.com/story/TheNews.php3?action=story&sid=240811&lang=e&dir=mena>

Oil major BP will be showcasing for the first time in Abu Dhabi its methodology that helped reduce the company's greenhouse gas emissions by 10 percent, eight years ahead of schedule, at the same time as saving the company \$600 million. The company's technologically advanced applications and research in capturing and treating harmful emissions will be the focus of its attendance at the Environment and Energy (E&E) 2003 exhibition at the Abu Dhabi International Exhibition Center from February 2-5.

In 1998, shortly after the Kyoto accords, BP set itself the ambitious target of reducing its emissions of greenhouse gases by 10 percent by the year 2010, relative to a 1990 base line. By the spring of 2002 its emissions of carbon dioxide had been cut to 80 million tons, 10 million tons below the level in 1990 and 14 million tons below the level they had reached by 1998.

At BP's chemicals plant in Korea the project resulted in savings of \$4.5 million a year and cut carbon dioxide emission by 49,000 tons. At its Texas City refinery it saved five million dollars and 300,000 tons of emissions. At its operation in Sharjah, BP Sharjah Oil Company surpassed its target by achieving a reduction of 30 percent in greenhouse gases, declining 971,000 tons in 1998 to 640,000 tons by the end of 2002. In Abu Dhabi, ADCO reduced its methane emissions by 85 percent by replacing pumps that were driven by methane gas with solar powered electric motors. — (menareport.com).

60) ICE CAP 'SENSITIVE' TO GREENHOUSE GAS

Stuff

January 29, 2003

Internet: <http://www.stuff.co.nz/stuff/0,2106,2224232a7693,00.html>

"Ominous" new research on global warming has indicated that even the Kyoto Protocol will not go far enough to avoid a climate disaster. New Zealand and most other nations have signed the protocol, a 1997 scheme designed to limit greenhouse gases, but the United States and Australia have refused. The two countries produce a major share of the world's greenhouse gases between them but claim the protocol is unnecessarily harsh on industrialised countries.

Their opposition will be challenged by the latest research from Antarctica that shows the most serious greenhouse gas, carbon dioxide, played a far bigger role in the origin of the Antarctic icecap than previously thought. Victoria University's Professor Peter Barrett, speaking from Scott Base, said the latest study published in a prestigious science journal, Nature, confirms the sensitivity of the icecap, home to 90 per cent of the globe's fresh water, to rising greenhouse gas emissions.

If emissions are not checked, by the end of this century they will probably lead to a climate like the Earth's before the icecap was formed, he said. "This new research on the past

Antarctic climate has an ominous warning for the future, indicating that more extreme measures than currently proposed under the Kyoto Protocol will be needed to forestall climate disaster in the decades ahead," he said. "It is clear that land-surface and ocean temperatures are rising in response to human-induced emissions of greenhouse gases – and remarkably fast on a geological timescale. "The effects of this will be difficult to predict, but they will plainly be profound. (This new research) brings new understanding of the effects of carbon dioxide emissions on climate, and adds force to the arguments for reducing greenhouse-gas emissions beyond those agreed in the Kyoto Protocol. It indicates that world leaders will have to go beyond the Kyoto Protocol to avoid a climate disaster."

The campaign to get the United States to change its attitude to the Kyoto Protocol has been boosted by a congressional inspection tour of the American bases in Antarctica this month. The head of the powerful US science committee, Republican Congressman Sherwood Boehlert, said they had seen first-hand the research being done in Antarctica on controversial issues such as global warming. He described it as vital. "Congress is prone to say ad nauseam that we want to operate on science-based fact rather than speculation and theory, but sometimes when the science leads us to politically inconvenient conclusions then there's a tendency on the part of some to go in another direction," he said. "But it's hard to argue with a fact that's been methodically and meticulously developed over years of in-depth study."

The research that prompted the warning that global warming is worse than previously thought is based on computer modelling of the Earth's climate during the formation of the first Antarctic ice sheet 34 million years ago. At the time, the Earth's climate was cooling – the reverse of the situation now, where there has been a dramatic onset of global warming since the advent of widespread industrialisation. The nub of the new US-based research from Antarctica is that carbon dioxide had a much bigger role to play in temperatures over the southern continent. Previously it was thought changing ocean currents, caused by the drifting continents, were primarily responsible for the cooling of the region. Professor Barrett said it was worrying that the research emphasis has shifted away from understanding climate behaviour and towards mitigating the effects of greenhouse emissions. Both areas needed further research funding, "along with an international commitment to an effective solution, if we are to survive the worst consequences of this grandest of all human experiments". Antarctica New Zealand chief executive Lou Sanson said New Zealand had established a world-beating reputation for climate research projects on the Ice.

61) SHRINKING ARCTIC ICE TO OPEN SHIPPING SHORT-CUTS

Reuters

January 29, 2003

Internet:

http://story.news.yahoo.com/news?tmpl=story&u=/nm/20030129/sc_nm/environment_arctic_dc_2

KIRKENES, Norway (Reuters) - The shrinking Arctic ice cap may open a fabled passage for ships between the Atlantic and Pacific Oceans within a decade, transforming an icy graveyard into a short-cut trade route. Ship owners may be among the few to benefit from global warming in the extreme North, where the giant thaw is threatening traditional habitats for indigenous peoples and wildlife ranging from polar bears to caribou.

U.N. studies project that the Arctic may be free of ice in summertime by 2080. The polar passage, clogged by ice throughout seafaring history, may come to challenge the Panama and Suez canals. "In the next 10 years I believe we will solve the problems of round-the-year goods transport through the Northern Sea route," said Alexander Medvedev, general director of Russia's Murmansk Shipping Company. "You can save at least 10-15 days on the voyage

from Japan to Europe, especially in summertime," he told Reuters during a visit to Kirkenes on the Arctic tip of Norway.

The company now runs two or three ice-breaker-led voyages a year from Europe to Japan and back, hugging the Russian coast, and reckons the route can be opened year-round if Moscow makes big new investments. On the other side of the Arctic, the Northwest Passage past Alaska and through a maze of islands off Canada is likely to take longer to be ice-free because it is further north. It also passes through straits that get blocked more easily by ice. "For the Northwest Passage it will take another 20 years after conditions for the Northern Sea route are favorable," said Peter Wadhams, professor of ocean physics at Cambridge University in England. "I'm sure it's going to happen -- the ice is retreating."

INSURERS WARY

Yet insurance companies are likely to stay wary of both polar routes. High premiums plus a need for ice-resistant hulls for ships and ice-breaker escorts may well wipe out the advantages of lower costs due to the shorter distance. Mariners searched in vain for centuries for a shortcut from Europe to the Far East. The search for passages cost the lives of explorers including Dutchman Wilhelm Barents and Englishman Henry Hudson -- after whom the Barents Sea and Hudson Bay are named. Barents' ship ran aground in 1596 and Hudson died after a 1611 mutiny.

Other explorers were victims of cold or scurvy before a Finnish-Swedish expedition navigated the Northern Sea route in 1878. The Norwegian Roald Amundsen was first to get through the Northwest Passage in 1906. Even as the ice shrinks, it may take billions of dollars to open sea routes. Ports in northern Russia have deteriorated since the end of the Cold War when nuclear powered ice-breakers led warships between the Atlantic and Pacific. "The obstacles are more economic and political. You have to have a lot of infrastructure: navigational aids search and rescue teams, the ability to clean up pollution," Wadhams said.

And environmentalists want safeguards to protect indigenous peoples in some of the world's largest wildernesses and to prevent a get-rich-quick rush for resources ranging from oil and gas to timber and minerals. "Melting of the ice will make access far easier to northern Siberia and other wildernesses," said Svein Tveitdal, managing director of the U.N. Environment Program's polar center. "There has to be a strategy for sustainable development of the Arctic. It mustn't become a sort of new Africa, where colonialists exploited the resources." About 4 million people live around the Arctic.

U.N. studies show that the Arctic ice has shrunk by about 3 percent a decade since the 1970s and that air temperatures have risen by about 5 degrees Celsius (about 8 degrees Fahrenheit) in the past century. The exploration of oil and gas fields will increase the risk of pollution such as the Exxon Valdez tanker spill off Alaska in 1989. Norway plans to open its first gas field in the Barents Sea in 2006. The polar regions are most vulnerable to global warming, caused by burning fossil fuels like oil. Scientists say the emissions are blanketing the planet and pushing up temperatures. In the Arctic, melting ice and snow exposes darker soil and rocks that trap heat. The sun's heat bounces back into space more readily at the equator than near the poles, where low slanting rays have to pass through thicker layers of atmosphere.

ICE RECEDES

New polar routes will save about 4,000 nautical miles on some routes from Europe to the Far East compared to southerly routes through Panama or Suez. Shipments could include cargoes like grains, frozen fish, oil and gas or cars. And a route north of Canada, for instance, might save 6,000 to 8,000 nautical miles for a super tanker from Venezuela to Japan. Vessels too big to pass through the Panama Canal have to go around all of South America. Japan has also expressed interest in transporting nuclear waste to Europe through the Arctic, a plan

denounced by environmentalists who say it could get trapped in ice. Rob Huebert, associate director for the Center for Military and Strategic Studies at the University of Calgary in Canada, said one odd spin-off of global warming is that some regions are getting colder, complicating any shipping plans. "In some areas the ice is getting thicker as it breaks up elsewhere," he said.

Willy Oestreg, a Norwegian professor of international affairs who led a global study of the Northern Sea route in the 1990s, said Russia was ahead of Canada because of factors including more ports, albeit dilapidated, and ice-breakers. "The differences are striking. The Northern Sea route is more developed," he said. He noted that nickel had been shipped from northwest Russia year-round since the 1970s.

62) CHEAP COAL A HURDLE TO CHINA NATGAS GROWTH-EXPERT

Reuters

January 28, 2003

Internet: <http://www.forbes.com/markets/commodities/newswire/2003/01/28/rtr861633.html>

NEW YORK, Jan 28 (Reuters) - Development of natural gas in China could improve the environment and the economy but faces a hurdle from the nation's heaping supplies of cheap coal, an expert on Chinese energy said. To leap the hurdle, China must define a national natural gas policy that reforms gas prices, defines gas quality standards, and provides incentives for development and construction of infrastructure, said Xavier Chen, the China Program Director at the Paris-based International Energy Agency at a conference in New York.

Natural gas provides China with just 3 percent of its energy, compared with oil at 25 percent. Coal provides nearly 70 percent. "There is strong competition from coal, it is cheap and abundant, and China has a lack of gas technology," said Chen. There are also natural gas infrastructure problems, from transporting gas to burning it for power. "China cannot manufacture small gas turbines," Chen said. China's leadership has set a goal for natural gas growth to 6 percent of total energy supply by 2010. Chinese oil major PetroChina has set a goal of 12 percent by 2020.

China has only 1 percent of global proven natural gas reserves, mostly located in the central and western parts of the country, away from the high demand eastern parts. Still, the reserves could provide China with its natural gas needs for the next 50 years, said Chen. China broke ground last summer on the West-East gas pipeline which is expected to span 2,500 miles (4,000 km) from the Tarim basin to Shanghai. Exxon Mobil Corp, Royal Dutch Shell, and Russia's Gazprom have also invested in the line which is expected to run gas by 2005.

Some analysts believe China could eventually connect the West-East pipeline to tap into Russian gas reserves. The price of heavy coal dependence in China could prod China to faster natural gas development, said Chen. Coal burning in China, the second largest economy in the world, combined with the explosive growth of car demand of about three million vehicles per year, makes the nation a leading emitter of pollutants. China is the second largest emitter of amount of global CO₂, but is the world's largest emitter of both soot and sulphur dioxide (SO₂), a cause of acid rain, which damages 40 percent of Chinese land, according to IEA.

A 1998 World Health Organization report said seven of the 10 most polluted cities in the world. Water and air pollution cost China \$24 billion in 1995, or about 3.5 percent of Chinese gross domestic product in that year, according to the World Bank. China last September ratified the Kyoto protocol meant to rein in emissions of greenhouse gases blamed for warming the planet. But as a developing nation it is not bound by any targets for restraining carbon dioxide emissions. "Kyoto is just one step, there will be certainly new commitments

coming," said Chen, "without Chinese participation it will be hard to arrest the global warming process." China has already banned the use of coal in certain areas where SO2 emissions and acid rain is a problem.

63) AIR QUALITY, CLIMATE CHANGE AND PROTECTION OF THE OZONE LAYER: COMMISSION PURSUES LEGAL ACTION AGAINST SIX MEMBER STATES

EU

January 27, 2003

Internet:

http://europa.eu.int/rapid/start/cgi/guesten.ksh?p_action=gettxt=gt&doc=IP/03/124|0|RAPID&lg=EN&display=

The European Commission has taken legal action to improve air quality in Europe, address climate change and protect the ozone layer by pursuing infringement proceedings against Greece, Ireland, Austria, Belgium, Finland and Germany. The Commission is concerned that these Member States have not correctly implemented certain EU laws governing emissions to the air. Greece is to be referred to the European Court of Justice for failing to apply correctly an EU law on combating air pollution from industrial plants to a power station at Linoperamata in Crete. Ireland is to be referred to the Court for failing to provide monitoring data on emissions of carbon dioxide from cars. Austria is to be referred to the Court for failing to bring its national legislation on large combustion plants into line with the Large Combustion Plants Directive. Ireland and Germany are also to receive Reasoned Opinions (final written warnings) for failing to fulfil reporting requirements on the use of ozone-depleting substances, which is required by the Ozone Regulation. Greece, Belgium and Finland are to receive Reasoned Opinions for failing to communicate complete transposition measures for amendments to the Directive on internal combustion engines for non-road mobile machinery (in Finland this relates only to the Province of Åland).

Reasoned Opinions represent the second stage of infringement proceedings under Article 226 of the EC Treaty. In the absence of a satisfactory response within two months, the Commission may decide to refer these cases to the Court of Justice. Commenting on the decisions, Environment Commissioner Margot Wallström said: "Air pollution is a serious local, regional, national and global problem. The Commission is committed to improving the quality of Europe's air, addressing climate change and safeguarding the ozone layer. If Member States agree to abide by environmental legislation they must transpose that legislation into their national legislation and adapt their governmental practices accordingly."

EU laws on Air Quality, Climate Change and Ozone Layer

EU legislation in this area seeks to achieve the following goals:

- * to combat air pollution from industrial plants;
- * to require the setting up of schemes to monitor average specific emissions of carbon dioxide from new passenger cars;
- * to limit air pollutant emissions from large combustion plants;
- * to adapt the restrictions on the emission of gaseous and particulate pollutants from internal combustion engines in non-road mobile machinery;
- * to require the submission of reports containing information on the measures taken to handle substances that damage the ozone layer.

Inadequate implementation means that citizens do not get the guarantees of higher protection that these EU laws promise or contribute to internationally. Consequently, citizens run a greater risk of suffering health problems associated with poor air quality.

COMBATING AIR POLLUTION FROM INDUSTRIAL PLANTS

In 1984, the EU adopted a Directive on air pollution from industrial plants(1). The Directive aims to curb industrial air pollution by establishing a system of prior authorisation and by upgrading existing plants according to the principle of the "best available technology not entailing excessive cost "(BATNEEC). The decision to refer Greece to the Court of Justice follows the investigation of a complaint into a power station at Linoperamata, Crete. For 15 years, Greece has failed to take adequate measures to gradually adapt the plant according to the principles of BATNEEC. It has also failed to make the plant less environmentally damaging. As a result, its polluting emissions are higher than they otherwise might be.

LARGE COMBUSTION PLANTS

The Large Combustion Plants Directive(2) aims to reduce air pollution from larger power plants by, among other things, setting up pollution reduction programmes and by enforcing stricter emission limits. Austrian legislation is inadequate in this respect. It includes, for example, exemptions to the definition of a "multi-firing unit" for conventional fuels, which were not provided for in the Directive. In addition the important distinction between "new plant" and "existing plant" has not been drawn, as required by the Directive. Finally, the definition of emission limit values with regard to sulphur dioxide, oxides of nitrogen and dust is too vague, and emission values for distillation residues have not been fixed.

EMISSIONS FROM NON-ROAD MOBILE MACHINERY

The Directive governing emissions of gaseous and particulate pollutants from internal combustion engines in non-road mobile machinery should have been implemented by 30 June 2002.(3) It adapts emissions restrictions to take account of the technical progress that has been made. Greece, Belgium and Finland (the Province of Åland) have not yet informed the Commission of the transposition measures that they have implemented.

MONITORING AVERAGE CO2 EMISSIONS FROM NEW PASSENGER CARS

In 2000, the EU agreed a scheme for monitoring CO2 emissions from new passenger cars(4). This requires Member States to send monitoring information to the Commission every year as part of the Community strategy to reduce CO2 emissions from passenger cars, thereby combatting climate change. The deadline for producing the information report was 1 July 2001. While other Member States have provided monitoring data, Ireland has not, hence the decision to refer it to the Court of Justice.

PROTECTING THE OZONE LAYER

The Regulation on Substances that Deplete the Ozone Layer(5) aims to curb and eventually eliminate the use of substances that deplete stratospheric ozone, which is the global shield that protects the earth from harmful solar rays. The Regulation requires Member States to supply information on measures taken to promote the recovery, recycling, reclamation and destruction of controlled substances such as CFCs, HCFCs, halons and methyl bromide. Member States must also provide data on what has been done to make organisations and users responsible for carrying out these activities. They must show what steps have been taken to prevent leakages of controlled substances, and there are other specific requirements to minimise methyl bromide leakages. In addition, the Regulation obliges Member States to respect other reporting requirements, including providing information on annual leak checks (for equipment containing more than 3 kg of ozone depleting substances), submitting data on the minimum qualification requirements for all personnel involved and communicating details on the quantities of controlled substances that have been recovered, recycled, reclaimed or

destroyed. Ireland and Germany have yet to fulfil this reporting requirement, and the Commission therefore decided to send the two Member States a Reasoned Opinion.

LEGAL PROCESS

Article 226 of the Treaty gives the Commission powers to take legal action against a Member State that is not respecting its obligations. If the Commission considers that there may be an infringement of Community law that warrants the opening of an infringement procedure, it addresses a "Letter of Formal Notice" to the Member State concerned, requesting it to submit its observations by a specified date, usually two months.

In the light of the reply or absence of a reply from the Member State concerned, the Commission may decide to address a "Reasoned Opinion" (or final written warning) to the Member State. This clearly and definitively sets out the reasons why it considers there to have been an infringement of Community law and calls upon the Member State to comply within a specified period, normally two months. If the Member State fails to comply with the Reasoned Opinion, the Commission may decide to bring the case before the European Court of Justice. Article 228 of the Treaty gives the Commission power to act against a Member State that does not comply with a previous judgement of the European Court of Justice. The article also allows the Commission to ask the Court to impose a financial penalty on the Member State concerned.

For current statistics on infringements in general, please visit the following web-site:
http://europa.eu.int/comm/secretariat_general/sgb/droit_com/index_en.htm#infractions

OPINIONS/EDITORIALS

64) CLIMATE RIGHT FOR BETTER UNDERSTANDING OF WEATHER by Conrad C. Lautenbacher Jr.

Los Angeles Times
February 15, 2003

Internet: <http://www.cantonrep.com/index.php?Category=14&ID=85095&r=0>

Lautenbacher Jr. is U.S. undersecretary of Commerce for oceans and atmosphere and NOAA administrator.

El Nino — the climate event caused by the periodic warming of tropical Pacific Ocean waters — has had heavy effects on lives, property and the economy. In 1997-98, storm losses due to El Nino reached \$1.1 billion in California; the U.S. total was put at \$25 billion.

Understanding the natural processes that lead to an El Nino and other climate events is a central concern to scientists, policymakers and economists. Knowing more about how and why these events occur will have far-reaching implications, leading to improved safety measures, longer lead times, more efficient energy, agricultural and transportation practices and a growing knowledge base to address looming global climate change issues.

Behind each newscast featuring local, regional and national weather is a seamless yet complex research effort. With the five-day forecast commonplace, long-range climate services are needed. Climate services extend beyond near-term weather forecasts and provide less-defined but no less important information on longer-range weather trends. Though weather is what we're experiencing today, climate affects weather patterns over a season or longer.

There are compelling reasons to better understand these patterns, and everyone is a stakeholder. The air we breathe and the sea washing our shores know no boundaries. Global

pollution shows up in Antarctica's snow and ice. Africa's dust and traces of its sandstorms show up in Florida's coral reefs. Not knowing how to effectively mitigate these concerns can have far-reaching economic, environmental and security consequences. For these reasons, climate services must become as critical in this century as weather services were in the last. We need an international system of climate information that links every region of the globe. Without the participation of every nation, we will continue to have gaps in scientific knowledge and understanding. No matter how outstanding the technology, climate cannot be effectively investigated on a piecemeal basis.

More is known about the dark side of the moon than about the oceans that cover 70 percent of the Earth. The existing ocean monitoring system offers an exciting array of technological marvels, including sea-level gauges, ocean robots and weather balloons. An important addition to these tools are 5-foot-long yellow ARGO floats that are being deployed by the United States and its international partners around the world. These floats, which ride ocean currents taking temperature and salinity measurements up to 6,000 feet below the surface, are helping to fill in missing data on our oceans and offer glimpses into longer-range global climate trends. But there are still substantial gaps in coverage. As scientific eyes and ears in the world's oceans, these technologies can, over time, tell us a good deal about what our future may look like and what steps we can take to prepare for it.

At the direction of President Bush, the National Oceanic and Atmospheric Administration, or NOAA, is moving forward with a plan to broaden and intensify climate science research efforts and is making headway toward gaining international support for an expanded global climate observation system. By monitoring winds out of the Indian Ocean, for example, then tracking the ocean's response to them over the Pacific, the agency was able to provide an unprecedented six months' heads-up that another El Nino was brewing. This demonstrates that we have the capability to save lives and millions of U.S. and global dollars through the use of El Nino data. The forecast, for example, could be used to adjust the release of water from reservoirs or prepare for possible mudslides.

We must seriously consider a global observing system to do for global climate what we have been able to do in detecting El Nino. With a firm commitment by the United States and its international partners to implement a global observing system, we can take the pulse of Mother Earth and provide benefits to California, the nation and the world.

65) END OF THE WORLD NIGH - IT'S OFFICIAL by Michael Meacher

The Guardian

February 14, 2003

Internet: <http://www.guardian.co.uk/comment/story/0,3604,895217,00.html>

Michael Meacher is environment minister. This article is based on a lecture he will deliver today at Newcastle University

There is a lot wrong with our world. But it is not as bad as many people think. It is worse. Global warming is slowly but relentlessly changing the face of the planet. We are only in the early stages of this process, but already carbon dioxide in the atmosphere has reached 375 parts per million, the highest level for at least half a million years. Temperatures are projected to rise by up to 5.8 C this century, 10 times the increase of 0.6 C in the last century, and by 40% more than this in some northern land surface areas. This means temperatures could rise by up to 8.1 C in some parts of the world.

Does this matter? The evidence suggests that it does. In China severe floods used to occur once every 20 years; now they occur in nine out of every 10. The number of people affected by floods globally has risen from 7 million in the 1960s to 150 million now. In 1998 two-

thirds of Bangladesh was under water for months, affecting 30 million people. In the UK, 5 million people and 185,000 businesses are at risk. Flooding is only the beginning. The number of people worldwide devastated by hurricanes or cyclones has increased eightfold to 25 million a year over the past 30 years. The oceans are steadily warming, and since they currently absorb 50 times more CO₂ than is contained in the atmosphere, even a tiny reduction in CO₂ absorption by the sea could cause global temperatures to rise significantly.

Even more seriously, 10,000 billion tonnes of methane (a greenhouse gas 20 times more potent than CO₂) are stored, according to the US Geological Survey, on the shallow floor of the Arctic, in sediments below the seabed. If the temperature surrounding the methane warms, it becomes unstable and methane gas is released, causing temperatures to increase further. Warming oceans also cause the waters to expand and the sea level to rise. Sea level is predicted to rise by 3ft over the next century, leading to huge areas of Bangladesh, Egypt and China being inundated.

We don't know the limits of nature - how much rain could fall for how long a period, how much more powerful and frequent hurricanes could become, for how long droughts could endure. The ultimate concern is that if runaway global warming occurred, temperatures could spiral out of control and make our planet uninhabitable. Five times in the past 540 million years there have been mass extinctions, in one case involving the destruction of 96% of species then living. But while these were the result of asteroid strikes or intense glaciation, this is the first time that a species has been at risk of generating its own demise. James Lovelock's Gaia hypothesis conceives of the planet as an active control system. It posits the existence of feedbacks at the global level which, so far, have served to keep the earth's surface habitable within a tolerable range, despite significant external changes, including changes in the radiation from the sun. However, with severe human-induced activity, that is now beginning to change.

We have almost become our own geophysical cycle. There are many examples of this trend. On a global scale our biological carbon productivity is now only outpaced by the krill in the oceans. Our civil engineering works shift more soil than all the world's rivers bring to the seas. Our industrial emissions eclipse the total emissions from all the world's volcanoes. We are bringing about species loss on the scale of some of the natural extinctions of palaeohistory.

We face a transformation of our world and its ecosystems at an exponential rate, and unprecedentedly brought about, not by natural forces, but by the activities of the dominant species. Climate change is only the most dramatic example. At a time when scientists say the world should be reducing its CO₂ emissions by 60% to stabilise and then reverse global warming, they are projected to increase by around 75% on 1990 levels by 2020. The dinosaurs dominated the earth for 160 million years. We are in danger of putting our future at risk after a mere quarter of a million years. The force of the Gaia thesis has never been more apparent. When an alien infection invades the body, the body develops a fever in order to concentrate all its energies to eliminate the alien organism. In most cases it succeeds, and the body recovers. But where it does not, the body dies. The lesson is that if we continue with activities which destroy our environment and undermine the conditions for our own survival, we are the virus. Making the change needed to avoid that fate is perhaps the greatest challenge we have ever faced.

66) A BACK DOOR TO KYOTO? by H. Sterling Burnett

Washington Post
February 13, 2003

Internet: <http://washingtontimes.com/commentary/20030213-75808846.htm>

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Why do bad ideas linger with such persistence in the halls of Congress? This question came to mind when Sens. John McCain, Arizona Republican, and Joseph Lieberman, Connecticut Democrat, recently introduced legislation to reduce U.S. greenhouse gas emissions to prevent global warming. President George W. Bush rejected the Kyoto Protocol for the control of greenhouse gas emissions arguing that the treaty was "fundamentally flawed," and not in the United States' interests. It appeared the Senate agreed with him, since in 1997 it had unanimously passed a resolution requiring the Clinton administration to not participate in any global warming agreement that would either (1) harm the U.S. economy or (2) fail to require meaningful participation by developing countries. Kyoto met neither of these conditions.

Perhaps in an effort to solidify the votes of the environmental community and kick-start their campaigns for the presidency in 2004, Messrs. Lieberman and McCain have co-sponsored an anti-air pollution bill that is, in effect, an attempt to implement a modestly less onerous version of Kyoto — let's call it "Kyoto lite" — without Senate ratification. Kyoto lite is similar to a bill Mr. Lieberman introduced in 2002 that would have lumped carbon dioxide in with mercury, nitrogen oxide and sulfur dioxide — air pollutants regulated by the Environmental Protection Agency — and demand that power plants reduce the emissions of these gasses via a "cap-and-trade" mechanism.

However, McCain/Lieberman would go further than the earlier bill by establishing greenhouse gas reduction targets for every major sector of the economy — energy, manufacturing, transportation, etc. — not just power plants. Cap-and-trade would work by setting a cap on total emissions, auction allowances to emit carbon dioxide to energy producers, and then permit them to trade these allowances between themselves. Supporters of cap-and-trade approaches to reducing air pollution argue that emissions trading is a more cost-effective way of reducing total emissions than either specifying a particular technological fix or taxing fuels based upon their relative emissions. They may be right. But there is no good reason for implementing a bad public policy, even if it is done in the least costly way.

Whatever the merits of using a cap-and-trade approach for reducing the emissions of mercury and sulfur dioxide, their argument is flawed when applied to CO₂. Unlike the others, CO₂ is neither a pollutant nor is toxic at any foreseeable atmospheric levels. Indeed, CO₂ is critical for plant life and thus necessary for life on Earth. Since CO₂ is not a pollutant, the only justification for forcing radical emission reductions on the economy is to slow or prevent global warming. But neither unilateral U.S. emissions reductions, as the McCain/Lieberman bill would demand, nor the international emissions reductions required by the Kyoto Protocol, would have any effect on future global warming.

According to the National Center for Atmospheric Research, if all of the signatories meet their greenhouse gas reduction targets, the temperature difference would be so small it couldn't be measured by ground-based temperature gauges. Indeed, since as much as 85 percent of the projected increase in CO₂ emissions will come from developing countries exempted from the Protocol, including China, India, South Korea and Brazil, even if developed countries unilaterally stopped all their greenhouse gas emissions (something no one seriously proposes), total greenhouse gas concentrations would continue to rise.

In addition, America is in the midst of a serious economic slowdown. By forcing industry to cut CO₂ emissions — which means reducing energy use — the McCain/Lieberman bill will only exacerbate our country's economic woes. In June 2002, the nonpartisan Congressional Budget Office (CBO) published a study analyzing various cap-and-trade proposals. The CBO's conclusion was clear. "[T]he economic impacts of cap-and-trade programs would be similar to those of a carbon tax: Both would raise the cost of using carbon-based fossil fuels,

lead to higher energy prices, and impose costs on users and some suppliers of energy." Raising energy taxes may never be a good idea, but during a recession it's just plain dumb.

How bad would it be? The numbers aren't in yet on Kyoto lite, but when examining the less comprehensive bill offered by Mr. Lieberman in 2002, the Environmental Protection Agency forecast that the bill would raise electricity prices in 2015 by between 32 percent and 50 percent, while the Energy Information Administration concluded it would reduce GDP by eight-tenths of 1 percent in 2007, or about \$100 billion with a loss of about 1 million jobs. Whatever the cause of the Earth's current warming trend, the McCain/Lieberman bill will not reduce the threat of global warming. It will, however, make a bad economic situation worse.

67) A GREENER BUSH

The Economist

February 13, 2003

Internet: http://www.economist.com/opinion/displayStory.cfm?story_id=1576767

George Bush deserves praise for his recent environmental moves—but he could be bolder still.

“THE American way of life is not up for negotiation.” That was the stance struck by the elder George Bush at the first Earth Summit in Rio de Janeiro in 1992. He was responding to the thousands of green, anti-capitalist and other activists who were claiming that the United States, then as now the world's biggest energy consumer, was also its biggest polluter. That makes it all the more striking that his son has just proposed environmental policies that, he says, will “fundamentally alter the American way of life in a positive way.”

In recent days, Mr Bush has unveiled a vision of a clean-energy future based on two ideas: promoting hydrogen and constraining carbon. His administration has declared its unqualified support for a shift from the internal combustion engine to fuel cells, which use hydrogen to produce energy without harmful emissions. And this week it gathered a group of industrialists in Washington to declare their support for Mr Bush's policy of pursuing voluntary cuts in emissions of greenhouse gases as a way of responding to climate change.

Mistrustful environmental groups immediately denounced both policies as chicanery. By talking up a hydrogen future that may be many years away, they argued, the president was seeking to distract attention from short-term measures, such as the corporate average fuel economy (CAFE) law that dictates car fuel-efficiency standards. They point accusingly at the fact that Mr Bush's vision of hydrogen energy allows the continued use of fossil fuels such as coal—albeit in a cleaner way, by “sequestering” the carbon emissions—and at the support he has received from the oil and car industries. As for climate change, they insist that Mr Bush, who summarily rejected the Kyoto Protocol two years ago, cannot be trusted to push his industrial friends into accepting enough voluntary cuts to make much difference to America's rising emissions of greenhouse gases.

OUTFLANKING THE GREENS

The environmentalists are wrong to be so sceptical. Mr Bush is unlikely ever to be a born-again green—or so we must hope—but there is no reason to dismiss his ideas for a shift to clean hydrogen just because car and oil companies may benefit. Their support is necessary if hydrogen is ever to take off. The shift from internal combustion engines to hydrogen fuel cells envisaged by Mr Bush could eventually lead, in the words of a senior administration official, to a “low-carbon energy system” in America. Moving away from CAFE would be welcome in itself: it is an overly bureaucratic, inefficient law whose objectives would be better achieved through the tax system. So far as climate change is concerned, economical

cuts in greenhouse-gas emissions are surely to be welcomed, notwithstanding the continuing controversy over the urgency of tackling the problem.

Even so, if Mr Bush is to burnish his green credentials, he needs to do more to turn fine visions into practical actions. He has given a glimpse of the right strategy by declaring that “we have a chance to move beyond the...command and control era of environmental policy, where all wisdom seemed to emanate out of Washington, DC...we can move beyond that through technology.” He is spot on in denouncing an overly centralised approach to greenery, and in pushing instead for market-based solutions. The success of pollution taxes in Europe and of emissions-trading systems for sulphur dioxide in America show that these are a far better way of encouraging innovation than technology mandates or direct subsidies.

On hydrogen, Mr Bush has offered much talk and \$1.2 billion in public money. That is unlikely to be enough to spur industries with hundreds of billions of dollars in sunk assets to think of shifting to hydrogen—especially when petrol is so cheap. On climate change, his insistence on a voluntary approach alone runs counter to the experience of the past decade, when greenhouse-gas emissions have continued to rise despite a string of voluntary initiatives to reduce them. The best way forward, on fuel cells as on climate, would be through the use of taxes. A higher petrol tax, or better still a tax on all carbon emissions, would mean that the full cost to the environment and human health from the use of petrol (and other fossil fuels) was reflected in the price. Unlike the CAFE law or any other central target, taxes of this kind would encourage the development of cleaner energy without biasing energy users in favour of any specific technologies or energy sources. Best of all, Mr Bush could use the extra revenues to finance tax cuts elsewhere, or to trim looming budget deficits. An intelligent green policy that improves America's fiscal position—now that really would be visionary.

68) STATEMENT BY THE PRESIDENT (US)

Office of the Press Secretary

February 12, 2003

Internet: <http://www.whitehouse.gov/news/releases/2003/02/20030212.html>

The United States is taking prudent steps to address the long-term challenge of global climate change. We are reducing projected greenhouse gas emissions in the near term, while devoting greater resources to improving climate change science and developing advanced energy technologies. America has already made great progress in this effort: Between 1990 and 2001, industrial sector emissions were held constant, while our economy grew by almost 40 percent. Sustaining and accelerating this progress will help us meet our goal of reducing the greenhouse gas intensity of the American economy by 18 percent by 2012. A year ago, I challenged American businesses to develop new, voluntary initiatives to reduce greenhouse gas emissions. I am pleased to announce today that 12 major industrial sectors, and the membership of the Business Roundtable, have responded with ambitious commitments to reduce their greenhouse gas emissions in the coming decade.

America's electric utilities; petroleum refiners and natural gas producers; chemical, automotive, magnesium, iron and steel manufacturers; forest and paper producers; railroads; the mining, cement, aluminum and semiconductor industries; and many of America's leading corporations have committed to actions that will prevent millions of tons of greenhouse gas emissions in the coming decade. I commend these initiatives which will help these businesses and industries continue to improve their energy efficiency and overall productivity, while contributing toward achieving our goal to reduce the greenhouse gas intensity of the American economy.

As I said last year, every sector of the economy will need to contribute to our efforts to achieve our ambitious national goal. These initiatives are a first step in what we expect to be

an ongoing engagement with these and other sectors of our economy in the years ahead. Underpinning our approach to climate change is an understanding that meeting this long-term challenge requires policies that recognize that sustained economic growth is an essential part of the solution. Policies that undermine the health of our economy would only hamper America's ability to develop and deploy new energy technologies and invest in energy efficiency and productivity improvements. The United States is the world's leader in technological development, industrial productivity, and environmental quality. These strengths make possible the initiatives that have been announced today to reduce or capture and store greenhouse gas emissions.

69) WHO'S GOING TO PAY FOR CLIMATE CHANGE?

Time

February 7, 2003

Internet: <http://www.time.com/time/columnist/linden/article/0,9565,420539,00.html>

The Bush administration, so warlike in response to terrorism, has revealed a pacifist streak in its approach to the threat of climate change. At meetings on the Kyoto Treaty last fall in New Delhi, U.S. delegates argued that we ought to be thinking about adapting to changing climate. The administration's position seems to have gone from doubt about the science of climate change to suggesting it is inevitable without ever acknowledging that the nation might take steps to avert the threat. The new position is a clever one: By leaving moot the question of cause, and by implying that no one could have done anything about it, the administration also implies that no one is responsible. The administration underscored its genial "no fault" approach when it recently asked industry to voluntarily reduce emissions.

Nice try, but don't be surprised if there are few takers for this line of reasoning. As the costs of climate change become more obvious in everything from lost crops to wrecked real estate, victims will begin pointing fingers and businesses will begin diving for cover. John Dutton, dean emeritus of the Penn State's College of Earth and Mineral Sciences, estimates that \$2.7 trillion of the \$10 trillion U.S. economy is susceptible to weather-related loss of revenue, meaning that an enormous number of companies have "off balance sheet" risks related to climate. This could wound corporate America in a lot of ways, particularly as insurance companies discover this new area of risk.

Most policies covering natural disasters are renewable on a yearly basis. When risks become too expensive, insurers can simply walk away. Something like this happened after the Sept. 11 attacks. Insurers suddenly realized that they had vastly underpriced the risk of terrorist attacks and stopped writing new policies. This brought many big construction projects to a standstill until President Bush signed a bill in Nov. that shifted responsibility for \$100 billion of future terrorism-related losses from insurers to the taxpayers. If climate change starts inflicting losses, insurers will again head for the exits. Just such insurer flight has already caused problems in North Carolina's Outer Banks and in parts of New York's fabled Hamptons, where coastal storms are eating up homes and businesses. When insurance companies quit these high-risk places, the burden shifts to banks. But they don't have the same freedom simply to cancel mortgages and loans. What will happen to the markets if banks start demanding insurance for weather-related events that is either prohibitively expensive or completely unavailable?

The climate change threat that will really get the attention of executives and boardmembers, however, is the possibility that they might be liable for damages. This could happen if insurers like financial giant SwissRe start changing the insurance policies that insulate directors and officers (called D&O insurance) from the costs of lawsuits resulting from the actions of their corporations. Businesses open themselves to lawsuits when they take a position contrary to others in their industry, and in recent cases such as asbestos litigation,

courts have assessed damages proportionate to a company's contribution to a problem. Chris Walker of Swiss Re describes how this might come about with regard to climate change. He notes that energy giant Exxon/Mobil accounts for roughly 1% of global emissions, and has aggressively lobbied against any efforts to reduce greenhouse gasses. "So," says Walker, "we might then go to them and say, 'Since you don't think climate change is a problem, we're sure you won't mind if we exclude climate related lawsuits and penalties from your D&O insurance.'" Swiss Re recently set the stage for such action by sending a questionnaire to its D&O customers inquiring about their company's strategy to deal with climate change regulations.

Some climate change regulation seems to be coming, whether the federal government acts or not. States such as New Jersey, Massachusetts and New York are following the lead of California, imposing their own limits on greenhouse gases and presenting businesses with the prospect of a crazy quilt of regulations. Various state attorneys general are going further, exploring ways they might sue companies for climate change-related damages. And if the Kyoto Treaty comes into force, as now seems likely this spring, countries might similarly seek trade sanctions against the U.S. for its unwillingness to abide by its terms. Faced with the prospect of class-action lawsuits, states that take a "roll your own" approach, and trade sanctions, many of those executives who are opposed to the Kyoto Treaty might begin to rethink their position, and the Bush administration might find itself abandoned by its ostensible allies. For corporate executives pondering climate change, threats to the wallet may prove far more persuasive than science.

70) A MATTER OF CHOICE, NOT DESTINY by Md. Asadullah Khan

Daily Star

February 7, 2003

Internet: <http://www.dailystarnews.com/200302/07/n3020709.htm#BODY10>

Md. Asadullah Khan taught physics and is now controller of examinations at the Bangladesh University of Engineering and Technology (BUET).

DANGERS that seemed exaggerated and distant even a decade ago -- global warming, ozone depletion, desertification, and extreme weather conditions -- are now at our doorsteps. Water vapour and carbon dioxide trap infrared radiation in the atmosphere, warming the world. Water vapour accounts for nearly 98 per cent of the warming, without which the Earth would have been 61 degrees Fahrenheit colder. Carbon dioxide, emanating mainly from combustion of fossil fuels, accounts for the rest more or less. However, fiddling with that two per cent is like pushing a long lever: a tiny push can bring about enormous changes.

Concentration of carbon dioxide has risen about 280 parts per million before the Industrial Revolution to 360PPM today. The world has warmed about one degree Fahrenheit over the last century and oceans have risen four to 10 inches. Century-to-century variability has seldom been this high over the last ten millennia. According to the Intergovernmental Panel on Climate Change [IPCC], sea levels will rise six to 37 inches more by 2100, which means low-lying areas such as Bangladesh coastal region, Maldives, Mumbai and Gujarat coastlines in India, and even parts of the United States will go under water. With drastic changes in global weather patterns, vector-borne diseases will increase, affecting agriculture, livestock and fisheries.

Carbon dioxide stays in the atmosphere for a century on average: gas from the coal that warmed the Americans some 100 years back could be still up there. Even if we stop burning coal, oil and natural gas right now, the world would still continue to get warmer. Stabilising emissions does not stabilise climate, as long as the gases keep rising, even at current rates. So, to stay on "an environmentally benign course we need to reduce emissions 1 to 2 per cent per

year for the next century. If we don't start now, we will have to cut 3 to 4 per cent per year", which would be even more daunting, says atmospheric physicist Michael Oppenheimer of the Environmental Defence Fund [EDF]. So, how do we strike the balance? Just look closely at the nature. There is no waste in the natural system: the same materials have been recycled for billions of years. All we have to do is to relearn the lessons.

BASF Corp's carpet fibre unit has developed a recyclable nylon that makes it possible to reconstitute old carpets into new. Swiss semiconductor maker ST Microelectronics has saved more than \$60 million by cutting its energy usage and \$20 million by reducing water consumption below baselines set in 1994. The company issued some environmental goals and empowered its divisions to become creative: the responses include using solar power and finding ways to recycle water. Cargill Dow, a joint venture by agricultural giant Cargill and chemical company Dow, is manufacturing biodegradable and recyclable plastics from corn sugars. The company already makes environmentally friendly packaging for Sony products and pillow stuffing for Pacific Coast Feather. McDonalds, it is learnt, has stopped buying chicken treated with "Cipro-like antibiotics" and Nike has begun stripping toxins from its shoes.

The key to sustainability is to make the market work for, and not against, the environment. For too long capitalism has not put a proper value on the services nature provides, such as water supply and climate control, nor has it accurately assessed the costs of the damage industry can do to the environment. But putting a larger price tag on pollution can alter the behaviour. Anticipating the global movement to combat climate change, British Oil giant BP decided in 1997 to reduce its carbon emissions to 10 per cent below 1990 levels by the year 2010. In the year 2001 report by Baxter International, a Deer field, Illinois, medical products maker detailed how reductions in energy, water use, improved wastes disposal and recycling over the past seven years cut costs by \$53 million. The savings amounted to nearly 10 per cent of its 2001 net income.

Since fossil fuels are heating up the earth, the race is to develop cool alternatives. Experts say wind could provide up to 12 per cent of the Earth's electricity within two decades. Reports have it that wind farms in Texas, Oregon and Kansas have helped the US wind-energy output to 66 per cent last year and an additional \$3 billion in American projects are in the pipeline. BP is building a \$100 million solar plant in Spain. How soon we reach an era of clean, inexhaustible energy depends on technology. Solar and wind energies are intermittent: when the sky is cloudy or the breeze dies down, fossil fuel or nuclear plants must kick in to compensate. But scientists are working on better ways to store electricity from renewable sources.

Current from wind, solar or geothermal energy can be used to extract hydrogen from water molecules. In the future, hydrogen could be stored in tanks, and when energy is needed, the gas could be run through a fuel cell, a device that combines hydrogen with oxygen. The result: pollution-free electricity, with water as the only by-product. Already fuel-cell buses, cars and small generators are being tested. Eventually, some visionaries say, fuel cells placed in individual buildings could replace many of today's giant electric plants. But that will not happen unless the technology is refined and the cost drops.

While the developed nations debate how to fuel their power plants, however, some 1.6 billion people -- a quarter of the globe's population -- have no access to electricity or gasoline. They cannot refrigerate food or medicine, pump well water, power a tractor, make a phone call or turn on an electric light to do homework. Many spend their days collecting firewood and cow dung, burning it in primitive stoves that belch smoke into their lungs. To emerge from poverty, they need modern energy. And renewables can help, from village-scale hydropower to household photovoltaic system to bio-gas stoves that convert dung into fuel. More than a million rural homes in developing countries get electricity from solar cells. Ultimately, the

earth can meet its energy needs without fouling the environment. "But it won't happen," asserts Thomas Johansson, an energy advisor to the United Nations Development Programme [UNDP], "without the political will". To begin with widespread government subsidies for fossil fuels and nuclear energy -- estimated at some \$150 billion per year -- must be dismantled to level the playing field for renewables. Policymakers must factor in the price of pollution: coal plants are more expensive than renewable power when one includes the cost of scrubbers on smokestacks and the expense of healthcare for coal-related illnesses. Environmentalists are calling for taxes on carbon to slow the growth of fossil-fuel use.

Another way to increase renewables' share of the energy mix is to reduce the use of conventional fuel through efficiency incentives. Experts believe that efficiency could slash the globe's projected energy consumption by a third. Strict standards can cut energy use in everything from air conditioners to cars. Compact fluorescent lamps use a quarter of the electricity of incandescent bulbs to provide the same amount of light. The European Union, for instance, requires its members to boost electricity from renewables to 22 per cent of production within the next eight years. On the road to enlightened energy policy, a few countries offer models of reform.

More than a decade ago, Denmark required utilities to purchase any available renewable energy and pay a premium price; today the country gets 18 per cent of its electricity from wind. Thanks largely to Germany and Spain, which have enacted vigorous incentives for renewables, Europe today accounts for 70 per cent of the world's wind power. In Japan 80,000 households have installed solar roof panels since the government offered generous subsidies in 1994; consequently, Japan has displaced the US as the world's leading manufacturer of photovoltaics. India established a fund that has lent \$1.1 billion to alternative-energy projects; the country is now the globe's fifth largest generator of wind and solar power. Iceland, which lies on a hotbed of underground volcanic activity, uses that geothermal energy to heat 90 per cent of its buildings. The island nation is planning to use geothermal and hydroelectric power to produce large amounts of hydrogen, creating the world's first hydrogen economy.

Global energy demand is expected to triple by mid-century. The earth is unlikely to run out of fossil fuels by then, given its vast reserves, of coal, but it seems unthinkable that we will continue to use them as we do now, for nearly 80 per cent of our energy. The world has gradually moved toward cleaner fuels -- from wood to coal, from coal to oil and from oil to natural gas. Renewables are the next step. Royal Dutch/Shell has pledged to spend up to \$1 billion on renewables through the next five years. Japanese manufacturers, led by Sharp and Kyocera, have moved aggressively into photovoltaic cells, which turn sunlight into electricity. Such examples show that the future "is more a matter of choice than destiny", says Brazilian physicist José Goldemberg, chairman of a recent United Nations energy study.

71) UNITED STATES AND EUROPEAN UNION JOINT MEETING ON CLIMATE CHANGE SCIENCE AND TECHNOLOGY RESEARCH

US State Department
February 7, 2003

Internet: <http://www.state.gov/r/pa/prs/ps/2003/17493.htm>

"The United States and European Union convened the first bilateral "U.S.-EU Joint Meeting on Climate Change Science and Technology Research" in Washington on February 5-6, 2003, following an invitation from Under Secretary of State for Global Affairs Paula Dobriansky to European Commission Research Commissioner Philippe Busquin. The meeting was conducted under the April 23, 2002 agreement of representatives to the U.S.-EU High Level Dialogue on Climate Change to enhance cooperation on climate-related science and research.

The respective delegations were led by Dr. Harlan Watson, Senior Climate Negotiator and Special Representative of the Department of State for the U.S. side, and by Dr. Anver Ghazi, Head, Global Change Unit of the European Commission Research Directorate-General for the European side.

The U.S. delegation included representatives from the White House Office of Science and Technology Policy, U.S. Climate Change Science Program Office, U.S. Department of Commerce National Oceanic and Atmospheric Administration, U.S. Department of Energy, U.S. Department of State, National Aeronautics and Space Administration, National Science Foundation, and U.S. Agency for International Development. The European Union delegation included representatives from the European Commission Research Directorate-General, selected research experts from European Union Member States, and the Delegation of the European Commission to the United States.

The two sides identified cooperative research activities in six areas: (1) carbon cycle research; (2) aerosol-climate interactions; (3) feedbacks, water vapor and thermohaline circulation; (4) integrated observation systems and data; (5) carbon capture and storage; and (6) hydrogen technology and infrastructure. Specific topics of potential cooperation in each area are identified in an annex to this statement available at: www.state.gov/g/oes/climate/. The two sides agreed to designate points of contact to coordinate the development of specific research activities and modalities of cooperation and to monitor the progress of these activities, building on existing cooperative arrangements wherever possible.

The two sides further agreed to review the progress of their cooperation at the next Joint Meeting, which could take place in Italy later this year. Additional topics to be considered then are abrupt climate change including critical thresholds, integrated assessment of mitigation and adaptation options, linkages between climate change management and energy systems transformations, and capacity building for strengthening the involvement of developing countries and young scientists in climate change research and monitoring.”
End Text.

ANNEX—United States and European Union Joint Meeting on Climate Change Science and Technology Research: Specific Topics of Potential Cooperation

The United States and European Union identified cooperative research activities in the six areas at the first bilateral “U.S.-EU Joint Meeting on Climate Change Science and Technology Research” held in Washington on February 5-6, 2003: (1) carbon cycle research; (2) aerosol-climate interactions; (3) feedbacks, water vapor and thermohaline circulation; (4) integrated observation systems and data; (5) carbon capture and storage; and (6) hydrogen technology and infrastructure. Other non-greenhouse gas emitting energy sources (e.g., nuclear energy, renewable energies), although not discussed in detail, were mentioned as worthy for cooperation in future discussions. Specific topics of potential cooperation in each area include the following:

CARBON CYCLE RESEARCH

1. Define and implement an integrated and optimized carbon observing system over the atmosphere, land, and oceans, with special emphasis on the carbon budget of North America, Europe, and the North Atlantic region;
2. Coordinate efforts in modeling (future projections, assimilation methods, and analysis of past changes) integration, interpretation, and future data acquisition strategies;
3. Enhance georeferenced carbon cycle data availability and quality; and
4. Develop common assessment methods and state-of-the-art reports.

AEROSOL-CLIMATE INTERACTIONS

1. Perform studies of aerosols, their influence on clouds, climate, and links to the water cycle in sensitive regions (hot spots) that are strongly affected by anthropogenic emissions (South and East Asia, and the Mediterranean);
2. Improve emission data sets of reactive gases and aerosols from anthropogenic and biomass burning sources;
3. Perform studies on intercontinental transport and chemical transformation of anthropogenic emissions that affect climate and air quality;
4. Advance integrated global/regional earth system modeling to study feedback mechanisms and develop mitigation and adaptation strategies; and
5. Further satellite observations of reactive gases and aerosols and down-scaling through in situ and remote sensing measurements in anchor stations.

FEEDBACKS AND CLIMATE SENSITIVITY

1. Improve representations of cloud feedbacks in coupled climate models through participation in the Cloud Feedbacks Model Intercomparison Project (CFMIP);
2. Begin to quantify and reduce uncertainty in model predictions through joint work on ensemble approaches to integrated climate change scenarios; and
3. Maintain and enhance participation in joint research on thermohaline circulation

INTEGRATED OBSERVATION SYSTEMS AND DATA

1. Cooperate, within existing international frameworks, to plan and develop the integrated observation systems required to provide the data needed for climate change research;
2. Continue with efforts to combine satellite and in situ global observations that are essential to detect climate change and improve evolving climate models, especially to encourage expanded involvement of developing countries to fill gaps in existing databases;
3. Encourage and further improve the sharing and archiving of climate data and the design of common standards and formats; and
4. Encourage the widest possible participation in the Earth Observation Summit in July 2003 and prepare for appropriate follow-up.

CARBON CAPTURE AND STORAGE

1. Identify potential areas of collaboration on carbon capture and storage;
2. Foster collaborative research and development projects;
3. Identify opportunities to discuss the perspectives of governments and other key stakeholders; and
4. Discuss planning, including research and development, for large integrated sequestration and energy plant projects.

HYDROGEN TECHNOLOGY AND INFRASTRUCTURE

1. Development of international codes and standards including testing and certification;
2. Pre-competitive research and development on critical enabling technologies including: polymer electrolyte membrane (PEM) fuel cells, non-precious metal catalysts, high temperature membranes, solid oxide fuel cells, hydrogen storage concepts (e.g., carbon nanostructures and complex metal hydrides), refueling technologies and procedures, and hydrogen production;
3. Data exchange on hydrogen energy technology and fuel cells; and
4. Benchmarking of development and deployment strategies for hydrogen energy technologies and fuel cells.

72) OUTSIDE VIEW: THE ROAD FROM KYOTO by Michael Renner

UPI

February 6, 2003

Internet: <http://www.upi.com/view.cfm?StoryID=20030204-075041-1592r>

WASHINGTON, Feb. 5 (UPI) -- As discussion about the looming war in Iraq intensifies in the wake of George Bush's State of the Union address, one item conspicuously absent from news bulletins and pundits' pontifications is the Kyoto protocol. Kyoto, you say? What do halting efforts to address the growing threat of climate change have to do with the high-stakes confrontation between presidents George W. Bush and Saddam Hussein?

The common element, of course, is oil. Bush and other U.S. officials may insist that their concern lies with weapons of mass destruction, human rights, democratic governance, and the like. Energy questions and Iraq were addressed as though utterly unrelated in the State of the Union speech. But, surprise, Iraq sits atop an ocean of cheap oil. The current administration has staked out an energy policy that is predicated on a huge increase -- at least one-third over the next two decades -- in U.S. oil consumption. Where will that oil come from? While strenuous efforts are under way to unlock deposits of black gold in the far corners of the earth, the Middle East remains key.

Iraq has the largest unexplored reserves in the region, possibly even topping Saudi Arabia in total recoverable oil. Needless to say, a policy that aims at a major expansion of oil and fossil fuels is fundamentally at odds with the spirit of Kyoto. The protocol, named after the Japanese city where negotiations took place in 1997, was cobbled together with the expectation that it was going to be a first step toward a climate-responsible energy policy. Industrial countries are supposed to cut their carbon emissions by 5 percent from 1990 levels no later than 2012. Even more substantial reductions, including action by developing nations are needed if, some predict, a disastrous heating of the planet is to be avoided. Bush denounced the Kyoto protocol, refusing to commit the United States to its terms. Voluntary measures, announced by the administration with great fanfare in February 2002, may be more effective in staving off mandatory action by Congress and state governments than in preventing continued emissions growth. Already, U.S. carbon emissions have climbed 18 percent above 1990 levels. And the Energy Information Administration's International Energy Outlook 2002 projects emissions to grow by 33-46 percent over the next two decades. The struggle over climate policy, pitting the United States primarily against Europe, is in large measure one over the nature of the economy of the future.

Will it rely on the same old energy sources that pollute the air we breathe, and, according to some analyses, generate acid rain calamitous to lakes and forests, and commit humanity to a game of atmospheric Russian roulette? Will it condemn the world to repeated wars and human rights violations over oil? Or will it be characterized by far more efficient and intelligent ways of using energy? Will it unleash innovative technologies that not only harness the power of the sun and the wind, but generate large numbers of new jobs? It is a question of life and death, not just for ordinary Iraqis who may find themselves on the frontlines of a shooting war, but ultimately for the entire planet. The battle over Iraq's oil, if it comes, is only one episode in a figurative war -- the ongoing broader assault on the Earth's ecological balance. To an extent unrivaled by any other nation on earth, the United States is addicted to oil. More than a mere toxicant, oil is like oxygen to the United States. Americans drive SUVs in the name of individual freedom and regard unlimited consumption as their birthright. Public policy actively nurtures and subsidizes these guzzling habits. Representing a mere 5 percent of global population, the United States claims 26 percent of the world's oil use.

Predicated on massive flows of cheap oil, the U.S. economy remains far less energy efficient than those of competitors in Europe and Japan. The country has gone to great lengths to maintain its domination over world oil -- by propping up its clients in oil-exporting nations with arms and credits, overthrowing or marginalizing those that stand in the way, influencing

the routing of oil export pipelines, and exercising undisputed control over the sea-lanes through which much of the world's oil is shipped. An Iraq that is in desperate need to rebuild a starved and shattered country, and favorably disposed toward U.S. interests, can be expected to open the oil spigot wide as soon as its facilities are repaired. A U.S. government task force has reportedly been consulting with industry representatives and Iraqi opposition figures on ways to achieve just that outcome. It may take some years, a rehabilitated Iraq is capable of flooding world oil markets, driving prices lower than they have been in many years.

Sustained low prices would critically undermine the fledgling efforts to build wind, solar, and hydrogen industries, kick away the economic incentive to use energy more prudently, and effectively destroy the Kyoto protocol. Wind power in particular has come a long way, growing by more than 30 percent annually in recent years and now cost-competitive with most conventional sources of energy. Such advances could fall victim to artificially cheap oil -- a fuel whose considerable ecological and security costs are not properly accounted for. This is by no means an inevitable scenario. Just as it is possible that weapons inspections and determined global opposition to warmongering, can yet avert an invasion of Iraq, there is no reason why the United States cannot face up to its oil addiction. Neither is likely to happen in the absence of an informed, vocal public that demands an alternative approach to matters of war and peace and the environment.

73) WITH 2002 BEHIND US, IT'S TIME FOR OUR ANNUAL ASSESSMENT OF THE TOP CLIMATE CHANGE STORIES OF THE YEAR by Leonie Haimson

Grist

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Leonie Haimson has penned a chapter for the book Climate Change Policy, edited Common Questions on Climate Change for the U.N. Environment Programme, and coauthored The Way Things Really Are: Debunking Rush Limbaugh on the Environment for Environmental Defense. She lives with her husband and two children in New York City, where she also works as a public school advocate.

1. KYOTO GOES (ALMOST) GLOBAL

The biggest climate story of last year was undoubtedly the ratification of the Kyoto Protocol by nearly every industrial nation in the world. The process started slowly with Iceland, Norway, and the E.U. nations in May, followed by Japan in June, and thereafter most of Eastern Europe. The end of the year saw a rush of new signatories, including Canada, Poland, and New Zealand, leaving the United States and Australia isolated as the only two nations in the world still opposing the treaty. Barring a major change in government, both nations appear unlikely to change their positions.

Meanwhile, more than 70 countries of the developing world have also ratified, including China, India, and Brazil. However, developing nations presently have no quantitative commitments under the Kyoto Protocol. Before the treaty can take effect, two major conditions must be met. First, a minimum of 55 countries have to endorse the agreement. This condition has already been fulfilled: According to Climate Action Network Europe's invaluable website, a total of 102 countries had ratified or acceded to the treaty by the beginning of this year. (Download this list for the complete info.)

The second major condition is that the treaty must be ratified by countries responsible for 55 percent of 1990 carbon dioxide emissions from the industrialized world. So far, the industrialized nations that have signed account for 43.9 percent of 1990 levels. With Russia (which is responsible for 17.4 percent of 1990 emissions) having recently reaffirmed its

intention to ratify in the near future, expect this final, crucial step to happen this year. That the rest of the world went ahead with Kyoto despite the non-participation of the United States came as a surprise to many commentators -- some of whom had even argued that Europeans were eager to ditch the agreement and would use U.S. opposition as an excuse to do so. Prominent journalist Gregg Easterbrook even claimed in the New York Times that the odds against the Europeans signing were "a million-to-one." But in fact, the world did what was both right and necessary -- and to our shame, they did it without us. The political leadership in Europe and Japan, along with environmental organizations in these countries, deserve the lion's share of the credit. Let's hope they now put as much effort into devising incentives, both positive and negative, to bring the U.S. back to the negotiating table.

2. WACKY WEATHER CONTINUES

As political momentum to combat climate change grows, weird weather continues: The year 2002 turned out to be the second-warmest year after 1998, with global temperatures averaging 0.56 degrees Celsius (1.01 degrees Fahrenheit) above the long-term mean from 1880 to 2001. Last year was the 25th consecutive year of above-average temperatures. Surface temperatures have risen nearly 0.6 degrees Celsius (1.1 degrees Fahrenheit) over the past century, and the speed of the warming has increased dramatically over the last 25 years, approaching 2.0 degrees Celsius (3.6 degrees Fahrenheit) per century.

Notable weather events during 2002 included a severe heat wave during May and June across southwestern Asia, with temperatures reaching as high as 50 degrees Celsius (122 degrees Fahrenheit), resulting in more than 1,000 deaths across India and Pakistan. Other extreme events included torrential rains and flooding in Asia and Central Europe, some of the worst smog ever to hit China and Hong Kong, and scores of forest fires in Russia, the western U.S., and Australia, which came close to igniting the cities of Moscow, Denver, and Sydney, respectively. Most recently, the worst drought to afflict Australia in nearly a century has been linked to the warming trend (CNN.com, Reuters, 14 Jan 2003).

Some experts predict that 2003 will be another record-breaking year, with temperatures equaling or surpassing those in 1998, when there was an El Nino similar to the current one. Scientists at Britain's Hadley Center for Climate Prediction and Research have reckoned this at even odds, while James Hansen, the director of the Goddard Institute for Space Studies, has put the likelihood even higher, according to the New York Times.

3. GLACIERS AND ICE MELT AT ALARMING RATES

The global temperature data masks even more significant warming in specific areas, such as in the polar regions and high latitudes. In 2002, extremely warm temperatures contributed to the greatest surface melt of the Greenland Ice Sheet in the 24-year satellite record. There was also a record low of observed sea ice in the Arctic, where temperatures during the summer of 2002 were unusually warm, according to the National Snow and Ice Data Center. In Antarctica, where average temperatures have risen about 4.5 degrees Fahrenheit over the last 50 years, a Rhode Island-sized chunk of ice weighing approximately 500 billion tons fell off the Larsen B ice shelf into the sea.

Nor have the tropics gone unaffected. Scientific studies show an unprecedented rate of ice melt atop Mount Kilimanjaro, whose glaciers are expected to disappear entirely by 2020. (See a related Grist story.) In the Himalayas, the Alps, and Alaska, thousands of glaciers are rapidly disappearing. If present trends continue, Glacier National Park in Montana is expected to be entirely glacier-free within 50 years. More recently, it was noted that the world is actually changing shape and becoming more "oblate" due to all the melting. The loss of ice sheets and glaciers is expected to have deleterious effects in terms of global sea level rise, flooding, and the loss of freshwater supplies in many parts of the world.

4. CALIFORNIA SAVES THE DAY

The only really encouraging U.S. political development this year happened over the summer in California, where the state legislature passed a measure that would limit carbon dioxide emissions from automobiles. Gov. Gray Davis (D) signed the bill shortly thereafter. The auto companies, which put up a fierce battle to defeat the bill, are expected to go challenge it in court, claiming it conflicts with laws giving the federal government the right to regulate auto efficiency.

The legislation, if enacted, would direct the California Air Resources Board to develop a plan by 2005 requiring all vehicles sold in the state to exhibit "maximum feasible reduction" in greenhouse emissions. The regulations would not take effect until 2009; still, they would force the U.S. auto industry to market improved models, because about 10 percent of all cars purchased in this country are sold in California. This exciting development contrasts with the gridlock on the federal level, where the overall efficiency of the U.S. fleet remains at a 20-year low. In December, the Bush administration approved a meager 1.5 mile-per-gallon increase in fuel economy standards for SUVs, trucks, and minivans by 2005, after having worked to defeat a much tougher congressional measure in March that would have increased overall auto efficiency by 50 percent.

5. HYBRID CARS GET A GLAMOUR BOOST

Meanwhile, fuel efficiency has become something of a cause celebre among the glitterati. From the Rolling Stones/Natural Resources Defense Council global warming concert scheduled for Feb. 6 in Los Angeles, to the anti-SUV ad campaign sponsored by Arianna Huffington and Laurie David (wife of writer-comedian Larry David) to the growing popularity of the hybrid Toyota Prius among movie stars, Hollywood and the music industry now appear to be leading the charge for U.S. action on climate change and energy efficiency.

In particular, the incendiary anti-SUV ads, which link the gas-guzzling vehicles to terrorism in the Middle East, have garnered a huge amount of media attention even though they have not yet been broadcast. (You can see them or contribute funds towards their media buy on Huffington's website.) Perhaps the most encouraging aspect of this trend is the number of Toyota Prius owners among the movie crowd, who talk up their love for the efficient if slightly awkward-looking cars, and by association, even make them seem glamorous. Larry David bought three, including one for his character to drive on his HBO series, "Curb Your Enthusiasm." "It works on every level," says David. "I'm doing something good, and my wife has sex with me more often" (Washington Post, 6 Jun 2002).

According to Toyota, the car has been purchased by a dazzling list of stars, including Cameron Diaz, Donny Osmond, Ted Danson, Jeff Goldblum, and Leonardo DiCaprio, who has bought four for himself and other members of his family. (For a longer list, including some prominent politicians and environmentalists, see Toyota's website.) Still, the hybrid's sales are dwarfed by the massive popularity of SUVs. Toyota has sold only about 40,000 Priuses in the U.S. since their introduction in July 2000, although sales last year rose 33 percent over the year before. Honda has its own, less glamorous hybrid version of the Civic, and a company spokesperson says the company's selling about 2,000 of the hybrid cars per month: "The Prius may be more for the Hollywood crowd. We're drawing more the typical Honda customer" (AutoWeek online, 22 Jan 2003).

Signs of an anti-celebrity backlash have already appeared, including an opinion piece by David Brooks in the Wall Street Journal, who said all the criticism of the SUV may lead him to purchase one for the first time, and dubiously claimed that getting one is "a way to connect imaginatively with a more inspiring life than the one you actually lead" (Wall Street Journal,

21 Jan 2003). Soon, American consumers may have the opportunity to combine their love for the hulking SUV with the rising popularity of the more environmentally-correct hybrid. Toyota will have a hybrid SUV for sale within two years; Toyota's ambitious plans also include fuel-cell and hydrogen-powered vehicles (New York Times, 26 Jan 2003). General Motors has announced plans to offer a full line of hybrids, from sedans to SUVs, starting in 2004, and says that it intends to sell up to a million of these models by 2007 (San Jose Mercury News, 4 Jan 2003). Ford will introduce a hybrid version of its Escape SUV later this year that is expected to get 40 to 50 miles per gallon. Let's hope that the U.S. auto companies are really interested in selling these vehicles in substantial numbers, and are not just making the gesture of offering a few for the sake of good PR. Given their previous record, a healthy dose of skepticism might be in order.

74) CLIMATE CHANGE AND WATER RESOURCES by John Onu Odihi

Brunei Online

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A woman in burqa and a boy on donkey advance through on a riverbed without water for last seven years. Vast areas of the world receive too little rainfall and are therefore arid or semi-arid. In these areas water is always in short supply and costs of providing good quality water may be too high for the state in such places. Climate change and water resources are two of the important issues occupying the centre stage of global environmental and policy agenda over the past decades. Concerns over them looks certain to continue well into the new millennium with many experts warning that the problems could not be arrested easily even if we practice all the restraints proposed for their mitigation. A change to a warmer climate would result in the melting of ice and glaciers that would cause a rise in sea levels globally.

Also, fresh water pollution caused by intrusion of seawater would jeopardise supplies of fresh water for human consumption, industrial and agricultural production in coastal areas. Furthermore, climate change would be capable of causing drastic changes and redefining agricultural belts globally. If and when that happens, today's breadbaskets (important food producing areas of the world) could be turned into "agricultural deserts" as a result of several factors, which include the inability of crops to cope with climate change-induced temperature regimes. As more data becomes available, the fears surrounding climate change particularly the implications for water resources take on a renewed urgency. Notwithstanding its abundance (about two-thirds of the earth's surface), water remains an elusive resource because of its nature and distribution in both space and time. Only a small quantity of water available at any time on earth is of fresh nature.

The bulk of water exists as seawater, which cannot be directly used by humans or in agricultural production. Also, water is not well distributed around the world. Its occurrence in time and space does not correspond well to demand. The bulk of fresh water occurs as glaciers, snow or ice in areas too far or too cold for humans to reach. Vast areas of the world receive too little rainfall and are therefore arid or semi-arid. In these areas, water is always in short supply and costs of providing good quality water may be too high for the state in such places. Centuries of exploitation of underground sources have resulted in their complete exhaustion or near-exhaustion in many parts of the world.

Water supply has been a thorny issue in many parts of the world. A potpourri of factors has been responsible for water supply even before the scientific community discovered the problem of climate change. Rising human populations is a key factor of global concern. The

fundamental nature of the human population problem stems from the multifarious nature of human dependency on water. Each baby born exerts a demand pressure on water supplies through its needs for food (production and preparation), shelter, sanitation and recreation among others. Additionally, modernisation or "the good life", wrongly or rightly defined in materialistic terms as abundance of one's material acquisition, places much pressure on water resources. Unfortunately, water resources remain finite in many places even with today's technology because of political, technological and economic feasibility problems.

Notwithstanding these problems, demand for water keeps growing almost everywhere in the world. In poorer areas, high demands and low supply lead to high mortality rates. The inadequacy of supply in terms of quantity, quality or both cause the poor segments of societies in poor countries to use polluted water. This has led to very high incidences of enteric or killer diseases such as diarrhoea, dysentery and typhoid among others with their high tolls on the population of such countries. Water, which is easily one of the most abundant resources of nature, has created the phenomenon called "hydropolitics" (politics over water), and it is frequently a cause of friction between people divided by a political boundary. This happens when a water resource such as a river has a transboundary existence.

The cause of such friction is usually a development policy or programme that skews benefits and costs across such a political boundary. One side gets the carrot (benefits) and another gets the stick or sting of the development. In many cases more than two countries have a stake in an international river. Major basins of the world such as the Amazon, Mekong, Congo, Nile, Niger and Rhine are international basins. The problem comes when countries that have a stake in an international river have different agenda for its development. Parochial development such as damming or diverting the waters of international rivers for the benefits of one country is capable of, and has at one time or another, strained relationships between countries. Some examples of unresolved international river issues as recent as the mid-1990s included those over Rio Grande and Colorado (USA and Mexico), Eurprates and Tigris (Iraq, Syria and Turkey) and Nile (Egypt, Sudan and Ethiopia). Close to home, the Mekong is a source of friction between Thailand, Vietnam, Kampuchea and Laos.

The unequivocal importance of water to humans, the widely accepted idea of climate change and its dire implications for water resources the world over sum up to the need for good planning and management of water resources. We cannot plan well without correct understanding of the situation. While Brunei Darussalam has yet to experience major problems with water resources, the impacts of climate change are of global proportions. It may only be a matter of time, given the country's coastal location, for Brunei Darussalam to experience some of the adverse impacts of climate change such as sea level rise.

75) U.S.-RUSSIAN JOINT STATEMENT ON CLIMATE CHANGE POLICY DIALOGUE
US State Department
January 17, 2003
Internet: <http://usinfo.state.gov/topical/global/climate/03012101.htm>

Joint Statement of the U.S.-Russian Inter-Ministerial Climate Change Policy Dialogue,
Moscow, Russia

"The United States and the Russian Federation agree to broaden their global climate change cooperation by promoting a Climate Change Policy Dialogue to intensify and strengthen their efforts, including through a Climate Change Working Group to facilitate the Dialogue process. This Dialogue will involve various ministries and agencies of the two Parties that are already actively engaged in the issue.

Through this Dialogue the United States and the Russian Federation seek to:

- * Discuss and exchange information related to climate change policy and related scientific, technological, socioeconomic, and legal issues of mutual concern and interest.
- * Explore possible common approaches to addressing climate change issues before the United Nations Framework Convention on Climate Change, the Intergovernmental Panel on Climate Change, and other relevant international fora.
- * Identify and encourage needed climate change science and technology research that is or could be performed individually or jointly by United States and Russian departments, agencies, ministries, and scientific institutions.
- * Benefit from and complement other established bilateral activities between the two countries.

The United States and the Russian Federation also agree to cooperate closely in preparing for the World Conference on Climate Change to be held in Moscow in 2003. The initial meeting of the Climate Change Working Group will be coordinated by Dr. Harlan Watson, U.S. Department of State Senior Climate Negotiator and Special Representative, and by Dr. A.I. Bedritsky, Head of the Federal Service of Russia for Hydrometeorology and Environmental Monitoring."