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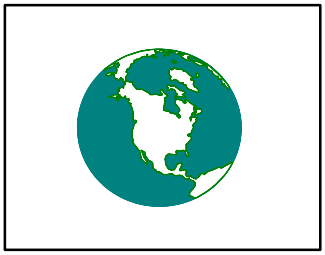

CAR LINES

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EUROPE

1. Health Experts Strongly Support EU MMT Ban

On April 24th, European health experts sent letters to Ministers of Environment and Health in the EU member states in support of the ban on MMT proposed by MEP Corbey in the revised Fuels Directive. The letter notes that "Manganese is a well recognized neurotoxicant. Evidence from France, Canada, the United States, Mexico, Bangladesh, and other countries strongly suggests that manganese exposure through inhalation and drinking water can damage brain development in children and permanently impair motor control and behavior in adults. In Italy and Canada, environmental exposure to manganese through industrial and traffic emission has been linked to an increased risk of Parkinsonism among exposed populations."

They further highlighted the Brescia Declaration which concluded that "results presented at this scientific meeting raised grave concerns about the likelihood that manganese-based additives in petrol could cause widespread developmental and neurological toxicity similar to that caused by lead-based additives now banned nearly worldwide."

The letter was signed by Philippe Grandjean (Denmark), Roberto Lucchini, Lorenzo Alessio (Italy), Gunnar Nordberg, Monica Nordberg. Anders Iregren (Sweden), Marko Šarić (Croatia), Max Vojtíšek (Czech Republic), Guy Huel, Sylvaine Cordier (France), Marek Jakubowski (Poland), and Lars Jarup (United Kingdom)

2. Revised EU Air Quality Directive to Enter Force

A revised EU directive on air quality is about to enter force after clearing its final legislative hurdle. The council of ministers formally approved the directive, based on a deal struck with the European parliament last year.

The new law which will be published in the EU's official journal in May introduces first-ever limits on ambient concentrations of fine particulate matter ($PM_{2.5}$) to be met by 2015. It sets a cap of 25 ug/m^3 at national level and an average exposure level of 20 ug/m^3 for urban areas. Exposure levels in these areas must be reduced by 20 per cent by 2020 relative to 2010 data.

The revised directive gives member states greater flexibility in complying with certain existing air quality standards, allowing them to postpone implementation of concentration limits until mid-2011 for coarse particulate matter (PM10) and until 2015 for nitrogen dioxide and benzene.

The directive must be transposed into national law by May 2010. Limits for PM2.5 and - "as appropriate" - other pollutants will be reviewed by 2013.

3. Europe Reaffirms Its Environment-Health Focus

European governments reaffirmed their commitment to reducing negative environmental impacts on public health during three days of high-level discussions in Milan. Representatives from 53 countries reviewed implementation of commitments made at the last World Health Organization (WHO) pan-European ministerial conference on environment and health in Budapest in 2004. This assessment will feed into the next ministerial meeting, due to be held in Italy in 2009.

Improved environmental health policies could save up to 1.8m lives a year in Europe, according to the WHO. Main causes of premature death identified by WHO are air pollution, unsafe water, chemicals and injuries. But emerging threats such as climate change will "magnify the impact of the environment on health", it warns.

The renewed focus on environment and health by European governments follows confirmation last year by the European commission that the issue is "still high on the EU agenda". The EU executive was forced to reaffirm its political will on the issue after member states reacted angrily to a suggestion that environmental impacts on human health had been exaggerated.

4. ICCT Sends Letter of Support To MEP Groote Regarding Euro VI Proposal

On April 23rd, the International Council on Clean Transportation sent a letter to MEP Groote in his capacity as Rapporteur for the Commissions Euro VI proposal. In summary, the ICCT urges the Parliament and the Council of Ministers to:

1) Act quickly so that the proposal is adopted this year, as the failure to do may introduce substantial delays that will allow vehicles sold in the EU under the current Euro V standards to remain significantly dirtier than equivalent vehicles to be sold in Japan and the U.S. from 2010 to as late as 2015, delay action in the many developing countries that adopt Euro standards after the EU, and jeopardize efforts to globally harmonize heavy-duty emission standards;
2) Direct the Commission to incorporate aggressive measures to control in-use emissions into Euro VI to ensure the proper functioning of pollution control equipment throughout the full range of normal vehicle operating conditions;
3) Implement a number-based standard at the same time as Euro VI mass-based standard, providing maximum certainty that state of the art control technologies for particulate emissions will be applied; and
4) Provide clear and implementable guidelines to be followed during the comitology process

5. MEPs Call for 2020 Emission Goal for Transport

The European parliament called for the transport sector to meet the EU goal of reducing greenhouse gas emissions by 20 per cent in 2020 relative to 1990 levels in a non-legislative resolution. Emissions from the sector continue to increase rapidly, MEPs noted. EU efforts to cut transport emissions must focus on key areas including congested large cities, busy intercity corridors and environmentally sensitive areas such as the Alpine region and the Baltic Sea.

The necessary cuts should be achieved through a combination of technological improvements and the use of market-based instruments such as emissions trading, congestion charges and tax incentives, the parliament said. As a first step MEPs called on EU governments to adopt a stalled proposal on linking passenger car taxes to CO2 emissions.

The parliament also called on the European commission to develop by June at the latest a system for assessing the external costs of all modes of transport. The commission is currently considering options to take greater account of such costs.

6. EU "Failing To Curb Emissions from Transport"

The EU must come to grips with rising greenhouse gas emissions from the transport sector if it wants to achieve its climate and energy objectives for 2020, the European environment agency has warned in a new report. The EEA's annual "Term" report on transport was presented to the European parliament's climate change committee. It says emissions from the sector will need to be reduced by a further 50 million tons (Mt) of CO2 equivalent over the next decade to meet these goals.

Existing and proposed EU measures such as a target to cut emissions from Europe's new car fleet to 130 grams per kilometer (g/km) by 2012 will not deliver sufficient reductions, the report says. Meeting objectives in the "Bali roadmap" would require deeper emission cuts. Instead of the 15 percent growth from 2010 to 2020 in air, rail, road, and sea transportation that is forecast for the European Union under business-as-usual scenarios, growth in the sector should be limited to 4 percent or even reduced by as much as 2 percent. This should be done in addition to existing EU legislative measures to improve vehicle and fuel technology, which concentrates mainly on the supply side.

"Trends and projections clearly show that these [technology improvement] policies have not been enough to succeed in reducing greenhouse gas emissions from transport, and that the effect of introduced mitigation measures has been more than offset by increased transport volumes," according to the report, Climate for a Transport Change.

Measures that could be introduced include better coordination of transportation, encouraging a shift to the most environmentally efficient transportation modes, promoting behavioral changes within each transportation sub-sector, improved transportation infrastructure planning, and new pricing measures to restrict demand, according to the report.

Freight transport remains a problem area with emissions rising quickly. Setting a target for the entire transport sector would encourage policymakers to take tougher action, according to the report.

7. Governments Still Divided Over Car CO2 Plan

Environment ministers remain split over the best approach to reducing carbon dioxide emissions from new cars, following a first debate of a legislative proposal tabled by the European commission in December. The commission wants to reduce average CO2 emissions from new cars to 130 grams per kilometer (g/km) by 2012. To achieve this it proposes individual targets for each manufacturer based on the average mass of their EU car fleet; those who don't comply could face severe fines.

In the debate Germany, whose automakers typically produce larger vehicles, hinted that the proposal would have a negative impact on the competitiveness of makers of bigger cars. But countries manufacturing smaller cars such as Italy and France argued it would unfairly allow larger cars to continue emitting more. France and Germany are continuing talks on how to share the mandatory target between car makers. The French-German bilateral talks have dominated a debate on how to carve the target between manufacturers.

Several countries without a domestic car making industry to defend called for the proposal to include a longer term emission reduction target for 2020. Denmark called for a 2020 limit of 100 g/km, while the Netherlands proposed an indicative target of 80 g/km for the same year.

Other countries described the proposed fines for manufacturers that miss their individual emission targets as "excessive". The Romanian delegation argued that these would push up the price of a new car and lead to slower renewal of the existing car fleet, which would ultimately increase emissions from road transport.

The European parliament's legal affairs committee is seeking legal advice on the penalties; German MEP Klaus-Heiner Lehne warned that the commission might have exceeded its powers by proposing EU-level fines against carmakers.

Denmark urged the commission to "rethink" its plans to achieve a further 10g/km reduction by 2012 through complimentary measures such as promoting eco-driving indicators and increasing the use of biofuels. At the very least the commission should "submit a road map of how these measures will be achieved", it said.

The European Parliament, responding to industry lobbying that the car production cycle was too long to adapt to the EU goal, has called for automakers to be given more time to cut emissions, reducing to 125 g/km in 2015 rather than 120 g/km in 2012.

Road transport is the EU's second biggest source of greenhouse gas emissions after electricity generation, accounting for about one fifth of total carbon emissions and rising rapidly, according to the EU Commission.

8. Questions Over Food, Environment Lead to Reconsideration of Biofuels Policy

European Union member state leaders opened the way March 14th for a possible review of the current EU commitment to make biofuels account for 10 percent of all transport fuels by 2020 because of mounting criticism that the target is contributing to the rising costs of food production, mass deforestation, and water shortages while contributing little in the way of greenhouse gas reduction.

Slovenian Prime Minister Janez Jansa, whose country holds the rotating EU presidency, stated at the conclusion of the two-day spring economic summit and one year after the EU set the biofuels goal that "we are not excluding the possibility that we will have to amend or revise our [biofuels] goals." He also acknowledged that recent studies have raised legitimate questions about biofuels and that when it comes to the issue of whether or not biofuels are causing more problems than they solve he stated: "we do not have any clear answers ... quite certainly there will be more analysis."

EU officials during a March 4 meeting in Brussels between EU, Latin American, and Caribbean environment ministers called for international standards to ensure the sustainable use of biofuels.

European Energy Commissioner Andris Piebalgs insists the EU biofuels target is a worthy goal because not only will it lead to reduced dependency on oil but it will also lead to the rapid development of second generation biofuels that will not rely on food crops such as corn for production. He also said that recent Commission proposals on the issue establish sustainability criteria for the production of biofuels both in the EU and those that will export to the European Union and therefore ensure there is little overall environmental damage.

In addition, Agriculture Commissioner Marianne Fischer-Boels, speaking at the World Biofuels Congress, said the rise in prices for crops such as corn "are not always a bad thing. European farmers have been waiting for prices to stop declining in real terms for two decades or more. And higher prices can be good news for the 70 to 80 percent of the world's poorest people who live in rural areas and rely on farming for their livelihood."

But the European Environment Agency said that the EU must suspend its target of raising the share of biofuels in transport to 10% until a more comprehensive scientific study on their environmental risks is carried out. The warning came as the World Bank joined the chorus of criticism against increased biofuels production.

In March 2007, EU leaders committed to raising the share of biofuels in transport from current levels of around 2% to 10% by 2020, following growing concerns over rising oil prices, energy security and climate change. The goal was then translated into legal proposals, presented on 23 January 2008 by the Commission, as part of a broader Directive on renewable energies.

The draft directive introduces a range of "sustainability criteria" for biofuels to counter growing concerns about the risks related to their mass production, including deforestation, hikes in food prices and water shortages.

In an opinion made public on 10 April, the Agency's Scientific Committee stressed that the EU's mandatory biofuels quota of 10% is an "overambitious […] experiment, whose unintended effects are difficult to predict and difficult to control". It therefore "recommends suspending the 10% goal" until a "new, comprehensive scientific study on the environmental risks and benefits of biofuels" is carried out, with the aim of setting "a new and more moderate long-term target".

The EEA report finds that biofuels production for vehicles based on first-generation technologies produced from food and feed crops – "does not optimally use biomass resources with regard to fossil energy saving and to greenhouse gas reduction".

While it says technologies for direct heat and electricity generation should be preferred because they are more competitive and environmentally effective, it insists that any biomass utilization must go hand in hand with energy efficiency improvements. "This is not yet the case for the majority of applications in the automotive and residential sectors," it underlines.

The Committee also warns that the amount of land required to meet the 10% target exceeds that available in the EU without harming the environment. While imports can help, it points to the "accelerated destruction of rain forests" that can already be witnessed in some developing countries due to increased biofuels production.

The damning opinion comes one day after the publication of a new report by the World Bank, which suggests that biofuels production has played a key role in pushing global food prices up by 83% over the prior three years. "Most scenarios of increased use of biofuels imply substantial trade-offs with food prices," cautions the study. It also blames higher energy and fertilizer prices, a weak dollar and export bans for the recent food price hikes that have sparked outbreaks of violence in a number of developing countries in the past weeks.

Two key members of the European parliament have also urged the European commission to respond to doubts raised by scientists over the wisdom of increasing the EU's biofuels consumption target.

In a letter to commission president José Manuel Barroso and other relevant commissioners, the Green MEP Claude Turmes, rapporteur on the draft EU renewables directive, and socialist Dorette Corbey, rapporteur on a revision of fuel quality rules, point to recent skeptical studies by the EU's joint research centre and the European environment agency. Their letter falls short of repeating demands made by environmentalists for the commission to withdraw its proposal for biofuels to make up 10 per cent of transport fuel consumption by 2020. But it adds to the intense and growing debate around the merits of plant-based fuels by asking the commission if it "sees reasons to reconsider its proposal".

The 2020 target will be fixed in the renewables directive; biofuels sustainability criteria currently under discussion will appear in both it and the fuel quality law. The letter is co-signed by Christian democrat Anders Wijkman.

9. British Budget Uses Incentives, Taxes to Reduce Greenhouse Gas Emissions

The 2008 budget announced March 12 by United Kingdom Chancellor of the Exchequer Alistair Darling employs incentives and new taxes to cut carbon dioxide emissions across the U.K. economy. These include higher taxes on fuel-guzzling vehicles and a shift to emissions-based taxation of business vehicles, the government said.

The budget allocates about £4 billion ($8.1 million) over three years for the Department for Environment, Food, and Rural Affairs, up 1.4 percent; that includes £400 million ($806 million) to fund development of cleaner technologies.

The UK's economics and finance ministry said the climate change levy package will rise in line with inflation starting in April 2009 to maintain its environmental incentive effect.

The main road fuel duty rates will rise by 1.84 pence per liter on April 1, 2009, and will increase by half a pence per liter after inflation starting April 1, 2010, the ministry said. However, the ministry delayed by six months a 2 pence increase planned for April of this year.

To encourage use of the most sustainable biofuels, the duty differential for biofuels will be abolished in 2010-2011 and replaced by the Renewable Transport Fuel Obligation, the government said.

The budget reforms vehicle excise-duty rates and bandings, introducing new bands from 2009 to encourage people to buy the cleanest cars, the ministry said. Six new VED bands starting 2009-2010 will include a new top band for cars emitting more than 255 grams of carbon dioxide per kilometer.

Starting April 1, 2009, company cars with emissions above 160g/km will be eligible for a 10 percent write-down allowance and cars emitting 160g/km or less a 20 percent allowance. Company-car tax rates will increase on all cars emitting more than 135g carbon dioxide per kilometer in 2010-2011.

The government also announced a £40 million ($81 million) research program into low-carbon vehicle concepts.

The ministry said that to ensure aviation contributes more to covering its environmental costs it will increase taxes on air travel by 10 percent starting Nov. 1, 2010, after a new per-plane duty replaces the current air-passenger duty beginning Nov. 1, 2009.

10. EU Launches Clean Sky Initiative to Develop Low-Emission Aviation Technology

On February 5th, the European Commission and the aeronautics industry formally launched a [Euros] 1.6 billion ($2.32 billion) research project to reduce greenhouse gas emissions from aviation. The project, known as Clean Sky, was set out in a Commission proposal published in June 2007, and formally approved on December 20th.

The European Union is contributing around half of the funding for the project, which will also involve major aerospace firms such as EADS, SAFRAN, and SAAB AB.

The Clean Sky objectives, according to the AeroSpace and Defense Industries Association of Europe, are to develop technologies that will allow reductions in aviation carbon dioxide emissions by 50 percent through fuel efficiencies, reductions in nitrous oxide emissions by 80 percent, and reductions in noise by 50 percent, all by 2020.

11. Dutch Airline Organization, Airport Group Sue Over Environmental Tax

The Board of Airline Representatives in the Netherlands (BARIN) is suing the Dutch government to block an impending air-travel tax that it contends is falsely labeled as environmental, hurts the airline industry and the Dutch economy, and violates an international civil aviation treaty. The new ticket tax, part of a tax act approved last year, is scheduled to go into force on July 1st.

The levy only affects flights leaving the Netherlands, and adds [Euros] 11.25 ($16.70) to tickets for most destinations within the European Union, up to a maximum distance of 2,500 kilometers (1,550 miles). For longer flights, or for those leaving the European Union, the tax increases to [Euros] 45 ($66.70), according to BARIN. In its lawsuit, the BARIN asked the Hague District Court to block the state from levying the tax on BARIN members.

With an average 43,000 air passengers departing from the Netherlands daily, BARIN estimates that airlines will have to collect [Euros] 897,750 ($1.3 million) per day for the new tax.

BARIN contends the tax is void because it violates article 15 of the Convention on International Civil Aviation (also known as Chicago Convention), signed in 1944.

In the lawsuit, BARIN said research indicates that the ticket tax will cause a drop of 8 percent to 10 percent in passenger traffic in 2011 for Schiphol's airports, and a drop of 11 percent to 13 percent for other airports.

12. MPs Call For Higher Aviation Taxes

Air passengers should face a "significant increase" in taxes, including a new charge for the longest flights, to help combat climate change, a group of MPs said in a new report. The Environmental Audit Committee said higher "green taxes" would cut demand for air travel, help conserve resources and raise money that could be used for environmental projects.

"It is vital that tax on aviation is not just reformed but significantly increased, so as to stabilize demand and resulting emissions," the MPs said. They argued that aviation was "very lightly taxed", with a 29 percent cut in real terms between May 1997 and February 2007.

They called for a third passenger tax band to cover "very long haul" destinations, such as Australia. Emissions for a trip to Australia are three times those of a journey to New York, yet both are classified simply as long-haul, their report said.

Taxes on short-haul flights should reflect the fact that high emissions are created during takeoff and landing, even though the plane may not have a long journey. Higher taxes on short trips would encourage people to take the train instead, the MPs said.

13. Climate Change to Dominate EU Agenda in 2009

Efforts to tackle climate change will continue to dominate the European Union's environmental agenda in 2009, according to a policy document published by the European Commission. Among the priority measures will be establishing the EU position ahead of the United Nations climate change conference in Copenhagen, Denmark, in November 2009, at which the Commission hopes to conclude an international agreement on combating global warming for the post-2012 period, when the Kyoto Protocol ends.

In addition, the Commission said in the February 13th document that it will aim to complete revisions to the EU's Emissions Trading Scheme, which were detailed in proposals published on January 23rd.

The Commission also will publish proposals on reducing greenhouse gas emissions from freight transport, including ships.

However the Commission cautioned that its mandate, as well as the mandate of the current European Parliament, comes to an end in 2009; following the Parliamentary elections, the composition of the college of commissioners will change. Consequently, the current Commission will "work closely with [the EU] Council and Parliament to reach agreement on the most important pending proposals," the strategy document said.

Other priorities highlighted by the Commission's strategy document include enactment of legislation on renewables, introduction of measures to follow up proposals on adaptation to climate change published in September 2007, and promotion of energy efficiency, including legislative proposals dealing with energy labeling of tires and with domestic lighting and incandescent light bulbs.

The Commission also said it would focus on steps to protect biodiversity and on protection of the marine environment around Europe, as outlined in an integrated maritime plan published in October 2007.

14. Maritime Safety, Climate Change to Top Agenda During France's EU Presidency

On February 26th, France announced that maritime safety and climate change initiatives would figure prominently on the transportation agenda it plans to support during its presidency of the European Union, which begins July 1. France also announced that it will lobby its EU partners to approve a proposal to include the aviation sector in the European Union's carbon trading scheme.

The ministry presented France's transportation sector agenda following a preparatory meeting between French Transport Minister Dominique Bussereau; Jacques Barrot, vice president of the

European Commission in charge of transport; Swedish Infrastructure Minister Asa Torstensson, and Czech Deputy Minister for Transportation Daniela Kovalcikova. The transport summit was arranged to plan a harmonized approach for legislative and policy reforms expected to be presented during the French presidency and to be acted upon during the ensuing Swedish and Czech presidencies in 2009.

Topping the environmental initiatives slated to launch during the French presidency is a new "green transport" initiative that would allow EU member states to crack down on pollution from pan-European truck traffic and to offer new incentives for "intelligent" transport projects.

France will also seek to walk a tightrope between boosting air traffic, through a wider "open skies" legislative agreement slated for presentation in mid-2008, and curbing the climate change impacts of the aviation sector, by including plane emissions in the EU Emission Trading Scheme.

15. Shipping and Aviation in EU Policy Spotlight

The EU's maritime policy must make a "substantial" contribution to reducing greenhouse gas emissions by including the shipping sector in Europe's carbon trading scheme, and by stepping up research into sea-based renewable energies, according to MEPs. The European parliament's transport committee adopted an own-initiative report which also called for the European commission to toughen measures against air and solid pollution from ships, to issue an action plan to cut land-based sea pollution, and to prepare to combat rising sea levels.

Meanwhile a second reading of European commission plans to include aviation in the EU emission trading scheme is imminent. The council of ministers has now published a definitive text of its common position. Also, transport ministers adopted a resolution saying the aviation industry must ensure environmental sustainability.

16. Danish Hydrogen Fuel Cell Project to Start in June

In what is being portrayed as the nation's most ambitious hydrogen transport project to date, Denmark has confirmed that six new hydrogen filling stations are to open in June 2008 at sites in the Jutland region. At the same time, an unspecified number of hybrid vehicles capable of running on hydrogen fuel cells also will take to the road. H2 Logic, the company supplying hydrogen fuel cells to the project, said in a statement on January 29th that renewable energy sources such as wind power would be used to produce the hydrogen needed to power the vehicles. The project, known as H2 HUB Vestjylland, is a public-private partnership financed by the government and private companies, including Danish wind power multinational, Vestas Wind Systems A/S. The project forms part of a nationwide strategy aimed at increasing the number of hydrogen fuel outlets as well as the number of hydrogen-enabled vehicles on Denmark's roads ahead of the 15th Conference of the Parties (COP-15) to the U.N. Framework Convention on Climate Change, which is set to take place in the nation's capital Copenhagen, in December 2009.

NORTH AMERICA

17. US Requires Trains, Ships to Cut Pollution

The US Environmental Protection Agency has issued tough standards to significantly cut emissions from new diesel engines that will power trains and ships. When fully implemented, the new standards will reduce soot by 90 percent, or 27,000 tons, and cut nitrogen oxide emissions by 80 percent, or nearly 800,000 tons.

The cleaner engines would reduce pollutants linked to health problems such as asthma, preventing 1,400 deaths and 120,000 lost workdays annually in 2030, the EPA said.

The new standard slashes permissible emissions from all types of diesel locomotives, including line-haul, switch, and passenger rail, as well as marine engines on ferries, tugboats and Great Lake freighters.

The tougher standards for soot will be phased in beginning in 2015, and the nitrogen oxide emissions cuts will start in 2014 or 2015, depending on the size and type of engine.

Most environmental groups welcomed the new standards.

18. US Toughens Ozone Rule Slightly But Less Than Scientists Recommend

The US Environmental Protection Agency has toughened standards for ozone pollution, but these new requirements are more lax than the agency's own scientists recommended.

Stephen Johnson, the agency's chief, said he complied with the Clean Air Act and with scientific data in setting the new ozone standard at 75 parts per billion. The previous standard was 80 parts per billion. The EPA's Clean Air Scientific Advisory Committee recommended, however, a standard of 60 to 70 parts per billion, with the lower level suggested for children who are more vulnerable to ozone pollution, a prime component of smog. People most vulnerable to lung problems from ozone pollution include children, the elderly, those with asthma and other lung ailments and those who work or exercise outdoors.

The new standards came in response to a court-ordered deadline in a lawsuit filed by Earthjustice in 2003 on behalf of the American Lung Association, Environmental Defense, the Natural Resources Defense Council, the Sierra Club and other conservation groups.

Earthjustice noted that the agency failed to set a separate ozone standard urged by its scientific advisors to protect vegetation from smog. In this case, it was widely reported that the Bush White House overruled officials of the Environmental Protection Agency to weaken US standards for parks, crops and wildlife. Asked why the president intervened, White House spokesman Tony Fratto said: "What we were trying to do on the smog decision was try to have a decision that was consistent with our interpretation of the statute. This was not a weakening of regulations or standards governing ozone, but it was an effort to make those standards consistent." Environmental and scientific groups disagreed, saying the decision benefits coal-fired power plants and other industries that emit ground-level ozone.

19. EPA Advisors Continue to Criticize New Ozone Rule As Too Weak

An advisory panel of scientists told the Environmental Protection Agency that its new air quality standard for ozone fails to protect public health as required by law and should be strengthened. In a stern letter to EPA Administrator Stephen Johnson, the advisors expressed frustration that their unanimous recommendation for a more stringent standard was ignored when Johnson set the new smog requirements last month.

On March 12th, Johnson lowered the amount of ozone that should be allowed in the air for it to be considered healthy from 80 parts per billion to 75 parts per billion. That meant 345 additional counties nationwide are in violation of the federal air quality standards for ozone and must find ways to reduce the pollution.

The Clean Air Scientific Advisory Committee, created by Congress to advise the EPA, had urged the EPA to set a standard for ozone of between 60 parts per billion and 70 parts per billion. In the letter sent to Johnson, the committee said it remained convinced that the EPA's concentration level "fails to ... ensure an adequate margin of safety" for the elderly, children and people with respiratory illnesses.

The letter also criticized the EPA for not further strengthening a separate standard aimed at protecting forests, agricultural lands and the ecosystem, saying such action was "scientifically well justified."

The letter said the 25 scientists — seven committee members plus 18 members of the special ozone review panel — unanimously agreed they should "not endorse the new primary ozone standard as being sufficiently protective of public health." "We sincerely hope that in light of these scientific judgments and the supporting scientific evidence, you or your successor will select a more health-protective ... standard during the upcoming review cycle," the committee wrote.

The EPA by law is required to review the health standard for ozone and a number of other air pollutants every five years.

20. NRC Report Confirms Ozone Pollution Can Kill

Even breathing in a little ozone at levels found in many areas is likely to kill some people prematurely, the National Research Council reported in a new study. The report recommends that the U.S. Environmental Protection Agency consider ozone-related mortality in any future ozone standards, and said local health authorities should keep this in mind when advising people to stay indoors on polluted days.

Ozone is a powerful oxidizer, meaning it can damage cells in a process akin to rusting. It is known to cause respiratory problems and worsen heart disease. Children and the elderly are at special risk.

The EPA asked the National Research Council, part of the advisory National Academies of Science, to analyze the link between ozone and early death. A committee appointed by the council found that deaths related to ozone exposure are more likely among people with pre-existing diseases and other factors that could increase their susceptibility. But they said premature deaths are not limited to people who are already within a few days of dying.

They looked at studies that linked deaths directly with variations in ozone levels, as well as animal studies that examined whether there was a biological explanation for ozone causing death.

The committee looked at studies done in several cities across the United States as well as in Canada and Europe. They took into account differences in temperature and humidity that may affect the ozone level.

The effects on deaths are clear -- and the findings excluded serious illnesses and visits to the emergency room if the patient did not die.

21. California Regulators Modify Zero-Emission Vehicle Mandate; Push Plug Hybrids

California air regulators have voted to reduce the number of battery-powered and hydrogen fuel cell vehicles that automakers must sell in the state in the next few years. Instead, the air board said the six largest automakers must sell nearly 60,000 hybrid vehicles while they continue development of the more advanced technology that will allow mass production of pure zero-emission vehicles.

The board also adopted a motion to overhaul its entire Zero Emission Vehicle program to conform to tougher greenhouse-gas emission standards enacted in California in recent years, a move that could in the long term lead to the production of many more clean vehicles. The overhaul, though, won't happen until the end of next year at the earliest. The regulator's decision is expected to affect 12 other U.S. states that had adopted California's target for zero-emission vehicles.

The new "zero-emission vehicle" regulations would require major automakers to put a minimum of either 5,357 long-range hydrogen fuel-cell vehicles or 12,500 battery-powered vehicles on California roads in the years 2012-2014. Those targets will rise unless automakers also sell at least 66,000 so-called plug-in hybrids, which can be charged from a wall socket but also have a small gasoline or diesel engine.

The air board's decision to restructure vehicle emission rules is aimed at streamlining state standards. Currently, California has three sets of regulations governing vehicle emissions: one for smog-forming pollutants, one for greenhouse gases and the zero-emission vehicle program. That one compels automakers to introduce certain types of technologies like fuel cells and batteries.

Summary of Air Resources Board Action (3/27/08) on Zero Emission Vehicle (ZEV) Program

- Keep unchanged the requirement that vehicle manufacturers produce at least 25,000 ZEVs during 2012-14, and 50,000 ZEVs from 2015-17.
- Increase flexibility by providing a new option to the above requirements. The new option allows manufacturers in 2012-14 to produce a greater number of plug hybrid electric vehicles[1] (58,000) or similar vehicles if 7,500 pure ZEVs are also produced. In 2015-17 25,000 pure ZEVs would be required if this option is taken.
- Depending on which option is taken, the range of vehicles expected to be produced in 2012-14 will be 25,000 to 66,000. The previous requirement was 25,000.
- Increase the credit for long range FCVs from 5 to 7 credits and redefine long range to 300 miles.

	Gold Vehicles	**Silver + Vehicles** (e.g. plug hybrids)

New option	**7,500 (current FCV),** or 5,357 (long range FCV), or 12,500 (100 mile range BEV)	**58,333**
OR		
Existing reqm't (unchanged)	**25,000**	**0**

[1] Battery electric vehicle with an engine that allows continued operation when the battery runs low.
Note: FCV is a fuel cell vehicle; BEV is a battery electric vehicle.

- Redesign the ZEV program by the end of 2009 so it will affect the 2015+ model years. The redesign should place the bronze requirement (super-clean conventional vehicles) in the LEV program to further reduce smog emissions, the silver requirement (regular hybrids such as the Prius, and natural gas vehicles) in the Pavley program to reduce GHG emissions in the near term, and greatly strengthen the gold requirement to meet the need of moving advanced, low GHG technology vehicles from the laboratory and demonstration phase to commercialization, where they are critical to achieving the Governor's GHG emission reduction goals.

- Make the credit banks of manufacturers fully transparent, including trades, beginning in model year 2010.

- Do not revise the Intermediate Volume Manufacturer transition, which provides six years lead time before becoming subject to the ZEV requirements for a large volume manufacturer.

- In the 15 day comment period,

    - Consider additional credit for plug HEVs that can drive the US06 cycle on electricity. One to three tenths of a credit is the possible change.
    - Review the comments of the Union and Concerned Scientists and the Natural Resources Defense Council (March 26, 2008) regarding potential changes to the regulations, and propose revisions in the 15 day process if appropriate.
    - Consider applying a multiplier to battery electric vehicle credits earned in 2009-11 that are used to meet non-gold obligations for Intermediate Volume Manufacturers, in order to assure there is not a disincentive to produce gold vehicles.

- Other actions:
    - Develop a program which would assure the availability of alternative fuels needed by ZEVs. Return to the Board with regulations, as appropriate.
    - Consider in the redesign of the program the metric for determining performance of plug HEVs (electric range vs. usable battery energy).

22. ACEEE Issues a Pollution Scorecard for New Cars

A new list of the 12 greenest vehicles sold in the United States includes nine made by Japanese automakers, two by Europeans and only one from Detroit. The list was compiled by the American Council for an Energy-Efficient Economy, a Washington-based nonprofit group financed by foundations, other nonprofit groups, electric utilities and state and federal agencies, as part of its 2008 Green Book Online. The book ranks models from the worst polluters to the most environmentally friendly, by measures including tailpipe emissions, greenhouse gases and fuel economy.

The council also tries to take into account environmental impacts like air pollution from manufacturing. However, there are so many vehicles and so many assembly plants that Therese Langer, transportation director of the council, acknowledged that rating individual vehicles required both averaging and estimating. The guide has been released since 1998.

The council's greenest vehicles of 2008 largely remain a mix of small cars or hybrids.

Honda and Toyota have four vehicles each. The only domestic vehicle is the Ford Focus.

The greenest of the green is the Honda Civic GX, which runs on compressed natural gas. Honda sells about 1,000 GXs a year, with many going to corporate or government fleets. The Civic GX, like some other highly rated vehicles in the guide, is not available everywhere, and this exclusivity is not always clear in the rankings. (For example, individuals can buy GXs only in New York and California.)

Four of the top 12 are hybrids. The only midsize sedans are hybrid versions of the Toyota Camry and Nissan Altima (which is available in only a few states), plus the Toyota Prius. The other green vehicles are the Honda Civic Hybrid, Smart ForTwo, Toyota Yaris, Toyota Corolla, Mini Cooper and Mini Cooper Clubman, Honda Civic and Honda Fit.

The list of worst vehicles includes high-performance sports cars, huge trucks and vehicles with diesel engines. Diesels are generally not offered in California or other states that follow its emissions rules. Later this year, several automakers intend to offer clean diesels that will be legal in all states.

The Europeans dominated the mean-to-green list. The worst vehicle was the Volkswagen Touareg with a 5-liter 10-cylinder diesel. Mercedes had the most models on the bad list. There were four, including two that are diesel versions of S.U.V.'s: the ML320 CDI and the GL320 CDI. The other two are the diesel R320 CDI and the high-performance sport utility, the G55 AMG. Robert Moran, a Mercedes spokesman, said the council was "not seeing the forest for the trees." He said the company's diesel engines were very fuel efficient, which is an "inherently green benefit." In addition, he said, this fall Mercedes diesels will use the new emissions system, making them as clean as some gasoline cars.

Other European vehicles on the naughty list were the Bugatti Veyron supercar, Lamborghini Murciélago, Bentley Azure and Bentley Arnage RL. Domestic vehicles were not left out. The diesel version of the Jeep Grand Cherokee made the list along with the Hummer H2 and the GMC Yukon 2500, both with 6-liter V-8s.

23. Ninth Circuit Holds That California's "Marine Vessel Rules" Are Preempted

On February 27, 2008, the U.S. Court of Appeals for the Ninth Circuit ruled that California's "Marine Vessel Rules," limiting emissions from the auxiliary diesel engines of ocean-going vessels within 24 miles of California's coast, are preempted by the federal Clean Air Act. "In the end," the Ninth Circuit stated, "the [federal] Clean Air Act preempts the Marine Vessel Rules and requires California to obtain EPA authorization prior to enforcement."

On January 1, 2007, the California Air Resources Board ("CARB"), without prior authorization from EPA, began enforcing its "Marine Vessel Rules" regarding the emission of particulate matter (PM), nitrogen oxide (NOx), and sulfur oxide (SOx) from ocean-going vessels on all waters within 24 nautical miles of the California coast. Under the Marine Vessel Rules, emissions of auxiliary diesel engines must not exceed "the emission rates that would result had the engine used the [specified] fuels" with a sulfur content of no more than 0.5 percent by weight. A vessel owner may also comply by "alternative emission control strategies [that] result in emissions that are no greater than the emissions that would have occurred" using the specified fuels.

The Pacific Merchant Shipping Association ("PMSA") filed a suit seeking to enjoin California from enforcing the Marine Vessel Rules because the CARB failed to obtain the EPA authorization required by the CAA prior to enforcing the Marine Vessel Rules. The district court granted PMSA's motion for summary judgment on its CAA claim, holding that the Marine Vessel Rules are preempted by Section 209(e)(2) of the CAA because the regulations are emissions "standards" and not so-called "in-use requirements" that merely regulated how vehicles can be used. The district court found the regulations to be emissions standards "[b]ecause the regulations set numerical requirements for the reduction of emissions relating to particular emissions rather than to a fleet as a whole."

CARB and several interveners appealed the district court's decision to the Ninth Circuit, which had previously stayed the district court's order enjoining enforcement pending appeal. The Ninth Circuit affirmed the district court's decision and vacated the stay of the court's injunction previously imposed. According to the Ninth Circuit, the "key issue" in the case was whether the Marine Vessel rules constitute "standards relating to the control of emissions from [ ] vehicles or engines," and thus are preempted, or whether the Rules are mere "in-use requirements" under Section 209(d) that are not preempted. The Ninth Circuit concluded that the Rules were "standards" and, thus, preempted.

24. Shippers Paid To Burn Cleaner Fuel

Shippers calling at the ports of Long Beach and Los Angeles soon will get paid to use cleaner-burning fuel, thanks to a new incentive program that the ports' governing boards approved at a joint meeting. The one-year plan is designed to get vessel operators to use low-sulfur fuel in ships' main engines when they are within 20 miles of port. Most cargo ships burn cheaper, but highly polluting, bunker fuel. That bunker fuel spews out large amounts of both sulfur oxide and particulate, both health hazards.

Under the new plan, which was created in partnership with the Pacific Merchant Shipping Association, the ports would pay shipping companies for the cost difference between bunker fuel and the low-sulfur oil. Ships could switch to the cleaner fuel as far away as 40 miles from the coast and receive full reimbursement.

Shippers will have to meet other conditions to qualify for the incentives. Ships must also participate in the ports' Vessel Speed Reduction Program, limiting speeds to 12 knots near port; and agree to use low-sulfur fuel in auxiliary engines while in port.

The pilot program will last for one year, and will cost the Port of Long Beach up to $9.9 million (up to $8.6 million in cost is expected at the Port of Los Angeles).

The harbor commissions could renew the incentive next year. That may not be necessary, though, as a pending California Air Resources Board regulation would require the use of low-sulfur fuel within 24 miles of port beginning on July 1, 2009. That regulation still is subject to legal action. (see below)

Low-sulfur fuel is a large part of the ship component in the ports' Clean Air Action Plan to reduce pollution stemming from port operations. Use of the cleaner fuel is expected to reduce both sulfur oxide and particulates by about 10%.

Most of the attention recently has focused on a Clean Truck Program designed to ban and replace old polluting diesel trucks moving cargo to and from the ports.

25. CARB Tightens Ambient Air Quality Standard (AAQS) for Nitrogen Dioxide (NO2)

On Tuesday, February 19, 2008, the California Office of Administrative Law approved amendments to the regulations for the State Ambient Air Quality Standard for nitrogen dioxide (NO2). The new standards became effective on March 20, 2008.

The Air Resources Board approved staff recommendations to amend the NO2 standard on February 22, 2007. The recommendations were based on a review of the scientific literature on the health effects of NO2 that was conducted by staff from the Air Resources Board and the Office of Environmental Health Hazard Assessment. The review and final recommendations for the NO2 standard were released in a final staff report on January 5, 2007. In this report, staff recommended lowering the existing 1-hour-average standard for NO2 of 0.25 ppm to 0.18 ppm, not to be exceeded, and established a new annual-average standard of 0.030 ppm, not to be exceeded.

The staff recommendations and supporting information were peer-reviewed by the Air Quality Advisory Committee. Members of this committee, appointed by the Office of the President of the University of California, are experts in health sciences, exposure assessment, monitoring methods, and atmospheric sciences. This action follows a preliminary evaluation of all health-based ambient air quality standards to determine their adequacy to protect public health, particularly that of infants and children. A December 2000 report found that harmful health effects may occur among both children and adults when outdoor NO2 concentrations are at or near the then-current State standards. The evaluation was a requirement of The Children's Environmental Health Protection Act.

26. EPA Finds Adverse Effects from Short-Term Exposure to Nitrogen Dioxide

An Environmental Protection Agency draft risk assessment finds evidence from recent studies is "sufficient to infer a likely causal relationship" between short-term exposure to nitrogen dioxide and adverse effects on the respiratory system as the agency reviews ambient air quality

standards for the pollutant. EPA published a request for comment on the draft assessment in the Federal Register on April 14th.

Ambient concentrations of nitrogen dioxide dropped 41 percent between 1980 and 2006, according to the risk assessment, which is being used to complete the first update to the standards since 1993. The national ambient air quality standard for nitrogen dioxide is currently 0.053 part per million.

The national ambient air quality standards for a range of pollutants, including nitrogen dioxide, ozone, and carbon monoxide, are to be updated every five years. Though EPA has routinely failed to meet that deadline, it plans to review standards for nitrogen dioxide, sulfur dioxide, and carbon monoxide in 2008. Nitrogen dioxide, a red or brown gas given off by internal combustion engines, can cause airway irritation and aggravate asthma if inhaled in large enough concentrations. According to the draft report, a 30-minute exposure to nitrogen dioxide concentrations between 0.2 ppm and 0.3 ppm has been shown to irritate airways in asthmatics.

The highest concentrations of ambient nitrogen dioxide are typically found around Los Angeles, the Midwest, and the Northwest, according to the draft risk assessment. Mobile sources represent 60 percent of nitrogen dioxide emissions, with the remainder largely from power plants and other stationary sources.

Children, whose lung function continues to develop into adolescence, and those over the age of 65 are also particularly susceptible to nitrogen dioxide exposure. The risk assessment also identified as an at-risk group those whose jobs require significant periods of driving. Mean nitrogen dioxide levels inside vehicles are often two to three times the outdoor concentrations.

27. Health Canada Tightens Reference Concentration for Manganese

On April 24th, Health Canada released its long awaited assessment of the risks associated with Manganese exposure. This review and analysis concluded that the new Health Canada reference concentration for inhaled manganese is 0.05 µg/m3 in PM10. This value reflects the concentration to which the general population, including sensitive subgroups, can be exposed for a lifetime without appreciable harm. Results from a population-based study of personal exposure in Toronto (1996) revealed that about 10% of adults have personal exposures greater than 0.05 µg Mn/m3 in PM10 and greater than 0.014 µg Mn/m3 in PM2.5. Since 2000, annual average ambient manganese levels in Canadian cities without major manganese-emitting industries have ranged from 0.004-0.035 µg/m3 in PM10. In some areas of cities with major manganese-emitting industries such as Hamilton and Sault Ste. Marie, the annual average level of PM10 manganese in air has ranged from 0.05-0.22 µg/m3 in PM10. Personal exposures to manganese have not been measured in locations with large manganese-emitters. This review concludes that exposure of Canadians to inhaled manganese is close to, and for a segment of the population may overlap with the recommended new Health Canada air reference concentration of 0.05 µg/m3 in PM10.

28. U.N. Secretary-General Calls for US to Take Leadership Role in Mitigation Efforts

On February 15th, U.N. Secretary-General Ban Ki-moon urged President Bush to take a leadership role and participate actively in global efforts to combat climate change. After a brief White House meeting before Bush left on a week-long trip to Africa, Ban said the United States

is the country with the "most innovative technology and financing capacities" for addressing global warming.

The U.N. secretary-general also said it was important for the international community to sustain the momentum established in December 2007 at the U.N. climate change conference in Bali, Indonesia. Delegates to the conference agreed on the Bali Action Plan, which called on participating countries to reach an agreement by December 2009 on a climate strategy to succeed the Kyoto Protocol.

The U.S. delegation in Bali was criticized for much of the conference for objecting to provisions that would have required specific targets for reducing greenhouse gas emissions. After a confrontation with developing nations, U.S. officials ultimately agreed to participate in further negotiations, which cleared the way for approval of the Bali Action Plan.

In his White House remarks, Ban cited a separate U.S. effort to get major world economic powers to agree on a goal for cutting emissions.

In his State of the Union address in January, Bush said: "The United States is committed to strengthening our energy security and confronting global climate change. And the best way to meet these goals is for America to continue leading the way toward the development of cleaner and more energy-efficient technology."

In September, Bush hosted representatives from 17 countries which are major emitters of greenhouse gases. They met again in Hawaii at the end of January. At the opening of the September meeting, Secretary of State Condoleezza Rice said, "Climate change is a global problem, and we are contributing to it; therefore, we are prepared to expand our leadership to address the challenge."

The United States is the only developed country to abstain from ratifying the Kyoto Protocol, and the two "major economies' meetings did not produce an agreement on emissions reductions.

The U.S. Senate is considering a bill that sets a target of reducing emissions by nearly 70 percent from current levels by 2050 through an emissions trading system. The bill (S. 2191), sponsored by Sens. Joseph Lieberman (I/D-Conn.) and John Warner (R-Va.), cleared the Senate Environment and Public Works committee on December 5th, and supporters hope to move the legislation to the Senate floor over the next several months.

29. US Formally Blocks California Emissions Waiver

The Bush administration has formally rejected California's bid for a waiver from US law to set its own tailpipe emissions standard to reduce global warming. The Environmental Protection Agency released a regulatory notice signed by Administrator Stephen Johnson, cancelling California's plans to impose a state law that would have forced automakers to reduce emissions by making cars that achieve sharply higher gas mileage beginning next year.

The decision also affects 18 other states that wanted to adopt the measure.

The announcement was expected since Johnson had announced in December he would deny the waiver because the state's pollution problems, in his view, did not merit special consideration. He ruled against California even though internal documents released by

Congress in January revealed that EPA staff concluded the agency would probably lose if the state went to court. California sued in January.

30. 18 US States Sue EPA Over Greenhouse Gas Pollution

Eighteen states have sued the US Environmental Protection Agency for failing to limit greenhouse gas emissions from new cars and trucks, one year after the Supreme Court ruled that the agency had the power to do so. The suit seeks EPA's response to the high court's April 2, 2007, ruling, a landmark decision seen as a sharp defeat for the Bush administration's policy on climate change.

While acknowledging the reality of human-caused global warming, the administration has opposed across-the-board limits on carbon emissions that make the problem worse.

In addition to the states, officials from three cities and at 11 environmental groups signed the suit, which seeks action within 60 days. Environmental lawyers acknowledged a response is unlikely before President George W. Bush leaves office. EPA chief Stephen Johnson, travelling in Australia, said after last year's ruling that the agency would respond by the end of 2007, but did not publicly do so.

The lawsuit said the environmental agency has determined that greenhouse gas emissions endanger public welfare, and once that judgment is made, the EPA must regulate these pollutants under the Clean Air Act. Recently, Johnson announced a plan to seek public comment on how to limit these emissions, infuriating environmental advocates who noted that more than 50,000 public comments had been received at the beginning of this process, nearly nine years ago.

"Once again the EPA has forced our hand, which has resulted in our taking this extraordinary measure to fight the dangers of climate change," Massachusetts Attorney General Martha Coakley said in a statement. "The EPA's failure to act in the face of these incontestable dangers is a shameful dereliction of duty."

In addition to Massachusetts, the other states and cities joining the suit are: Arizona, California, Connecticut, Delaware, Illinois, Iowa, Maine, Maryland, Minnesota, New Jersey, New Mexico, New York, Oregon, Pennsylvania, Rhode Island, Vermont, Washington state and Washington D.C., New York City and Baltimore.

In another commemoration of the first anniversary of the Supreme Court's ruling in the original case, Massachusetts v. EPA, the House of Representatives global warming committee voted to subpoena EPA's Johnson to turn over long-sought documents on whether greenhouse pollution endangers human health and a draft plan to regulate these emissions. (See below)

31. Lawmakers Press EPA Chief to Release Draft CO2 Vehicle Rule

EPA Administrator Stephen Johnson is under increasing congressional pressure to release the agency's draft regulations for limiting greenhouse gas (GHG) emissions from vehicles. Democratic lawmakers are trying to force EPA to release the draft rules as a way of getting the Bush administration on record regarding mandatory emission reductions despite President Bush's stated opposition to regulating carbon emissions.

The agency began drafting the regulations in response to a Supreme Court decision last April that the Clean Air Act requires EPA to address carbon dioxide (CO2) emissions from vehicles. But Johnson has said that implementation of energy legislation enacted in December, which includes a number of energy efficiency and climate change-related provisions, has preempted the agency's work on CO2 regulations. But at a March 13 hearing by House Select Committee on Energy Independence and Global Warming, Chairman Edward Markey (D-MA) warned Johnson that Congress was going to hike pressure on the agency to release the rules to ensure the agency follows through on its pledge to comply with the Supreme Court ruling.

A key issue in developing the regulations has been EPA's work on an “endangerment” finding that would examine the public health risks from climate change. Industry officials fear that release of an endangerment finding could trigger a host of carbon emission regulations beyond the vehicle emissions that were the subject of the Supreme Court case; while environmentalists have argued that the court ruling requires EPA to conduct such a risk review.

Following the Markey hearing, Johnson told reporters that it was uncertain whether EPA's GHG regulations would include an endangerment finding. “I'm looking at what all the implications are of the next steps of regulating under the Clean Air Act, a component of that is endangerment,” Johnson said. “It would be inappropriate for me to prejudge what it is or what it isn't.”

The hearing was held the day after House Oversight and Government Reform Committee Chairman Henry Waxman (D-CA) sent Johnson a letter raising some of these same concerns. Waxman warned Johnson that he may be violating legal requirements by delaying the GHG regulations. In a March 12 letter, Waxman calls on Johnson to help determine what role the White House and the Department of Transportation (DOT) may have played in the delay.

“It appears that EPA's efforts to regulate [carbon dioxide (CO2)] emissions have been effectively halted, which would appear to be a violation of the Supreme Court's directive and an abdication of your responsibility to protect health and the environment from dangerous emissions of CO2,” Waxman told Johnson in his letter.

Waxman also told Johnson that his apparent decision to delay development of a GHG policy is at odds with his stated commitment to lawmakers to develop key GHG policies, as well as Johnson's public statements that passage of the energy law does not prevent the agency from moving forward with its planned policies.

Citing testimony from several top EPA staffers, Waxman says that after the Supreme Court's ruling in Massachusetts et al. v. EPA et al., Johnson supported agency's efforts to respond to the ruling. For example, EPA Senior Climate Change Analyst Benjamin DeAngelo testified to the committee that Johnson read support and technical documents “cover to cover” and was personally involved in the decision-making. Among other things, Johnson supported a staff proposal that would significantly curtail CO2 emissions from motor vehicles. The proposal would require motor vehicles to achieve a fuel economy standard of 35 miles per gallon by 2018 -- a standard that is weaker than California's vehicle requirements for which the state sought a waiver, but is more stringent than the standard enacted by the new energy law.

EPA reportedly submitted an endangerment finding to the White House Office of Management and Budget for review in early December. Around the same time, sources say EPA submitted the proposal to reduce CO2 from vehicles and fuels to DOT for review.

Several staff said that “after the White House received the endangerment finding and the Department of Transportation received the proposed motor vehicle regulation, work on the finding and regulating was stopped,” the letter says.

Johnson has acknowledged EPA is delaying its GHG policy development, telling a House panel on February 26th that he is “taking a step back” to analyze a slew of GHG litigation, permits and petitions facing the agency in order to decide the best way to proceed given that taking one action under the Clean Air Act can impact a host of other provisions in the statute. Johnson has announced his intent to publish an Advanced Notice of Proposed Rulemaking, which will do nothing more than gather comments on the issue of greenhouse gas regulation.

32. Bush Offers Principles for CO2 Emission Growth Cuts

US President George W Bush has unveiled principles for arresting greenhouse gas emissions, months before he leaves office and ahead of a congressional debate on more ambitious goals. Highlights of Bush's announcement include:

- Halt the **growth** of carbon-dioxide emissions by 2025.
- **Oppose** raising taxes, abandoning nuclear power and coal reserves, or imposing trade barriers as ways to reach the goal.
- Promote electricity production from **coal** that does not release carbon dioxide.
- Urges overhaul and **simplification of incentives** to encourage broader commercialization and use of lower emission technologies.
- Proposes eliminating trade limits with other countries on clean energy technologies, boosting energy security and more broadly **ensuring the US economy expands**.
- Prods lawmakers to **resolve concerns about current laws** being used to regulate climate change, including Endangered Species Act, Clean Air Act and National Environmental Policy Act.

Not surprisingly, there is no mention of absolute reductions in emissions or mandatory controls!

33. GM Plans 1,000 Fuel Cell Cars in California By 2014

General Motors Corp plans to have 1,000 hydrogen fuel cell vehicles in California between 2012 to 2014 to comply with the state's goal to put thousands of cleaner cars on its roads. GM has about 60 Chevrolet Equinox fuel cell vehicles in Southern California now, the automaker's vice president for research & development and planning, Larry Burns, said at the National Hydrogen Association conference.

With 1,000 cars, GM will be "in the ballpark" of meeting its share of the 7,500 zero-emissions cars California wants on its roads between 2012 and 2014, Burns said. He said GM would also have enough fuel cell cars on the road to amass statistics on the technology's durability.

As the number of hydrogen fuel cell cars on the road increases, Burns said there would be a "tipping point" toward mainstream acceptance and financial viability for its fuel cell vehicles in 2017 or 2018.

Fuel-cell powered vehicles, which run on hydrogen and emit only water vapor, are being touted as a way to reduce greenhouse gas emissions, combat climate change and reduce the United States' dependency on crude oil. According to Burns, fuel cells are more applicable to big, family cars than electric vehicle technology is because they would not require an oversized battery for range and power.

At issue for fuel cells, however, is the lack of an infrastructure for refueling. California, which has the country's most ambitious plans for putting fuel cell cars on the road, has only 25 refueling stations. Burns said GM is lobbying energy companies and lawmakers to put 40 hydrogen refueling stations in the Los Angeles area. Most residents would have to drive about three-and-a-half miles or less to refuel, making fuel cell cars a more viable option for them, he said.

Burns said such a project would cost about $160 million, a fraction of the more than $1 billion GM has already spent on developing fuel cell vehicles.

Royal Dutch Shell Plc's hydrogen unit, Shell Hydrogen, "has plans to do what I think is a very responsible piece of this," Burns said, referring to the addition of hydrogen refueling stations in the Los Angeles area.

34. CARB Lays Out Its Plans for GHG Measures for Truck and Rail

Forthcoming California Air Resources Board (CARB) regulations to target GHG reductions from the goods movement sector are seen as necessary by the state to achieve its short- and long-term GHG-reduction goals under AB 32 and a governor's executive order. On April 15th, CARB staff held its first workshop to discuss concepts for GHG regulations the board intends to advance within the next few years targeting pollution from trucks, rail yards, ships, ports and other goods movement-related activities. Among the GHG measures being considered by CARB for the goods movement sector include a host of "early action measures" under AB 32 that the board adopted last year, including a shore power regulation -- requiring ships to plug-in to dockside power at ports instead of running auxiliary diesel engines to generate on-board electricity. At the April meeting, CARB staff provided details of other goods movement early action measures the board plans to advance, including a vessel speed reduction (VSR) measure for ships, a ban on truck transport refrigeration units (TRUs) for extended cold storage, and reducing unnecessary idling of cargo-handling equipment.

CARB also announced plans to require ports and intermodal rail yards to adopt their own GHG-reduction plans for their facilities, which would likely be submitted to CARB for approval. CARB staff envisions that by allowing ports and rail yards to set their GHG plans it is providing them with flexibility in how to cut emissions.

Under the planned VSR measure, CARB is considering either a mandatory or voluntary measure that would require cargo ships and other vessels to reduce speed as they approach the California coast. The rule could require ships to reduce speed to 12 knots beginning 24 miles off the coastline. CARB staff estimates the measure could reduce GHG emissions by 1.4 million metric tons by 2020. Extending a VSR rule to 40 miles off the coast staff estimates could double the GHG benefits. This summer, CARB plans to release a report addressing the impacts of VSR on ports and whether VSR can be done voluntarily or through mandatory rules. The

report will include an analysis of existing voluntary VSR programs at the ports of Long Beach and Los Angeles.

Representatives of industry have indicated that the VSR measure would likely raise similar legal issues as CARB's auxiliary diesel engine rule and a proposed ship main-engine regulation. The U.S. Ninth Circuit Court of Appeals recently struck down the auxiliary engine rule challenged by industry, which claimed in part that CARB does not have the authority to regulate ship engines many miles off the coast. While the court did not directly rule on the geographical limits of CARB's rules, it did decide that the CARB's rule is preempted by the federal Clean Air Act. CARB is appealing that recent court decision.

Meanwhile, in describing its planned rule for a ban on extended cold-storage for TRUs, CARB staff said that most TRUs -- refrigeration systems on trucks or railcars powered by engines to keep products cold during shipping -- are not energy efficient. Under this measure, CARB would allow companies to comply by using new technologies, such as plug-in refrigeration units, cryogenic refrigeration systems, industrial size refrigeration systems, or hybrid TRUs that are seen as more energy efficient.

The rule would reduce particulate matter by 22 tons per year and GHGs by 0.02 million metric tons per year, according to CARB. CARB is scheduling workshops on the rulemaking later this year, and intends to finalize a proposal in spring 2009.

CARB will also propose a measure requiring ports and intermodal rail yards to reduce their carbon footprints over time. Under this measure, CARB would develop criteria for GHG reductions and how progress would be monitored, but each port and rail yard would develop its own plan. For locomotive GHG reductions, rail yards could apply idling reduction devices to get fuel savings of up to 20%, with GHG reductions tied to that, CARB staff said. Also, advanced technologies such as switch locomotives and the board's forthcoming low-carbon fuel standard could also get GHG reductions from locomotives.

35. New York Congestion Pricing Plan Dies Without a Vote

New York City Mayor Michael Bloomberg's plan to free Manhattan from traffic gridlock by charging rush-hour drivers withered as state lawmakers did not vote ahead of the deadline. A spokesman for Democratic Assembly Speaker Sheldon Silver confirmed there would not be a vote.

Last spring the mayor proposed raising billions of dollars for buses and subways with so-called congestion pricing, a strategy London and Singapore use.

Bloomberg has several times revived his plan, the centerpiece of 127 Earth Day proposals to make the city greener, from near-certain death. City and state lawmakers at first rejected the new $8 fees and then wrested a series of changes, including pushing the reduced-traffic zone south to below 60th St. from 86th St.

Bloomberg had repeatedly warned that missing the deadline will cost the city $354 million in federal mass transit aid.

Democratic Assemblyman Ruben Diaz said the plan had several negatives, including failure to address traffic jams it would cause outside of Manhattan.

Even if New York's legislature, which has also missed its March 31 deadline for approving a new $124 billion budget, were to approve Bloomberg's plan, New Jersey is likely to try to kill it. Democratic Gov. Jon Corzine has vowed to sue to protect New Jersey drivers, spurning Bloomberg's proposal to have the Port Authority of New York and New Jersey contribute an extra $1 billion for transportation in the city.

36. New York City's Taxi Limos Going Green

New York City has unveiled new emissions standards for the city's 10,000 black taxis that will compel the town car owners to switch to hybrid technology within five years. The move -- part of Mayor Michael Bloomberg's plan to decrease the city's carbon emissions by 30 percent by 2030 -- comes less than a year after Bloomberg announced the city's 13,000 yellow taxi cabs will go hybrid by 2012.

Black town cars service mostly corporate clients and are responsible for two percent of the city's transportation related emissions, Bloomberg said. He said the change will cut their emissions by half.

37. NRC Study Says Climate Change Could Snarl US Transport

Flooded highways, railroads and airport runways are among the transportation snarls looming as the world's climate changes, and officials should plan with this in mind, according to a new US study. Modern transportation that runs on fossil fuel has been singled out as a key cause of climate change but the study released by the National Research Council said most transport also is vulnerable to the effects of global warming.

In addition to sea-level rise -- projected to be 7 to 23 inches (0.18 to 0.6 meters) this century -- other effects of climate change also could hit transportation hard, the report said. These include:

- an increase in extremely hot days and heat waves, which would affect thermal expansion joints on bridges and cause more rapid degradation of pavement surfaces. Railroad tracks can become deformed in extreme heat and road asphalt can soften.

- Limits on construction activity on transportation projects due to health and safety concerns.

- Thawing of the permanently frozen permafrost, which means transportation built on it would subside. This includes roads, rail beds, runway foundations, bridge supports and pipelines, such as those that carry petroleum products across Alaska.

- An expected increase in intense precipitation could cause more weather-related delays and traffic disruptions, including the flooding of evacuation routes.

- More frequent strong hurricanes also are expected to be a consequence of rising global temperatures, and these could cause more frequent interruptions of air service, more frequent emergency evacuations and more debris on roads and rail lines. These strong storms increase the probability of infrastructure failures. Wave damage and storm surges could have an impact on harbors and ports.

On the plus side, the report said there could be a longer transport season and more ice-free ports in northern regions, and the long-sought Northwest Passage from the Atlantic to the Pacific could become more available. Arctic ice melt opened this passage last year for the first time in memory.

38. Canada Announces Public/Private Partnership to Develop Diesel Control System

On March 14th, Natural Resources Canada announced a new public/private partnership to further the development of a new diesel emissions-reduction system that effectively acts as a catalytic converter for diesel engines. The new syngas generator developed by Burnaby, Canada-based NxtGen Emission Controls Inc. is expected to reduce diesel particulate emissions by 85 percent and cut nitrogen oxide emissions by two-thirds, Natural Resources Minister Gary Lunn said, announcing the program at the GLOBE 2008 Conference on Business and the Environment, held in Vancouver, March 12-14. The system could also enable diesel manufacturers to improve fuel economy by as much as 10 percent, he said.

Lunn said the Canadian government would provide C$2.5 million ($2.5 million) to help fund a two-year pilot project that will retrofit 12 trucks in three fleets across Canada with the syngas generator. Another C$3 million ($3 million) in funding will come from EnCana Corp., an oil and gas company based in Calgary.

The NxtGen generator produces a mixture of hydrogen and carbon monoxide, or syngas, from engine exhaust and diesel fuel. The syngas then converts the nitrogen oxides into nitrogen and water, while the system removes soot and other particulates.

With the syngas generator implemented as part of a complete emissions control system, diesel engine emissions of nitrogen oxides and soot will be reduced to almost immeasurably small levels, and they will be lower than similar emissions from gasoline vehicles, Brian Kahnert, vice president of marketing and government relations at NxtGen, told the press. Kahnert said the syngas generator system would be available by the end of the year at "competitive" prices.

39. Ford Wins Over Critical Investors with Greenhouse Pledge

A group of activist investors including the state of Connecticut have dropped a campaign targeting Ford Motor Co after the No. 2 US automaker detailed plans for cutting greenhouse gas emissions over the next 12 years. Ford's action made it the first US automaker to spell out how it intends to cut by 30 percent the greenhouse gas emissions from new vehicles it sells by 2020, according to the activist investor groups that pushed it to make the pledge.

In response, the Interfaith Center on Corporate Responsibility, which represents over 300 religious groups and $100 billion in assets, and a network of other investors pressing US companies to take action on global warming, dropped plans for a shareholder resolution at Ford.

The coalition, which includes the Connecticut State Treasurer's office, plans to push ahead with a similar proposal directed at Ford's larger rival, General Motors Corp, at GM's annual meeting in June.

GM has been dedicating more resources to reduce emissions and improve fuel efficiency than any other automaker and has kept key stakeholders informed of its progress, the automaker said in a statement.

Over 50 shareholder resolutions on global warming have been filed with US companies in the 2008 proxy season, nearly double the number filed two years ago, according to the coalition that had targeted Ford.

ASIA-PACIFIC

40. Hong Kong Offers Tax Incentives for Commercial Low-Emission Vehicles

On March 31st, Hong Kong's Environmental Protection Department unveiled an incentive scheme to encourage companies to invest in environmentally friendly vehicles, the latest step in the special administrative region's drive to improve declining air quality. To encourage the use of environment-friendly commercial vehicles, which have low emissions, starting from 1 April 2008, reduction in the First Registration Tax (FRT) will be offered to buyers of newly registered environment-friendly commercial vehicles in Hong Kong.

The emission performance of environment-friendly commercial vehicles shall be better than the prevailing statutory requirements. As a start, the qualifying standard for environment-friendly commercial vehicles is set at Euro V level. Compared with Euro IV vehicles, Euro V heavy duty diesel vehicles emit about 40% less nitrogen oxides (NOx). For light duty diesel vehicles, Euro V models emit about 80% less respirable suspended particulates and 30% less NOx. As regards Euro V petrol/ LPG vehicles, they emit about 30% less NOx.

Environmental Protection Department (EPD) will review the qualifying standard annually for tightening in the light of technological development and the prevailing statutory emission standards. The objective is to ensure that only vehicles of truly outstanding emission performance outstripping the prevailing statutory requirements are entitled to enjoy concessions for their FRT. If tightened, the new qualifying standard will be introduced on 1 April each year and published in EPD website.

When the new qualifying standards become effective, commercial vehicles meeting only the previous standard will not be eligible for the FRT reduction.

Under this tax concession scheme, “commercial vehicles” include taxis, light/medium/heavy goods vehicles, public/ private light buses, public/ private non-franchised buses and special purposes vehicles. The rates of reduction of the first registration taxes for different vehicle classes qualified under the scheme are as follows–

- 100% for taxis, light buses, non-franchised buses and special purpose vehicles;
- 50% for goods vehicles (except van-type goods vehicles up to 1.9 tons permitted gross vehicle weight); and
- 30% for van-type goods vehicles up to 1.9 tons permitted gross vehicle weight.

The tax concessions are subject to vehicle-class-specific caps per vehicle.

For those vehicle owners who opt for environment-friendly commercial vehicles to replace their pre-Euro or Euro I diesel commercial vehicles under the one-off grant scheme that was launched on 1 April 2007, they are entitled to the above first registration tax waiver taking account of the additional environmental benefits of procuring more environment-friendly commercial vehicles. Please note the deadlines for replacing pre-Euro or Euro I diesel commercial vehicles under the one-off grant scheme.

Environment-friendly commercial vehicles can be imported either by dealers authorized by vehicle manufacturers (i.e. authorized vehicle dealers), parallel importers or individuals.

A vehicle buyer in consideration of buying an environment-friendly commercial vehicle should ask the authorized vehicle dealer for the "Environment-friendly Commercial Vehicle Certificate" issued by EPD for the vehicle model. Note: Any vehicle without a valid “Environment-friendly Commercial Vehicle Certificate” issued by EPD will not be eligible for the FRT reduction for environment-friendly commercial vehicles, irrespective of whether the vehicle is imported by an authorized vehicle dealer, a parallel importer or an individual.

Since EPD will review the environment-friendly commercial vehicle qualifying standard annually for tightening them in the light of technological advancement, the "Environment-friendly Commercial Vehicle Certificate" has a validity period. Upon its expiry, the vehicle concerned will lose its eligibility for the FRT concession if it cannot comply with the new qualifying standard at that time. Thus, vehicle owners or vehicle vendors should submit the first registration application to Transport Department (TD) during the validity period of the relevant "Environment-friendly Commercial Vehicle Certificate" to benefit from the FRT concession.

Qualifying taxis, vans, trucks, and buses will receive waivers of between 30 percent and 100 percent of the registration taxes, which range from 3.7 percent of the vehicle's market value for taxis to 35 percent for vans.

Yet the concession will be subject to caps of HK$8,500 ($1,091) to HK$78,000 ($10,016) depending on the type of vehicle, the department said.

Making this all possible is the virtually complete conversion of the fuels in Hong Kong to a maximum sulfur level of 10 PPM by means of tax incentives.

41. Beijing Orders Tighter Emission Rules on Cars

Beijing has banned sales of new cars that fail to meet new emission standards starting from March, state news agency Xinhua said, in another move to clean up its air before the August Olympic Games. All new cars are required to meet the new national standards that are equivalent to Euro 4 standards, Xinhua said, citing Du Shaozhong, deputy director of the city's Environment Protection Bureau.

The tougher emission standards will extend to heavy vehicles used for public transportation, sanitation and mail services from July, the report said.

About a third of the main pollutants in Beijing such as nitrogen oxides and carbon monoxide come from vehicle exhaust, said Du.

The new standards are estimated to cut emission of carbon monoxide, hydrocarbons and nitrogen oxides by 48,000 tons, 5,300 tons and 4,100 tons, respectively, this year.

The capital city will keep a ban on diesel vehicles which emit three times as much nitrogen oxide as gasoline-power ones, Du was quoted as saying.

Beijing already ordered petrol stations in the city to sell gasoline and diesel that meet Euro 4 standards at the start of 2008.

The city has about 3.1 million motor vehicles, and every day about 1,200 new ones hit the road, Xinhua said.

42. Guangdong Pushing For Tighter Emissions Limits

Guangdong province will stop licensing vehicles that fail to meet the nation's stage 3 emission standards from July 1. The province also aims to introduce the stage 4 emission standards for vehicle licensing in the highly developed and more polluted Pearl River Delta region.

The EPB will soon reveal the categories of vehicles meeting the emission standards and the provincial government is already encouraging public transportation firms to meet higher emission standards ahead of schedule.

Meanwhile, those vehicles not yet up to the stage 3 emission standards will be gradually phased out.

The province will restrict vehicles with poorer emission standards on some roads. And the province will modify the fuel quality in accordance with the enhancement of the vehicle emission standard while improving the mechanism for vehicle emission monitoring.

43. Shanghai Likely To Adopt Euro 4 Early

The Mayor of Shanghai has publicly announced his intention to require all new vehicles to meet Euro 4 emissions standards by 2009, ahead of the World Expo which will take place in 2010. Euro 4 fuels will also be introduced at the same time although the EPB is worried about the consequences as Euro 4 compliant vehicles are driven out of the city and fueled with higher sulfur fuels.

Low sulfur fuels within the city limits are not seen as a technical problem but a price problem. The refinery has the technical capability to produce low sulfur fuels but is reluctant to do so for the local market because artificial government imposed price limits prevent refiners from getting a return on their investment.

The EPA also intends to restrict the use of high polluting older Pre Euro trucks from coming within the ring road.

An assessment of low emissions zones and potentially congestion pricing is being initiated as well. Initial study will focus on how much to charge and what to do with any funds collected. There is also concern that national law may need to be changed as current laws may preclude such local charges.

44. China Environmental Protection Hopes to Get Boost with New Ministry

China's Environment Protection Bureau has been promoted to a ministerial-level agency, giving it greater authority and emphasizing that the central government sees environmental protection as key to the country's continued success, government officials said on March 11th.

In a news conference to review their work in 2007 and to reveal upcoming plans for 2008, top officials from the State Environmental Protection Administration did not comment extensively about plans to upgrade their agency. The news conference was held one day after a leading Chinese Communist Party official confirmed that pending central government reorganization would include making SEPA the Ministry of Environmental Protection, an agency with a seat on the State Council, China's Cabinet, according to the official Xinhua news agency.

SEPA's status within the central government has been a longtime point of contention. The Agency though tasked with the broad national challenges involved in environmental protection and repairing environmental damage, has not had the same authority in policy or planning powers as a top-level ministry.

SEPA has been seen as without much power in the current structure of the Chinese government.

The government restructuring will establish five new "super-ministries," including the environmental protection agency, officials said March 11. The structuring is intended to streamline and consolidate government functions in China's unwieldy bureaucracy.

In their March 11th news conference, top environmental officials also said they are committed to working on climate change, even as China has moved into first place for global carbon emissions. Xie Zhenhua, SEPA's vice minister, told reporters that China's national plan on climate change-causing emissions was "a first for a developing country." Still, China has not agreed to mandatory emissions caps. "The Chinese government will take vigorous measures to tackle climate change, and we will work with all other countries to combat climate change," Xie said.

45. China Takes Steps Toward Environmental Taxes to Reduce Pollution

China's national congress has begun initial discussions on imposing a national "environmental tax" but has not settled on any specifics of the tax or when it might be enacted. In delegate meetings during the two-week National People's Congress session that ended March 18, plans for an environmental tax to punish polluters and curb the country's worsening air, water, and soil quality problems were widely discussed, according to state-run media.

The next step, analysts said, will entail the writing of a draft law sometime during the next year. No action could be taken until the NPC meets again in the spring of 2009.

Pan Yue, vice-director of the current SEPA, first spoke of the possibility of an environmental tax in the fall of 2007. Pan said there was ongoing internal central government discussion of the idea.

46. Paulson Urges China to Scrap Pollution Tariffs

China should drop the barriers it maintains against foreign-made anti-pollution equipment as a means of quickly cleaning up its dirty air and water, said US Treasury Secretary Henry Paulson in prepared remarks for delivery to the Chinese Academy of Sciences.

The Treasury chief was on the second day of a two-day visit to Beijing that includes a meeting with Premier Wen Jiabao.

Although China's economy is only one-sixth the size of America's, it is about to become the No. 1 source of greenhouse gas emissions, Paulson noted. China is also the world's largest coal producer and consumer.

China can afford to buy the advanced energy-saving and environmental control equipment it needs to reduce emissions and pollutants, yet it levies tariffs against such imports, Paulson said. "A high priority should be given to eliminating tariffs and non-tariff barriers on products, goods and services that can improve the health and welfare of the Chinese people," he said.

He described China's pollution problems as "daunting" and noted that 16 of world's 20 most polluted cities were in China.

Paulson warned Chinese policy makers that maintaining price controls on fuel was likely only to lead to persistent gasoline and diesel shortages.

"The consequences of these policies also extend to the power sector, where price caps on electricity and fuel contributed to nationwide power outages during snowstorms this past January and February," he said.

Paulson advocated the US system of using tradable credits so that polluters who reduce emissions most cheaply can sell them to others who find it more expensive. This market mechanism had helped reduce emissions of sulfur dioxide and nitrogen oxide that produce acid rain and was far preferable to price controls, Paulson suggested.

47. Japan Seeks Stronger Program on Emissions to Meet Kyoto Deadline

On February 29th, Prime Minister Yasuo Fukuda's Cabinet approved plans to strengthen Japan's voluntary greenhouse gas reduction efforts to help the country achieve its Kyoto Protocol commitment by the 2012 deadline and pave the way for a post-Kyoto regime.

The plans call for, among other things, improving energy conservation in housing and other buildings; enhancing automobile fuel efficiency; and reducing emissions in the farming, fisheries, and forestry industries, water and sewage sectors, and public transportation. In addition, the plan urged the government and businesses to consider domestic emissions trading systems and environmental taxation.

It would be the first time that Japan has revised its Kyoto Protocol greenhouse gas reduction program, which it implemented in 2005. Japan is obligated under the Kyoto accord to reduce greenhouse gas emissions 6 percent by 2012 compared with 1990 emissions levels. But under the current plan, emissions are estimated to exceed the target by 22 million to 38 million tons.

The plans are a collection of measures drawn up by 10 government policy commissions reporting to the Ministry of the Environment; the Ministry of Economy, Trade and Industry; the Ministry of Agriculture, Forestry and Fisheries; the Ministry of Land, Infrastructure and Transport; and seven other government offices. Panel representatives and the ministries held a joint meeting on February 29th and approved the plans.

48. Japan Says Technology Can Help Cut Global Emissions in Half by 2050

On March 15th, Japan's Ministry of Environment, Technology and Industry formally presented an energy technology program asking nations to work together to develop 21 technologies that could cut global greenhouse gas emissions in half by 2050. In a program report, the environment ministry said the new technologies are intended for use by 2050, and it included a road map for the development and implementation of all 21 technologies.

The "Cool Earth--Innovative Energy Technology Program" calls for development of next-generation solar panels and solar power generation equipment that can quadruple power output compared to current technology, according to officials from the Agency of Natural Resources and Energy, within the Ministry of Economy, Trade, and Industry (METI).

Other technologies include a 50 percent power output improvement for coal-burning thermal power stations; improved carbon dioxide capture and storage technology, which could lower carbon dioxide recovery costs from ¥4,200 yen ($43) per ton, to about ¥1,000 yen ($10) by 2020; and radical downsizing of batteries for plug-in hybrid automobiles by 2030, to enable driving distances of up to 500 kilometers (311 miles) between charges.

Japan also called on nations to work together to develop steelmaking processes that use hydrogen instead of carbon for oxygen removal as a way to reduce carbon dioxide emissions by 30 percent. Further emissions reductions could be achieved with advanced traffic control systems that reduce traffic congestions and next-generation fuel cells for mobile and stationary uses, according to the natural resources agency.

An agency official said the plan is designed to foster breakthrough technologies that have yet to be fully developed or widely used.

Japan formally presented its Cool Earth initiative during the 4th Ministerial Meeting of the Gleneagles Dialogue on Climate Change, Clean Energy and Sustainable Development, held in Makuhari in the province of Chiba, March 14-16. Countries that took part in the G-20 meeting were Australia, Brazil, Canada, China, France, Germany, India, Indonesia, Italy, Korea, Mexico, Nigeria, Poland, Russia, Slovenia, South Africa, Spain, the United Kingdom, the United States, and the European Commission.

If the new technologies are mobilized worldwide, METI estimates that a substantial portion of carbon dioxide emissions can be reduced.

In 2005, global carbon dioxide emissions totaled roughly 26 billion tons, according to the ministry. If no reduction measures are taken, carbon dioxide emissions will grow to 55 billion tons by 2050. Employing both new and current technologies could trim global carbon dioxide emissions by 40 billion tons by 2050, METI said. About 60 percent of that amount can be achieved through new technologies, and the remainder can be attained with greater use of wind, geothermal power generation, solar power, and other available technologies, METI said.

Prior to the G-20 meeting, the Ministry of the Environment, the Ministry of Land, Infrastructure, and Transport, Nippon Keidanren (the Japan Business Federation), the Development Bank of Japan, and other private companies agreed to establish a working group to draft a framework to measure the energy used and greenhouse gas emissions during the transport of raw goods and materials to manufacturing factories and on to consumers.

In the transportation arena, Japan said research is needed to develop and refine intelligent road traffic control systems, fuel cell motor vehicles, plug-in hybrid technology for motor vehicles, and alternative vehicle fuels extracted from biomass.

49. Karachi, Dhaka, Beijing & Cairo Have Highest Pollution in the World

Karachi, Dhaka, Beijing and Cairo are the megacities with the highest multi-pollutant index (MPI) and most urgently need to reduce air pollution, according to experts who discussed their findings in 'Evaluation of emissions and air quality in megacities' that appeared in the journal 'Atmospheric Environment' (2008 vol:42 iss:7).

The study evaluates and ranks megacities in terms of their trace gas and particle emissions and ambient air quality. Besides ranking the megacities according to their surface area and population density, they evaluate them based on carbon monoxide (CO) emissions per capita, per year, and per unit surface area. Further, they rank the megacities according to ambient atmospheric concentrations of criteria pollutants, notably total suspended particles (TSP), sulfur dioxide (SO2), and nitrogen dioxide (NO2). They then propose a multi-pollutant index (MPI) considering the combined level of the three criteria pollutants (i.e., TSP, SO2, and NO2) in view of the World Health Organization (WHO) Guidelines for Air Quality. Of 18 megacities considered, five classify as having "fair" air quality, and 13 as "poor". The megacities with the highest MPI, Dhaka, Beijing, Cairo, and Karachi, most urgently need reduction of air pollution.

The issue of urban air quality is receiving increasing attention as a growing share of the world's population is now living in urban centers and demanding a cleaner urban environment. The United Nations (UN) estimates that 4.9 billion inhabitants out of 8.1 billion will be living in cities by 2030. The environmental impacts are particularly severe in cities of about 10 million or more inhabitants—also known as megacities, especially in Asia where some countries (e.g., China and India) combine strong industrial expansion, high population density and number, and intense motor vehicle use.

Early studies found that although Asian megacities cover less than 2% of the land area they emit about 16% of the total anthropogenic sulfur in Asia. Urban sulfur emissions contribute more than 30% to regional pollution levels in large parts of Asia.

The simple concept and formulation of the MPI is proposed to reduce the possible role of subjective judgments on the degree of pollution in a megacity, which may arise due to individual perceptions based on pollution levels (or emissions) of one or more pollutants in a given megacity.

Tokyo has the highest population (34.5 million) and Karachi the lowest (10 million) of the cities considered. Los Angeles has the greatest surface area (27,800 km2) resulting in the least dense population. Cairo's population (10.4 million) is reported to be confined in 214 km2, making it the most densely populated megacity.

Tokyo, Beijing, Shanghai, and Los Angeles have the maximum CO emissions on annual basis and Kolkata, Dhaka, Mumbai, Cairo, and Rio de Janeiro have the minimum emissions. Cairo, Tokyo, and Moscow rank among the highest emitters of CO per unit of surface area, and Rio de Janeiro and Los Angeles rank among the smallest emitters. On the other hand, Beijing, Shanghai, and Los Angeles are among the highest per capita CO emitters, and Mumbai, Kolkata, Dhaka, and Cairo emit the least per capita CO. CO emission estimates are highly uncertain due to several assumptions. For instance, (i) in many cases due to unavailability of

megacity-specific emission inventories they have extrapolated city traffic emissions to total emissions based on the population growth trend or ratio of traffic emission to the total city emission (e.g., for Buenos Aires, Cairo, Dhaka, Jakarta, Karachi, Moscow, Rio de Janeiro, and São Paulo) or (ii) in two cases (Tokyo and Osaka-Kobe) they have estimated megacity emissions based on the country-level emissions, scaled by the ratio of the megacity population to the national population.

Los Angeles, Karachi, and Rio de Janeiro have relatively low SO2 concentrations. Further, NO2 concentrations in several megacities exceed the WHO guideline. Moscow, Beijing, and Jakarta are highly polluted by NO2, whereas Buenos Aires and Karachi have lower ambient concentrations of NO2.

Karachi, Cairo, Dhaka, Delhi, and Beijing have maximum TSP levels, whereas New York, Osaka-Kobe, Los Angeles, São Paulo, and Tokyo have the lowest levels.

Most of the Asian megacities suffer from poor air quality. South Asia alone contains one-third of the 15 largest megacities, with a combined population of about 70 million. The economy in the Indian subcontinent is growing rapidly, and megacities are playing crucial roles as their relatively better infrastructure and skilled workers attract international businesses and investments, which enhance the overall employment capacity of these cities. Similar arguments apply to the Chinese megacities. The improving employment opportunities attract the rural population to migrate into the cities. Because of the growing industrial activity and energy use, the burgeoning megacities are growing into huge conglomerates of air pollution sources with local, regional, and global consequences for air quality and climate.

50. India Promises Action on Climate Change

India will present a national plan to combat climate change in June, but it will not accept mandatory carbon emissions cuts, Prime Minister Manmohan Singh said on February 7th. India says forced cuts will hurt economic growth and slow efforts to lift millions of its citizens out of poverty. "We cannot continue with a global development model in which some countries continue to maintain high carbon emissions, while the development options available for developing countries get constrained," the Indian premier said on the first day of the three-day Delhi Sustainable Development Summit 2008.

Singh said, however, that India would ensure that its per capita emissions--considerably less than levels in Japan and the United States--do not exceed average per capita emissions of industrialized countries. "[A]s developed countries take measures to bring down their per capita carbon emissions, our threshold would come down too," Singh said. "This is our solemn commitment."

The Indian leader said the concept of "climate justice," wherein all countries pledge to do their fair share to help address rapid climate change, requires "a fair, equitable and transparent global regime for technology transfers." Large developing nations such as India "desperately" need better technology to reduce energy use, Singh said. "We in the developing world desperately need access to environment friendly technologies, especially in energy, transportation, manufacturing and agriculture. Such technology transfer provides new opportunities for resource transfers to countries for adaptation. Nations of the world will have to engage in the next two years to create a consensus on a new architecture for cooperation that involves both finance and technology support to countries for adaptation."

Commenting on specific actions needed to address climate change, Singh said public transportation is one area that needs "immediate attention." He said India's Planning Commission had been asked to devise a "comprehensive policy" to cover public transport, which is one of the country's most energy intensive sectors.

51. Pauchauri Urges China, India to Avoid Obsession with Cars

China and other big developing countries such as India need to take steps to avoid being over-reliant on private cars, the head of the Nobel Peace Prize-winning UN climate panel said. Rajendra Pachauri, head of the Intergovernmental Panel on Climate Change (IPCC), told the press that investing in improving railways and urban public transportation was one way countries such as China could balance the need for fighting climate change with that for economic growth.

"This excessive and growing reliance on private vehicular transport is certainly something that doesn't suit large, populous countries like China and India," Pachauri said. "So we have to find a different model for that -- much more efficient and better railway systems, much better local transport in terms of use of public transport options," he told reporters on the sidelines of the Boao Forum for Asia held in the southern Chinese island province of Hainan.

China is already the world's second-largest vehicle market, despite only a small fraction of urban residents owning a car.

With incomes rising, car sales are growing by more than a fifth each year, contributing further to serious air pollution in cities, as well as to emissions. China is set to surpass the United States as the world's top emitter of carbon dioxide at any time.

For its part, India will this year see the world's cheapest car, the Nano, hit its roads, bringing car ownership closer to within reach for millions of poorer consumers.

Pachauri acknowledged that investment in better public transport alone would not be enough to curb growth in private car ownership. Lifestyle changes stemming from better awareness of environmental issues would be important as well, he said. That, in turn, places responsibility on Western countries. "You won't get lifestyle changes in the developing world unless the developed world also makes some efforts to bring about those changes," he said.

52. Kabul Air Pollution Perilous To Health

Worsening air pollution in Kabul is “seriously” threatening the health and well-being of its estimated three million residents, according to Afghanistan’s National Environmental Protection Agency (NEPA). “In terms of air pollution we are facing a crisis in Kabul,” said Dad Mohammad Baheer, the deputy director of NEPA. “Over 70% of diseases in Kabul are linked to air pollution, unclean water and solid waste,” he said, adding that children were particularly susceptible to various diseases originating from toxic pollutants in the air.

“Over the past few years diagnosed cases of cancer, mainly among children, have increased considerably,” said Baheer.

Kabul has also lost over 70% of its greenery, particularly trees, over the past two decades, NEPA’s findings show.

Vehicle emissions are considered a major contributor to air pollution: Every month Kabul's one million vehicles are added to by over 8,000 new vehicles registered with the Kabul traffic department, officials said. Most vehicles in Kabul are over 10 years old and more polluting than modern ones.

"The problem in Kabul is compounded by the widespread use of substandard car fuel and old engines," said Baheer.

Power cuts and the absence a national natural gas grid mean that many households use wood, coal and heating oil for cooking and heating. Moreover, some brick factories, public baths and small businesses burn old tires, plastic and combustible waste to run their businesses more cheaply. Toxic pollutants, sulfur oxide, carbon monoxide, nitrogen dioxide and carbon dioxide are emitted, NEPA experts say.

Unlike some other capital cities, Kabul has the added problem of its arid and mountainous landscape and lack of nearby woodlands, according to NEPA.

"We have to act fast and execute a series of projects such as the rehabilitation of forests and promotion of greenery, ban the import and use of substandard fuel, improve waste management... and build and strengthen our own institutional capacity", said Baheer. "NEPA is looking forward to receiving its first ever assistance from a donor. The US Agency for International Development (USAID) has pledged about US$500,000", said Baheer.

SOUTH AMERICA

53. Colombia's State Oil Company Agrees To Provide Cleaner Diesel for Capital City

A pact signed on February 7th by environmental, business, and Bogota municipal authorities will mean cleaner diesel for Colombia's smoggy capital, officials said. Colombia's Environment Minister Juan Lozano Ramírez, the president of state petroleum company EcoPetrol, and the mayor of Bogota all signed the new clean diesel agreement on the capital's annual car-free day.

The agreement requires EcoPetrol to reduce the concentration of sulfur in diesel fuel sold in Bogota to less than 500 parts per million (PPM) by July 1 and to 50 PPM or less by Jan. 1, 2010. Currently, diesel fuel sold in the capital contains sulfur levels of 1,000 PPM. In the rest of the country, diesel contains sulfur levels as high as 4,000 PPM.

Because plans to modernize refineries are expected to take years, EcoPetrol initially plans to import low-sulfur diesel fuel to mix with that produced in Colombia. The parties agreed to regular laboratory analysis of diesel fuel quality.

For its part, Bogota's municipal government agreed to accelerate the removal from circulation of aged vehicles and to increase enforcement of pollution limits on industries.

Bogota experiences chronic smog, which environmental officials blame on both diesel-powered vehicles and fixed sources such as coal-burning factories. Many of the city's trucks and buses are decades old and have less efficient engines, especially in the capital's higher altitude of 2,640 meters (8,660 feet) above sea level.

Ramírez said the federal environment ministry and EcoPetrol also are working to provide cleaner diesel fuel for other cities, beginning with Medellin, the nation's second-largest city. In addition, the environment ministry said it is also improving its air-quality monitoring network and that, as of January motorcycles became subject to new pollution limits.

On February 6th, Ramírez made public the first National Report on the Quality of Air in Colombia, saying that improving air quality is "a priority" for the ministry. The report, produced by the government's Institute for Hydrology, Meteorology and Environmental Studies, found that micro particles are the pollutants most damaging to Colombians' health. Of the 10 sites in the nation with the worst particulate pollution, eight are in Bogota and two are in Medellin, the report said.

54. Brazil Flex-Fuel Cars Help Tame Gasoline Prices

A massive new fleet of flex-fuel cars in Brazil has prevented state oil company Petrobras from charging more for gasoline despite record world oil prices, the company has said. Petrobras downstream director, Paulo Roberto Costa, said consumers in Latin America's largest country would stop buying gasoline and switch to cheaper ethanol if the price of the fossil fuel was raised to match world levels after being frozen since late 2005.

Traditionally, Petrobras uses an argument that prices have not settled at a new threshold level yet and it cannot adjust key fuel prices during market turbulence. Costa echoed this stance, saying Petrobras believed oil prices of $110 a barrel had "a speculative element which doesn't look sustainable".

While it keeps the domestic price of diesel and gasoline unchanged, the oil giant, which also accounts for practically all refining in Brazil, regularly has been adjusting prices of other oil products like naphtha and aviation fuel.

Costa said flex-fuel vehicles, which can use any mixture of ethanol and gasoline or each of these fuels alone, already accounted for 20 percent of Brazil's car fleet, while the number of single-fuel cars on the road was falling gradually. Flex-fuel vehicles account for nearly 90 percent of all new car sales in Brazil.

Mines and Energy Minister Edison Lobao said earlier the government will do its best to keep gasoline prices steady as a hike would boost inflation.

55. Santiago Delays Vehicle Restrictions to Relieve Overburdened Transport System

The regional government for greater Santiago delayed plans to mitigate air pollution by broadening restrictions on vehicle use over concerns that the move could place too much pressure on the city's struggling public transportation system. Santiago currently restricts two out of every 10 vehicles that are equipped with catalytic converters from operating on critical air quality days, with cars identified by the final digit of their license plate number. Separate use restrictions apply to vehicles that do not have catalytic converters.

In April 2007, President Michelle Bachelet signed Supreme Decree No. 46, to create the capital's Environmental Decontamination Plan for 2008. The plan, which was scheduled to come into force April 1, 2008, would have increased the number of vehicles currently restricted from use inside the city limits when air quality reaches critical levels from two out of every 10

vehicles to four out of every 10. But regional government leader Alvaro Erazo ruled that for now the restriction would be left at the same level as last year.

Restrictions on vehicles without catalytic converters, however, will be increased as planned, according to the regional government. The city will prohibit the use of four out of 10 such vehicles during the winter months of April to September, and rising to six out of every 10 on days when air pollution levels turn critical. Last year, the regional government declared air quality as reaching critical levels on twenty two days, up from fourteen in 2006, and four in 2005.

Located in a steep-sided basin at the foot of the Andes mountain range, Santiago is naturally prone to air pollution, which can build up especially in the autumn and winter. After improving significantly since the mid-1990s--thanks to wider adoption of catalytic converters as well as other pollution control measures--air pollution in Santiago has begun to worsen recently, reflecting the rapidly rising number of vehicles on the road as well as restrictions on natural gas imports from neighboring Argentina, which have forced industry and the power sector to use dirtier fuels like coal, diesel, and fuel oil.

56. High-level Committee Prepares Plan to Establish Peruvian Environment Ministry

A high-level committee appointed by the Peruvian government is expected soon to present a proposal to create a new Environment Ministry--a second effort to prepare such a measure. An earlier proposal presented on January 9th by Peruvian President Alan Garcia was scrapped for a plan to be designed by a high-level committee headed by Antonio Brack, an environmental consultant considered to be one of the country's top environmental experts.

The government decided to establish the Brack-led commission after the Garcia's initial plan was roundly discredited by environmental groups. Principal opposition came over Garcia's decision to leave mining oversight out of the scope of the new ministry, something Brack said will not happen with the plan he is devising.

GENERAL

57. Black Carbon Pollution Emerges As Major Player in Global Warming

Black carbon, a form of particulate air pollution most often produced from biomass burning, cooking with solid fuels and diesel exhaust, has a warming effect in the atmosphere three to four times greater than prevailing estimates, according to scientists in an upcoming review article in the journal Nature Geoscience.[1] Scripps Institution of Oceanography at UC San Diego atmospheric scientist V. Ramanathan and University of Iowa chemical engineer Greg Carmichael said that soot and other forms of black carbon could have as much as 60 percent of the current global warming effect of carbon dioxide, more than that of any other greenhouse gas besides CO2. The researchers also noted, however, that mitigation would have immediate societal benefits in addition to the long term effect of reducing greenhouse gas emissions.

[1] "Global and regional climate changes due to black carbon," posted in the online version of Nature Geoscience on Sunday, March 23.

"Observationally based studies such as ours are converging on the same large magnitude of black carbon heating as modeling studies from Stanford, Caltech and NASA," said Ramanathan. "We now have to examine if black carbon is also having a large role in the retreat of arctic sea ice and Himalayan glaciers as suggested by recent studies."

In the paper, Ramanathan and Carmichael integrated observed data from satellites, aircraft and surface instruments about the warming effect of black carbon and found that it's forcing, or warming effect in the atmosphere, is about 0.9 watts per meter squared. That compares to estimates of between 0.2 watts per meter squared and 0.4 watts per meter squared that were agreed upon as a consensus estimate in a report released last year by the Intergovernmental Panel on Climate Change (IPCC).

Ramanathan and Carmichael said the conservative estimates are based on widely used computer model simulations that do not take into account the amplification of black carbon's warming effect when mixed with other aerosols such as sulfates. The models also do not adequately represent the full range of altitudes at which the warming effect occurs. The most recent observations, in contrast, have found significant black carbon warming effects at altitudes in the range of 2 kilometers (6,500 feet), levels at which black carbon particles absorb not only sunlight but also solar energy reflected by clouds at lower altitudes.

Between 25 and 35 percent of black carbon in the global atmosphere comes from China and India, emitted from the burning of wood and cow dung in household cooking and through the use of coal to heat homes. Countries in Europe and elsewhere that rely heavily on diesel fuel for transportation also contribute large amounts. "Per capita emissions of black carbon from the United States and some European countries are still comparable to those from south Asia and East Asia," Ramanathan said.

In south Asia, pollution often forms a prevalent brownish haze that has been termed the "atmospheric brown cloud." Ramanathan's previous research has indicated that the warming effects of this smog appear to be accelerating the melt of Himalayan glaciers that provide billions of people throughout Asia with drinking water. In addition, the inhalation of smoke during indoor cooking has been linked to the deaths of an estimated 400,000 women and children in south and East Asia.

Elimination of black carbon, a contributor to global warming and a public health hazard, offers a nearly instant return on investment, the researchers said. Black carbon particles only remain airborne for weeks at most compared to carbon dioxide, which remains in the atmosphere for more than a century.

58. UN Body to Slash Ship Fuel Pollution By 2015

The world's top maritime body agreed tough new limits on ship fuel pollutants at a recent week-long meeting. The United Nations' International Maritime Organization (IMO) measures will sharply curb harmful sulfur emissions by 2015.

The UN agency had agreed to impose sulfur limits in special Sulfur Emission Control Areas (SECA) of 0.1 percent by 2015 from the current 1.5 percent. The tightening is needed to slash sulfur emissions in coastal areas, which SECA aim to protect, where they have proven to be a major health hazard in heavily populated areas.

Some two-thirds of the 50,000-strong world fleet's movements, that carry 90 percent of the world's traded goods, are in coastal areas.

There are currently only two SECA -- in the Baltic and North Sea. It is expected that SECAs will likely expand significantly to include coastlines in the European Union and North America, among others.

The regulations, a revision of existing marine pollution laws, broadly fall into two phases. The first will see cleaner burning distillate fuels substituted for sulfur-high fuel oils in SECA by 2015, followed by a gradual lowering of all sulfur content in fuels by 2020-2025. That means ships in the middle of the ocean will be able to burn fuels higher in sulfur content until 2020, when sulfur limits also fall heavily to 0.5 percent.

59. Diesel Fumes Can Affect Your Brain, Scientists Say

Inhaling diesel exhaust triggers a stress response in the brain that may have damaging long-term effects on brain function, Dutch researchers have found. Previous studies have found very small particles of soot, or nanoparticles, are able to travel from the nose and lodge in the brain. But this is the first time researchers have demonstrated a change in brain activity.

"We can only speculate what these effects may mean for the chronic exposure to air pollution encountered in busy cities where the levels of such soot particles can be very high," said lead researcher Paul Borm from Zuyd University. "It is conceivable that the long-term effects of exposure to traffic nanoparticles may interfere with normal brain function and information processing."

Borm and his team put 10 volunteers in a room filled with exhaust from a diesel engine for one hour and monitored their brain waves with an electroencephalograph (EEG). The level of fumes was similar to that found on a busy road or in a garage. After about 30 minutes, brain wave patterns displayed a stress response, suggesting changes in information processing in the brain cortex.

Further research is needed to determine the clinical effect of this stress and whether it has any long-term impact on verbal and non-verbal intelligence or memory abilities. Still, the result appears to be another black mark for nanoparticles found in traffic fumes, which have already been linked with increased rates of respiratory and cardiovascular disease.

The study was published in the journal Particle and Fibre Toxicology and is available online at http://www.particleandfibretoxicology.com/

60. Traffic-Related Outdoor Air Pollution and Respiratory Symptoms in Children

Two new studies have improved understanding of the relationship between traffic related air pollution and childhood respiratory symptoms.

a) The Impact of Adjustment for Exposure Measurement Error[2]

[2] Epidemiology. 19(3):409-416, May 2008, Van Roosbroeck, Sofie a; Li, Ruifeng b; Hoek, Gerard a; Lebret, Erik c; Brunekreef, Bert a,d; Spiegelman, Donna b,e

Outdoor concentrations of soot and nitrogen dioxide (NO2) outside of schools have been associated with children's respiratory and eye symptoms. Researchers have now assessed how adjustments for measurement error affect these associations.

Concentrations of air pollutants outside children's schools were validated by personal measurements of exposure to traffic-related air pollution. The researchers estimated prevalence ratios of 4 health outcomes (current wheeze, conjunctivitis, phlegm, and elevated total serum immunoglobulin E) using school outdoor measurements, and then adjusted for measurement error using the personal exposure data and applying a regression calibration method. The analysis adjusting for measurement error was carried out using a main study/external validation design.

Adjusting for measurement error produced effect estimates related to soot and NO2 that were 2 to 3 times higher than in the original study. The adjusted prevalence ratio for current phlegm was 5.3 (95% confidence interval = 1.2-23) for a 9.3 [mu] g/m3 increase in soot, and 3.8 (1.0-14), for a 17.6 [mu] g/m3 increase in NO2, compared with the original results of 2.2 (1.3-3.9) and 1.8 (1.1-2.8), respectively. Corrections were of similar magnitude for the prevalence of current wheeze, current conjunctivitis, and total elevated total immunoglobulin E.

The estimated effects of outdoor air pollution on respiratory and other health effects in children may be substantially attenuated when based on exposure measurements outside schools instead of personal exposure.

b) Childhood Respiratory Symptoms, Function and Allergies[3]

Urban air pollution can trigger asthma symptoms in children, but there is conflicting evidence on effects of long-term exposure on lung function, onset of airway disease and allergic sensitization.

The spatial distribution of nitrogen oxides from traffic (traffic-NOx) and inhalable particulate matter from traffic (traffic-PM10) in the study area was assessed with emission databases and dispersion modeling. Estimated levels were used to assign first-year exposure levels for children in a prospective birth cohort (n = 4089), by linking to geocoded home addresses. Parents in 4 Swedish municipalities provided questionnaire data on symptoms and exposures when the children were 2 months and 1, 2, and 4-year-old. At 4 years, 73% of the children underwent clinical examination including peak expiratory flow and specific IgE measurements.

Exposure to air pollution from traffic during the first year of life was associated with an excess risk of persistent wheezing (odds ratio [OR] for 44 [mu] g/m3 [5th-95th percentile] difference in traffic-NOx = 1.60; 95% confidence interval [CI] = 1.09-2.36). Similar results were found for sensitization (measured as specific IgE) to inhalant allergens, especially pollen (OR for traffic-NOx = 1.67; 95% CI = 1.10-2.53), at the age of 4 years. Traffic-related air pollution exposure during the first year of life was also associated with lower lung function at 4 years of age. Results were similar using traffic-NOx and traffic-PM10 as indicators.

[3] Epidemiology 19(3):401-408, May 2008, Nordling, Emma a; Berglind, Niklas a,b; Melen, Erik b,c,d; Emenius, Gunnel a; Hallberg, Jenny c,e; Nyberg, Fredrik b,f; Pershagen, Goran a,b; Svartengren, Magnus a,e; Wickman, Magnus a,b,c; Bellander, Tom a,b

Exposure to moderate levels of locally emitted air pollution from traffic early in life appears to influence the development of airway disease and sensitization in preschool children.

61. Air Pollution Affects Respiratory Health in Children with Asthma

A new study reports that inner-city children with asthma may be particularly vulnerable to air pollution at levels below current air quality standards.[4] The study analyzes the short-term effects of outdoor pollution levels on asthma symptoms and lung function in children. The study was supported by the National Institutes of Health (NIH) and the Environmental Protection Agency (EPA).

Using data collected from the NIAID Inner-City Asthma Study (ICAS), researchers examined 861 children with persistent asthma, aged 5 to 12 years, living in low-income areas in seven U.S. inner-city communities: Boston, the Bronx, Chicago, Dallas, New York City, Seattle and Tucson.

Over two years, the researchers regularly monitored the children's asthma symptoms, breathing function, and school absences, and obtained daily outdoor pollution measurements from the EPA's Aerometric Information Retrieval System. Every six months, they tested lung function twice daily over a two-week period. They also asked the children's parents for their observations of their children's symptoms.

Results revealed that children had significantly decreased lung function following exposure to higher concentrations of the air pollutants sulfur dioxide, airborne fine particles, and nitrogen dioxide. Higher nitrogen dioxide levels and higher levels of fine particles also were associated with school absences related to asthma, and higher nitrogen dioxide levels were associated with more asthma symptoms. Because nitrogen dioxide is derived mainly from motor vehicle exhaust, these data provide evidence that car emissions may be causing adverse respiratory health effects in these urban children who have asthma.

Previous studies have documented the adverse respiratory effects of very high levels of outdoor pollutants. However, this study involves a larger cohort of inner-city asthmatic children and a more comprehensive evaluation of respiratory health effects than prior studies of this type. The study's authors report that inner-city children with asthma experience adverse health effects from air pollutants even when air pollution levels are within the current air quality standards of the Environmental Protection Agency. These findings raise questions about the current air quality standards and suggest that part of overall asthma management for children living in inner cities may need to include efforts to reduce exposure to air pollutants.

The study was conducted by the Inner City Asthma Study Group (ICAS). ICAS was started in 1996 to examine environmental interventions in the management of asthma. During its 12-year history, ICAS has contributed to the understanding of childhood asthma and ways to minimize disease consequences. The study was funded by NIH's National Institute of Allergy and Infectious Diseases (NIAID), National Institute of Environmental Health Sciences (NIEHS), and National Center for Research Resources (NCRR); and by the United States Environmental Protection Agency.

[4] G O'Connor et al. Acute respiratory health effects of air pollution on asthmatic children in US inner cities. Journal of Allergy and Clinical Immunology (2008).

62. Airplane Operators Looking For A New Fuel.

The price of oil has surpassed $100 a barrel, flirting with a record high. Still, the soaring expense isn't curtailing global demand for commercial, general aviation, and military flights. So the search for alternative jet fuels is intensifying, and its progress will likely be propelled as several milestones are reached this year, ranging from researchers releasing a crucial analysis of alternative fuels' financial and environmental costs to aviation companies holding test flights to prove that some alternative fuels will work.

A recent demonstration run - by passenger carrier Virgin Atlantic Airways Ltd., in conjunction with aircraft manufacturer Boeing Co., engine maker GE-Aviation, and biofuels producer Imperium Renewables Inc. - was flown from London to Amsterdam. The Boeing 747's test flight, which carried only technical advisers who recorded flight data for further study, marked the first time a commercial aircraft ran on a blend of 80 percent conventional jet fuel mixed with 20 percent of a biofuel derived from babassu and coconut oils.

The search for new fuels has rumbled along quietly for more than half a century, but potential alternatives to petroleum have proven significantly more expensive to produce, pump, or use. Now, the sharply increasing economic incentive to embrace other fuels is coupled with mounting public concern over the depletion of natural resources and the emission of atmospheric pollutants that contribute to global warming.

The last time the price of oil hit $100 a barrel, in inflation-adjusted terms, was 1980. That quickly caused a flurry of interest in finding alternative energy sources - until the price plummeted in the mid-1980s and damped the investments and the will to see research projects through.

"In the past, the driver was just cost, finding something cheaper," said James Hileman, a Massachusetts Institute of Technology research engineer. "Now there's another driver: climate change." While aviation accounts for less than 3 percent of greenhouse gas emissions, it has attracted a large share of criticism for harming the environment.

This spring, Hileman and other researchers at MIT's Partnership for Air Transportation Noise and Emissions Reduction, or PARTNER, plan to release the results of their two-year analysis of the lifecycle costs and the environmental side effects of standard commercial aviation fuel, known as Jet A, and 10 potential alternatives. The report is also expected to outline the options for developing large amounts of alternative fuels within a decade.

The professor, three research engineers, and two students who are working on PARTNER's alternative fuels project - launched two years ago with $560,000 from the Federal Aviation Administration, NASA, and Transport Canada - are developing software so the FAA computer model that airport planners use to predict emissions can now account for the effects of alternative fuels. They include ultra low-sulfur Jet A, Jet A derived from Canadian tar sands, Jet A from Colorado oil shale, and soybean-oil "biojet."

PARTNER quantified the costs and environmental repercussions spanning each jet fuel's lifecycle - from harvesting the resource to producing it to transporting it to storing it to using it - and included local air quality, noise pollution, human exposure to hazardous materials, and global climate change.

Several companies are testing alternative jet fuels this year. In addition to the Boeing-Virgin Atlantic demo, the aircraft manufacturer is planning a flight with Air New Zealand using a Boeing 747 burning biofuel.

Airbus also experimented with an alternative fuel in its A380 aircraft during a three-hour flight between England and France on February 1st - staking its claim as the first to showcase a commercial aircraft powered by a synthetic liquid fuel processed from gas.

These demonstrations will give researchers more information on how effective each alternative fuel is and help determine whether these fuels or variations of them should be produced for commercial airliners.

63. U.N. Conference Could Set Binding Shipping Emission Caps, Minister Suggests

On February 18th, Danish Climate Minister Connie Hedegaard said the U.N. Climate Conference in Copenhagen in December 2009 (COP-15) could set mandatory caps for the shipping industry in addition to agreeing on a successor to the Kyoto Protocol. In an interview on the eve of a February 27th meeting that will bring International Maritime Organization (IMO) officials and other industry representatives to Copenhagen, Hedegaard said that the IMO should prepare for an imposed solution if it cannot agree on binding limits on carbon dioxide and other greenhouse gas emissions from ships, which are currently exempt from European Union and Kyoto Protocol caps.

Confirming that Denmark supports the EU position of giving the IMO until October 2008 to find a solution, Hedegaard said that she has not given up hope that the organization will reach a solution internally. "It would of course be preferable if the IMO could come up with its own binding limits," she said.

Denmark and its neighbors have been at the forefront of efforts to implement shipping emissions limits through organizations such as the North Sea Conference and HELCOM, the organization of the Helsinki Convention. However, since regional waters are regularly used by ships registered elsewhere, the effectiveness of such agreements is limited. "It is not enough to set limits on a national or even a European level," Hedegaard said. "We really need a global solution to this."

Hedegaard's comments come amidst increasing efforts by the EU and other bodies to persuade the IMO to accept compulsory carbon dioxide emissions caps--a move that is being resisted by some shipping companies who argue that a compulsory system is unworkable and could result in major hikes in operating costs.

IMO spokeswoman Natasha Brown said that the MEPC is "working to an agreed timetable to consider options to reduce greenhouse gas emissions from ships" and is in the process of identifying possible future reduction measures. It is also undertaking a cost-benefit analysis and environmental and public health assessments, she added.

The MEPC will also consider a number of proposals put forward by Norway in July 2007, designed to ease in a mandatory regime. The proposals include a pilot scheme for mandatory emissions and the establishment of a fund to allocate resources to emission-reduction projects and low-emission technology. Carbon dioxide credits, Norway has suggested, could be

purchased by shipping companies through project-based agreements like the Clean Development Mechanism (CDM).

Konrad Putz, an adviser for the environmental group Bellona, which advises the Norwegian government on environmental issues, said that the IMO should consider supplementing mandatory caps with a new global levy on shipping fuel. "Amongst the options are various quota systems and fuel taxes," he said. "Today, fuels used in international shipping are not taxed, and that leads to low fuel prices and reduced incentives to improve efficiency. It also leads to an increase in the use of heavy fuel oil, leading to increased emissions from shipping."

He continued: "An important principle when regulating shipping activities is to avoid measures that discriminate between flag states, since re-registration under new flags would be a fast and easy way to avoid measures. Regional or national rules therefore need to be applied on shipping activities in specified territorial waters."

However, Putz pointed out that international shipping is "notoriously difficult to monitor and control." Should such a tax become a reality, he said, companies would be forced to accept stricter monitoring measures.

Denmark aims to negotiate a successor to the Kyoto Treaty at COP-15, which will be the world's biggest climate change conference to date.

64. Business Group Calls for New Standards for Maritime Sector

On February 4th, the International Chamber of Commerce called on members of the International Maritime Organization to speed the pace of ongoing negotiations over tighter air pollution standards for the maritime transport sector. The Paris-based ICC said existing technology would allow IMO member states to implement stricter standards on vessel emissions of nitrogen oxides, sulfur oxides, and particulate matter than those included in an international agreement that went into effect in 2005.

Annex VI to the International Convention on the Prevention of Pollution from Ships--commonly referred to as MARPOL Annex VI--has been ratified by 47 countries, representing 75 percent of the world's large vessel tonnage. But the Annex VI emission standards are already out of date, the ICC said in a new position paper. "Even before Annex VI came into force, it became clear that technology developments, in particular concerning [nitrogen oxide] emissions, would enable emissions below the standards set in 1997," the ICC said.

ICC encouraged the International Maritime Organization to quickly complete ongoing revisions to emission standards in the agreement, and called on signatory nations to implement a regulatory standstill until IMO enacts the new standards.

ICC reminded governments of the need for measures to address greenhouse gas emissions from ships, and it welcomed IMO's decision to accelerate studies on the maritime transport sector's impact on climate change. It also expressed support for IMO plans to develop proposals for reducing carbon dioxide emissions from ships before the end of 2009.

The ICC Committee on Maritime Transport believes that marine emissions are a major international problem that requires an effective and efficient international solution. In 2005, the IMO began the process of considering stricter standards for the emission of nitrogen oxides (NOx) and reviewing technology options for possible reductions of sulfur oxides (SOx) and particulate

matter (PM) emissions. That process is currently in its final stages. During this process, however, some countries and regional bodies have taken steps which could lead to national or regional regulation of vessel air emissions. In this regard, ICC calls on the IMO to complete its current work early this year and to adopt new environmentally effective emission standards which will be acceptable to IMO Member States and which take due account of fuel availability considerations. At the same time, ICC urges those Member States to refrain from taking national, regional or local action on this important issue until the IMO adopts these new standards, which will likely be sufficiently strict to avoid the need for such action. Only through an effective **international** IMO regime can the maritime and port industries avoid a patchwork of vessel air emission regulations around the world, ICC argues. This would result in major operational problems, produce varying fuel standards and lead to considerably higher and unnecessary costs for all segments of the industry. The need for the development of global rules for reducing air pollution from ships is equally applicable to the development of measures to address greenhouse gas emissions from ships, particularly carbon dioxide (CO_2). ICC welcomes the decision of IMO to accelerate its updated study of greenhouse gas emissions by ships, and the announcement of its intention to develop proposals for reducing CO2 emissions by ships before the end of 2009.

65. U.N. Agency to Assess Risks From Biofuels Production, Food Availability

On February 8th, the U.N. Food and Agriculture Organization unveiled a new process it says will help assure that the use of bioenergy sources in poor countries will not hurt the capacity for farmers in those countries to produce food. The process--which FAO called an "analytical framework"--allows governments or multilateral organizations to calculate the impact that policy decisions related to biofuels will have on food security.

Bioenergy comes from burning agricultural or forestry waste for heating or cooking. It is the most common energy source in developing economies where liquid fuel and electricity are not available.

The analytical framework uses five steps to assess the impact of bioenergy on an economy: technical biomass potential, biomass production costs, the economic bio-energy potential, macroeconomic consequences, national and household-level impact, and consequences on food security. The process will be field tested in three countries--Peru, Tanzania, and Thailand--before being made available elsewhere.

66. UN's Pachauri Urges Caution in Biofuels Use

The world must take care when developing biofuels to avoid perverse environmental effects and higher food prices, according to Nobel Peace Prize winner and climate change scientist Rajendra Pachauri. Speaking at the European Parliament, he questioned whether the United States' policy of converting corn (maize) into ethanol for use as a transport fuel would reduce the emission of greenhouse gases blamed for global warming.

Controversy has grown over using food crops to make biofuels as an alternative to fossil fuels. Some environmentalists and politicians say it has raised food prices, distorted government budgets and led to deforestation in Southeast Asia and Brazil. "We should be very, very careful about coming up with biofuel solutions that have major impact on production of food grains and may have an implication for overall food security," Pachauri, chairman of the UN's Intergovernmental Panel on Climate Change, told a news conference.

"Questions do arise about what is being done in North America, for instance to convert corn into sugar then into biofuels, into ethanol," he said. "Several questions have arisen on even the emissions implication of that route, and the fact that this has clearly raised prices of corn," said Pachauri.

Pachauri, in Brussels for talks with European Union lawmakers, said it was crucial to look at other ways of producing biofuels, including investing strongly in research and development to convert cellulosic material into liquid fuels, as well as using agricultural residues.

EU leaders pledged last year to increase the proportion of biofuels used in petrol- and diesel-consuming land transport to 10 percent by 2020, but concern that this is pushing up food prices has led the bloc to say it may reconsider its strategy.

67. U.N. Says Melting of Glaciers Occurring at Record Pace

The world's glaciers are melting at a record pace, a clear indication of the impact of climate change on the environment, the United Nations Environment Program said on March 16th. UNEP said preliminary data collected and analyzed from 30 glaciers by the World Glacier Monitoring Service (WGMS) at the University of Zurich in Switzerland show that between the years 2004-2005 and 2005-2006, the average rate of glacial melting and thinning more than doubled. The service's work is supported by UNEP.

Estimates for 2006 indicate that further shrinking took place that is equivalent to around 1.4 meters of water compared to losses of a half meter in 2005, another indication that the rate of melting is increasing.

One meter of water equivalent corresponds on average to 1.1 meters in glacial ice thickness. The figures are based on measurements at 30 reference glaciers in nine mountain ranges in North and South America, Europe, and Asia.

UNEP Executive Director Achim Steiner noted that "millions if not billions of people" depend on these natural water storage facilities for drinking water, agriculture, industry, and power generation during key parts of the year.

"There are many canaries emerging in the climate change coal mine," Steiner said. "The glaciers are perhaps among those making the most noise and it is absolutely essential that everyone sits up and takes notice."

Some of the most dramatic glacial melting took place in Europe. Norway's Breidalblikkbrea Glacier thinned by close to 3.1 meters during 2006 compared to 0.3 meters in 2005. Other dramatic shrinking--between 1.2 and nearly 3 meters--was registered at glaciers in Austria, France, Italy, Spain, and Switzerland.

In contrast, a handful of glaciers in North and South America registered a slowdown in melting during 2006 or--in the case of Chile's Echaurren Norte Glacier--actually registered an increase in ice thickness.

68. Continental's Lithium-Ion Cell to Power Mercedes Hybrid

Mercedes-Benz will launch an S-Class hybrid next year equipped with a lithium-ion battery supplied by Continental AG in what Mercedes owner Daimler said was a crucial technological breakthrough.

Carmakers have been competing fiercely to be the first to market with a gasoline-electric hybrid powered by a lithium-ion battery, which can store more energy in less space but has been a safety concern after recalls involving overheating laptops that burst into flames.

"The Stuttgart-based automaker is the world's first manufacturer to have succeeded in adapting lithium-ion technology to the demanding requirements of automotive applications," it said in a statement. Daimler AG said the main advantages of the newly developed lithium-ion battery were its very compact dimensions and far superior performance relative to conventional nickel-metal hybrid batteries, such as those powering the Toyota Prius.

Conti also supplies an inverter to control the flow of energy between the electric motor and the hybrid battery as well as a voltage converter that links the hybrid battery to the car's standard electric system, eliminating the need for a conventional generator.

The S 400 BlueHYBRID is powered by a 299 horsepower engine that enables it to sprint from 0 to 100 km per hour in 7.3 seconds. It would consume on average 7.9 liters of gasoline per 100 km and emit 190 grams of carbon dioxide per kilometer, compared with 10.3 liters of gasoline and 247 grams of CO2 in a comparable conventional S-Class. Daimler said this would make it "the world's most economical luxury sedan -- unrivaled by any gasoline, diesel, or hybrid drive system offered by any competitor."

A spokesman for the company said the vehicle, which has not yet been priced, could possibly hit the market in the middle of next year.

Mercedes will launch a diesel hybrid using the same technology in 2010 that consumes on average 5.4 liters of fuel and emits 142 grams of CO2 per kilometer.

Should Mercedes be the first to go into large scale production of lithium-ion hybrids, Continental could gain an important edge over Korean battery maker LG Chem in the race to supply General Motors with battery packs for its Chevrolet Volt electric car due to come toward the end of 2010.

The battery pack Continental is developing for the Volt strings together cells that generate power using a nanophosphate chemistry while LG Chem will employ one based on manganese, both of which claim to be more chemically stable than the cobalt oxide lithium-ion batteries often used in consumer electronics.

69. Virgin to Use GM Fuel Cell Cars as Limos

Virgin Atlantic Airways will start using General Motors Corp zero- emission fuel cell cars as limousines for VIP passengers in the United States, the latest move by Virgin founder Richard Branson to present his airline as the greenest in the market. The scheme, unveiled by Branson and GM in New York, will put three of GM's Chevrolet Equinox hydrogen fuel cell cars into Virgin's limousine fleet in Los Angeles, ferrying its first class passengers to and from the airport. Three more are set to be introduced in New York later this year.

"Our mission to be the sustainable airline is clear, both on the ground and in the air," said Branson, introducing the scheme. Last month, Virgin made the first commercial airline flight partly using a biofuels mix made from oils of nuts and coconuts.

Billionaire Branson, whose Virgin Group spans airlines, a rail service, drinks, hotels and leisure, has committed to spending all the profits from his airline and rail business for the next 10 years on combating global warming by cutting carbon emissions.

GM, the largest US carmaker, has also been inching toward a greener profile with its new electric and fuel cell vehicles, which run on hydrogen and emit only water vapor. The company is currently testing 100 of its Chevrolet Equinox fuel-cell vehicles around the United States and is looking to get them in showrooms by 2012.

"GM sees this partnership as an important endorsement of our fuel cell and electric vehicle technology," said Larry Burns, GM's vice president of research and development.

70. Sea Salt Worsens Coastal Air Pollution

Air pollution in the world's busiest ports and shipping regions may be markedly worse than previously suspected, according to a new study showing that industrial and shipping pollution is exacerbated when it combines with sunshine and salty sea air. In a paper published in the journal Nature Geoscience, a team of researchers that included University of Calgary chemistry professor Hans Osthoff report that the disturbing phenomenon substantially raises the levels of ground-level ozone and other pollutants in coastal areas.[5]

A National Oceanic and Atmospheric Administration (NOAA) team spent six weeks monitoring air quality in busy shipping areas off the southeastern coast of the United States between Charleston, South Carolina and Houston, Texas, in the summer of 2006. The researchers found unexpectedly high levels of nitryl chloride (ClNO2), a chemical long suspected to be involved in ground-level ozone production along the coast. They then determined that the compound is efficiently produced at night by the reaction of the nitrogen oxide N2O5 in polluted air with chloride from sea salt. With the help of sunlight, the chemical then splits into radicals that accelerate production of ozone and, potentially, fine particulate matter, which are the main components of air pollution. Their findings also show that up to 30 per cent of the ground-level ozone present in seaside cities such as Houston may be the result of pollution mixing with salt from ocean mist.

71. Head of UN Climate Panel to Seek New Term

Rajendra Pachauri has announced that he will seek a new six-year term as head of the UN climate panel. Elected in a controversial vote in 2002, Pachauri has in the past said he was undecided about whether to seek a second term as chairman of the Intergovernmental Panel on Climate Change (IPCC) in a vote due later this year.

Pachauri has no clear rivals and UN officials believe that Pachauri, who is head of Tata Energy Research Institute (TERI) in New Delhi, is likely to win re-election after successfully guiding a giant 2007 IPCC report.

[5] "High levels of nitryl chloride in the polluted subtropical marine boundary layer", available in the April 6, 2008 advance online edition of the journal Nature Geoscience. The print version is scheduled to appear on May 1st, 2008.

Drawing on the work of 2,500 leading climate scientists, the IPCC said last year that it was "very likely", or at least 90 percent certain, that human activities led by burning fossil fuels were causing global warming. It said quick action to avert the worst effects -- such as more droughts, heat waves, melting glaciers and rising sea levels -- would not derail world economic growth.

Pachauri was elected as chair of the IPCC in a 76-49 vote in 2002, with the backing of developing nations and of US President George W. Bush, over the former IPCC head, British-born US scientist Robert Watson.

It has produced overview climate reports in 2007, 2001, 1995 and 1990. The conclusions are approved by scientists and by more than 130 member governments.

Spurred by the IPCC's warnings, governments agreed in Bali, Indonesia, in December to work out a new climate treaty by the end of 2009 to succeed the Kyoto Protocol. Kyoto binds all developed nations except the United States to curb emissions by 2012. Bush said Kyoto would cost too much and wrongly omitted targets for developing nations such as China and India.

72. Climate Expert Stern Says He Underestimated Problem

Climate change expert Nicholas Stern says he under-estimated the threat from global warming in a major report 18 months ago when he compared the economic risk to the Great Depression of the 1930s. The latest climate science shows global emissions of greenhouse gases rising faster and upsetting the climate more than previously thought, Stern said in a press interview.

For example, evidence is growing that the planet's oceans -- an important "sink" -- were increasingly saturated and couldn't absorb as much carbon dioxide (CO2) as previously, he said. "Emissions are growing much faster than we'd thought, the absorptive capacity of the planet is less than we'd thought, the risks of greenhouse gases are potentially bigger than more cautious estimates, and the speed of climate change seems to be faster," he said.

Policymakers, businesses and environmental pressure groups frequently cite the Stern Review as a blueprint for urgent climate action. The report predicted that, on current trends, average global temperatures will rise by 2-3 degrees centigrade in the next 50 years or so and could reduce global consumption per head by up to 20 percent, with the poorest nations feeling the most pain.

Some academics said he had over-played the costs of potential future damage from global warming at up to twenty times the cost of fighting the problem now, such as by replacing fossil fuels with more costly renewable power. Stern responded that increasing evidence of the threat from climate change had vindicated his report, published in October 2006. "People who said I was scaremongering were profoundly wrong," he told the climate change conference organized by industry information provider IHS.

A UN panel of scientists writes regular summaries on climate science and last year shared the Nobel Peace prize with former US vice president Al Gore for raising awareness.

The latest the Intergovernmental Panel on Climate Change (IPCC) report in 2007 had not taken detailed account of some dangerous threats, including the falling ability of the world's oceans to absorb CO2, because scientists had to be cautious and that evidence was just emerging, the former World Bank chief economist added.

Stern said that to minimize the risks of dangerous climate change global greenhouse gas emissions should halve by mid-century. He said the United States should cut its emissions by up to 90 percent by then.