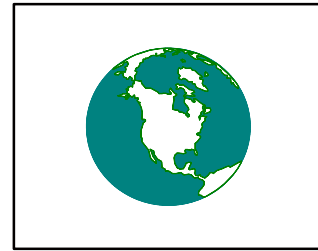


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EUROPE

1. Parliament Pushes Tougher Euro VI Limits and Deadlines

Proposed new EU limits on pollutant emissions from heavy duty vehicles should be tightened and brought forward by 18 months, according to German socialist rapporteur Matthias Groote, the MEP leading the European parliament's response to the Euro VI standards. He appears much more knowledgeable and comfortable with the issues than he was in dealing with the light duty Euro 5 proposal on which he was also the rapporteur.

Groote presented his draft amendments to last December's proposal from the European commission in the parliament's environment committee on May 27th. Further amendments are possible up to June 4th and a final committee vote is expected at the meeting on June 14-16. EU environment ministers will debate the plans separately in early June.

Mr. Groote wants a proposed October 2014 deadline by which new heavy vehicles must meet the Euro VI limits to be brought forward to April 2013. He described the new deadline as "technically feasible" as long as the European commission adopts associated technical measures by next April. Concerned about the potential negative impacts on CO₂, the UK seems inclined to resist this.

He also proposes cutting the proposed limit of 10 milligrams per kilowatt hour (mg/kWh) on fine particle emissions to 5 mg/kWh.

Other changes proposed by him include the mandatory use of portable emissions measurement systems in vehicles to assure that emissions in real driving conditions are not substantially different from those recorded in laboratory test-cycles.

Mr. Groote also wants the commission to extend plans to cut carbon dioxide emissions from new cars to heavy goods vehicles "if appropriate", and to table EU rules on retrofitting existing vehicles with diesel particle filters. (An IEA workshop in mid 2007 concluded that heavy duty vehicle fuel economy rules are both feasible and necessary.)

Some observers expect that the early entry into force in 2013 will stay, and will be compromised against the 5 mg/kWh. There are also indications that a 1st reading agreement will be sought. It looks highly possible to have the regulation agreed in the parliament in September 2008.

2. New Greek Plan Would Tax Motorists Driving High-Emission Vehicles

On May 13th, Greece announced a new national plan for combating air pollution, which will penalize motorists driving cars producing high levels of carbon dioxide with heavier taxes and restricted access to city centers. Under Greece's new "National Plan for Combating Air Pollution," vehicles will be subject to a new system that calculates a road tax depending on the level of pollution the vehicle inflicts on the environment, rather than engine capacity, as is currently the case.

Environment Minister Giorgos Souflias said the measures, intended to reduce air pollution based on the "polluter pays" principle, will be implemented early next year.

Cars will be categorized into four categories, from alpha to delta, based on the amount of emissions produced, with alpha indicating zero or low emissions and delta indicating high pollution levels. Owners of alpha vehicles--with no or low emissions--will not have to pay a road tax, while those with vehicles in the next three categories will have to pay increasingly higher tax rate, made once each year.

Motorists with vehicles in beta, gamma, and delta categories also will receive color coded tax disks to display on their cars, and will be required to produce their exhaust emissions control cards during regular police checks.

The category of each vehicle also will determine its frequency of access into city centers across the country. Alpha-category cars will have full access to city centers, while delta-class cars will only be admitted on weekends. Taxis will be excluded from the scheme.

The environment minister said the national plan also promotes the gradual removal from the road of older vehicles, including those without catalytic converters, with drivers given financial incentives to switch to more environmentally friendly cars. The average car on the road in Greece is 12 years old, compared to an average age of seven years for vehicles in the European Union as a whole.

The move by the Greek Environmental, Physical Planning, and Public Works Ministry comes two weeks after the United Nations suspended Greece from the emissions trading mechanisms allowed under the Kyoto Protocol for allegedly violating greenhouse gas reporting rules. Greece is the only party to the Kyoto Protocol to have faced such a sanction. On April 22, the United Nations give Greece three months to come up with a reliable way of testing its pollution levels.

As the Greek government comes under growing international pressure over its environmental policies, the government said on May 9th that it plans to set up a separate environment ministry in the next 18 months. Greece currently has a joint Environmental, Physical Planning, and Public Works ministry, which has been criticized for placing greater emphasis on public works over environmental policy. The government hopes that a separate environment ministry will help improve its poor green record.

3. EU Approves Organization to Boost Development of Advanced Technologies

On May 20th, the European Parliament approved the establishment of a research organization tasked with accelerating European development of fuel cells and hydrogen fuel technologies. Lawmakers underscored the urgency of developing ways of reducing the European Union's greenhouse emissions as well as its reliance on imported hydrocarbon fuels.

The plan envisages that the European Union, industry, and EU member states will pool financial resources and will coordinate research effort through a freestanding, independent body based in Brussels. The new body, the European Fuel Cells and Hydrogen Joint Undertaking (FCH Joint Undertaking), will receive at least [Euros] 470 million (\$735 million) from the European Union over six years. Industry will commit matching funding, and further contributions are envisaged from bodies including universities and national research centers in the 27 EU member states.

Research Commissioner Janez Potocnik said that the founding industrial partners in the FCH represent "a major share of Europe's fuel cell and hydrogen companies, such as car manufacturers, energy providers, developers of fuel cells and developers of their applications."

The commissioner cited an estimate that the project would speed up by five years "the delivery of robust hydrogen supply and fuel cell technologies, developed to the point of commercial take-off within the time frame 2010-2020."

4. EU Commission Outlines Tire Proposals to Reduce Vehicle Carbon Emissions

Carbon dioxide output from cars could be reduced by 5.5 percent as a consequence of mandatory introduction of low rolling resistance tires and tire pressure monitoring systems, the European Commission said on May 23rd. This could eliminate seven grams of carbon dioxide per kilometer (g/km) from the average vehicle's exhaust, contributing to an overall EU target of 120 g/km by 2012, the Commission added.

The plans to require manufacturers to fit low rolling resistance tires (LRRT) and tire pressure monitoring systems (TPMS) on their vehicles were contained in a Commission proposal that also sets out other mandatory modifications as part of a drive to improve vehicle safety.

5. EU Parliament Says Scientific Evidence Supports Urgent Action on Climate

On May 21st, the European Parliament endorsed a report from its climate change panel that warns of "serious damage" to the planet if measures are not taken quickly to combat global warming. The report from the Temporary Committee on Climate Change, an interim document in which the panel studied scientific evidence on climate change, was backed by a vote of 566-61.

Citing conclusions reached in November 2007 by the U.N. Intergovernmental Panel on Climate Change, the parliamentary report argued that "more ambitious" emission-reduction strategies are needed and that future European Union policies should be predicated on limiting the global temperature increase to "well below" the current EU target of 2 degrees Celsius.

German lawmaker Karl-Heinz Florenz, the author of the report, said: "It's clear that there is now a consensus in the scientific community about the scale of the problem--and its anthropogenic causes. We simply can't allow a temperature increase of more than 2 degrees."

As approved by the Parliament's General Assembly, the report differs only slightly from a final draft agreed to by the panel April 1. While sharing the panel's criticisms of "scientifically unsubstantiated efforts" to discredit studies on the effects and causes of climate change, the Parliament modified the text so that the science of climate change is regarded as "sufficiently" settled.

Further amendments echoed complaints by the Parliament's Fisheries Committee that the panel report had understated threats to the world's oceans from global warming. The final text speaks of "dramatic impacts and severe threats to marine ecosystems, resources, and the fishing community." These would exacerbate emerging problems in meeting world demand for food, especially if climate change also affects land-based production, lawmakers said.

Approval of the report clears the way for the panel to spend the rest of 2008 framing proposals as to how the European Union should respond through legislation and action programs. The panel aims to agree to final recommendations on new legislation and other actions in December for consideration by the full Parliament in January or February 2009.

The process will run in parallel with work by Environment Commissioner Stavros Dimas, who told the Parliament in April that he plans to publish a raft of proposals in October. The Dimas proposals will focus on "adaptation" of current policies in order to meet targets likely to be faced by the European Union in the event that parties to the U.N. Framework Convention on Climate Change can agree to a new climate treaty to succeed the Kyoto Protocol.

The Parliament's report voices hope that parties to the U.N. climate change convention will agree to a "comprehensive regime" when they meet in Copenhagen in December 2009.

6. EU Green Biofuels Criteria Move a Step Closer

A special working group created by the EU's council of ministers to draw up sustainability criteria for biofuels production has delivered final draft criteria. The criteria will be used to decide which biofuels can count towards the EU's target of a ten per cent market share in road transport fuels by 2020. Once finalized, they will be inserted into two separate draft EU laws on fuel quality and renewable energy before being presented to ministers for approval.

Reportedly, governments accepted the working group's recommendation that the minimum level of carbon dioxide savings that biofuels must yield should be set in two stages - an initial savings threshold of 35 per cent, rising to 50 per cent from 2015. Most member states support the 35 per cent figure, with only the UK, Denmark and the Netherlands arguing it should be higher. But countries are split over the second figure. Several say it is too high, others say it is too low, and a large bloc of countries says it should be set later.

Governments also have yet to decide on the final wording of a series of environmental and social criteria that biofuels imported into the EU would have to meet. The working party says environmental criteria should be legally binding, with imports accepted only from countries that have ratified and implemented international treaties such as the Kyoto protocol. But the proposed social criteria for biofuels production should be non-binding. The European commission would report every two years on impacts on food prices and land use rights, and on whether exporting countries had ratified international labor conventions. A significant bloc of countries including Germany, France, Italy and the UK argues that biofuels producers and importers should be obliged to report such information.

Further outstanding issues include defining a methodology to calculate carbon dioxide savings from biofuels and defining "highly biodiverse forests".

7. U.K. Should Suspend Biofuels Policy Until Safeguards in Place, Audit Report Says

The United Kingdom should rein in policies to promote biofuels until more is known about their long-term impact on the environment, the House of Commons Environmental Audit Committee (EAC) said on May 2nd. "Without standards for sustainability and safeguards to protect carbon sinks [sources,] we believe policies that encourage demand for first generation biofuels are damaging," said the EAC, which is composed of select members of Parliament who consider the impact of government policies on environmental protection and sustainable development.

Similar concerns about the environmental impact of biofuels have been voiced by organizations including the International Monetary Fund and the European Environment Agency. Green groups also have cited biofuels' contribution to the increase in food price and to deforestation in developing parts of the world.

On April 15th, the U.K. launched its Renewable Transport Fuel Obligation, requiring vehicle fuel suppliers to ensure that 2.5 percent of the product they sell is blended with either bioethanol made from sugars and starches, or biodiesel made from plants like rapeseed, soy, or palm oil. This proportion is set to rise to 5 percent by 2010.

In its report, the EAC disagreed with the government's claim that targets for biofuels have been set at an "appropriately cautious level." While the United Kingdom theoretically has the capacity to produce enough sustainable biofuels to meet the current 2.5 percent target, the ultimate source of biofuels is uncertain, the report said.

In addition, the government plans to raise this initial target to 5 percent, which means it will exceed the theoretical capacity of the United Kingdom to supply sustainable biofuels, the report said, adding that the country currently only has the capacity to produce enough fuel to meet the 2.5 percent target in a sustainable manner. For the United Kingdom to meet the full 5 percent target without using imports, it would require cultivating between 10 percent and 45 percent of the country's arable land area for biofuels. This could have a negative impact on land use and food prices, the report said.

Although the committee agreed with the government that "robust measures to reduce emissions are needed," it questioned official estimates that the use of biofuels would deliver 5.5 percent to 6.5 percent of the expected emissions reductions in 2010. The government's estimates fail to take into account the emissions generated from the production of biofuels produced abroad on which the United Kingdom would have to rely to meet the 5 percent target, the report said. This means the actual emissions reductions could be around a third less and could also lead to increases in greenhouse gas emissions from land use change.

8. EEA Finds EU Ozone Levels in 2007 at Lowest Level in Last Decade

Ground-level ozone pollution in the European Union during the summer of 2007 was at its lowest level in 10 years, according to the European Environment Agency (EEA). Despite the decrease, however, long-term target thresholds for ozone levels set out in the European Union's 2002 Directive on Ozone in Ambient Air were "extensively exceeded" between April and September 2007.

Ozone levels in the air above an "alert threshold" of 240 micrometers per cubic meter were recorded on 96 occasions across 12 countries of central and southern Europe, the agency said. The alert threshold is the level at which ozone pollution is considered to be dangerous to human health for the general population. Countries affected were Austria, the Czech Republic, France, Germany, Greece, Hungary, Italy, Portugal, Romania, the Slovak Republic, Slovenia, and Spain, with the highest single reading of 479 micrometers per cubic meter taken on the Italian island of Sicily.

The EEA added, however, that the number of exceedances of the lower "information threshold" of 180 micrometers per cubic meter--a level considered dangerous to vulnerable groups in the population--was the lowest in the last decade, with no recorded exceedances of the threshold in any northern European country. The report defines an exceedance as a one-hour period in which the level of ozone stays above a certain limit.

Targets for reducing ground-level ozone in the European Union are governed by the Directive on Ozone in Ambient Air, which sets a limit on air ozone levels--to be attained by 2010--of 120

micrometers per cubic meter, not to be exceeded on more than 25 days annually averaged over three years.

As well as a reduction in exceedances of the information threshold, "the spatial extent of the observed exceedances was less extensive than in previous years," the EEA report said.

9. EU Greenhouse Gas Emissions in 2006 Close to Kyoto Target

On June 18th, the European Commission said greenhouse gas emissions in the 27 European Union member states fell by 0.3 percent in 2006 compared to the previous year, confirming emissions data published in April by the European Environment Agency. Overall emissions in 2006 were 7.7 percent below 1990 levels according to the figures, compared to the EU target under the Kyoto Protocol of an 8 percent cut to be achieved in the 2008-2012 period.

However, the eastern and central European countries that joined the European Union in 2004 and 2007 showed a trend of rising emissions, following dramatic emissions cuts in the early 1990s.

Emissions in the more developed EU-15 countries (the original 15 member countries to the European Union) fell 0.8 percent in 2006 compared to 2005.

10. Revised EU Air Quality Directive Enters Force

New EU rules on air quality have entered into force following publication in the bloc's official journal. Member states had formally approved the new restrictions in April. The revised air quality directive sets first-ever limits on fine particulate matter (PM2.5); air quality may not exceed 25 ug/m³ by 2015. It also allows EU states to delay implementation of existing concentration limits for large particulate matter (PM10), nitrogen dioxide and benzene. The directive must be transposed into national law by June 2010.

11. Spain Announces Subsidies to Encourage Purchase of New Cars

Spain's industry minister announced on June 4th that the government will subsidize the replacement of older cars with new ones that meet stricter carbon dioxide emissions levels. Miguel Sebastián, minister of industry, tourism and commerce, told Parliament that within 45 days the government will launch its VIVE ("Innovative Vehicle-Ecological Vehicle") Plan to subsidize the purchase of vehicles emitting less than 120 grams of carbon dioxide per kilometer.

According to Sebastián, the two-year program will help fulfill government emissions-reduction goals by dismantling polluting vehicles that are more than 15 years old; it also will shore up consumer demand in the face of declining car sales, the minister said.

12. Spain Seeks Greater Use of CDM Credits Post-2012

Spain is seeking more leeway to use carbon credits from the Kyoto protocol's flexible mechanisms after the protocol expires in 2012, newly-appointed minister for climate change Teresa Ribera Rodríguez told the press. Spain has stressed its need to resort to carbon markets to meet its climate target for 2020.

The European commission's proposed greenhouse gas reduction target to be achieved by Spain by 2020 - a 10 per cent cut relative to 2005 levels - is "very ambitious", Ms Ribera

Rodriguez said. Spain should be allowed to go beyond the proposed three per cent limit on credits such as CDMs "without departing from the spirit of the commission's proposals", she said.

Energy consumption figures show Spain has "turned a corner" regarding the energy intensity of its economy," the minister said but this is not sufficient and the government will have to launch new emission reduction measures if Spain is to achieve its Kyoto target.

Spain's transport sector emissions have risen by almost 100 per cent since 1990 in parallel with an on-going EU-funded expansion of the motorway network. Emission reduction efforts in this area will focus on urban transport which accounts for half of carbon emissions, Ms Ribera Rodriguez said.

13. French-German Agreement Creates Uncertainty over Emissions Targets

Berlin and Paris have agreed on a proposal that relaxes carbon dioxide emission targets for cars. German manufacturers welcomed the compromise. German cars are among the most powerful models produced in Europe, and auto manufacturers argued they would be penalized more than competitors in countries like France and Italy that produce a larger number of small vehicles.

France and Germany worked for months to reach a compromise that would be acceptable to all 27 EU members and the result was a relaxed version of the EU plan. The fundamental goal remained the same, with the 120-gramme target to be reached through concerted efforts by automakers. They will be expected to make engines that emitted no more than 130 grams, and 10 grams that were to be eliminated mainly through the use of cleaner fuels.

But under the Franco-German proposal, the auto industry would have until 2015 to reach the targets for models that are already in production, compared with 2012 across the board in the EU Commission's plan. It also stipulates that they could obtain a slight additional margin above 130 grams if they introduced certified "eco-innovations" elsewhere in the vehicle such as more environmentally friendly tires or seven-speed transmissions that would augment fuel economy.

An EU system of fines for vehicles that exceeded established CO2 limits might also be relaxed, though details of possible modifications were not provided.

Ecologists reacted with anger to the proposed compromises. Merkel "has once again signed off on all of the German auto manufacturers' propositions," one of the chief whips of the Green party, Renate Kuenast, was quoted by German media as saying. The Franco-German agreement "meant nothing good for climate protection," she added.

Details of the project, which would need the approval of the other 25 EU states, were to be released in the coming weeks.

It seems increasingly unlikely that overall agreement will be reached this year.

14. MEPs Call for Greater CO2 Savings from Biofuels

Members of the European parliament's environment committee have given strong backing to demands for biofuels to deliver life-cycle emissions savings of 50 per cent compared with fossil fuels in order to count towards an EU consumption target. The committee is leading the

assembly's debate on EU biofuels sustainability criteria that will be added to revised laws on renewable energy and fuel quality.

At a debate, rapporteur Anders Wijkman won broad support for the carbon saving threshold to be raised from the European commission's proposed 35 per cent. Under his plan, fuel-producing installations established before January 2008 would have to meet the 50 per cent threshold by 2015. Those established after this date would have to meet the target immediately.

Dutch socialist MEP Dorette Corbey backed the higher carbon saving target, and even suggested a further increase to 60 per cent from 2020. But it "would not be reasonable" to ask for 50 per cent immediately, she said, proposing 35 per cent as an initial target. Mr. Wijkman said he "could be open to such a two-pronged approach".

EU governments have agreed in principle on a two-stage approach, starting at 35 per cent. But they are split on where and when to set the second-stage target. German centre-right MEP Anja Weisgerber suggested an initial 35 per cent threshold, increasing by two percentage points each year.

Ms Corbey also supported Mr. Wijkman's proposal to reduce the EU biofuels consumption target to eight per cent by 2020. The rapporteur says this move is a necessary consequence of raising the emission saving threshold and also important to send a message that "we are not going to pursue biofuels at any cost".

There was also wide support for Mr. Wijkman's proposed goal of eliminating all greenhouse gas emissions from fossil fuel use by 2050.

Paul Hodson of the European commission criticized Mr. Wijkman's proposal to include the impacts of indirect land use change when calculating emissions from biofuels. If combined with 50 per cent saving threshold, this would mean only Brazilian sugar-cane ethanol and biodiesel from waste vegetable or animal oil would count towards the EU target.

15. EU Environment Agency Chief Wants More Environmental Monitoring Data

European environment agency head Jacqueline McGlade has voiced frustration at the lack of up-to-date environmental monitoring data in the EU. Ms McGlade told MEPs that several EU states are doing "the minimum possible in the face of budget constraints". Governments should be forced to do more monitoring, she said.

Ms McGlade was addressing the European parliament's environment committee. When asked whether she thought the agency should be given greater power to reprimand countries for environmental failings, Ms McGlade said that it was "hard to wag the finger without the data to back it up".

She stressed the importance of agreeing proposals to overhaul the EU's system of environmental reporting. "Estimates have shown that a one per cent improvement in environmental forecasting at a cost of around fifty million Euros can save between six and ten billion in losses", Ms McGlade added.

16. Russia Reorganizes Natural Resources Ministry

Russia has moved to improve the institutional framework of federal agencies with environmental oversight powers. On May 12th, President Medvedev signed Decree No. 724, regarding the structure of the Federal Government. Article 7 of the Decree renamed the Natural Resources Ministry, changing it to the Natural Resources and Environment Ministry. Under the decree, the new ministry gains control over two formerly independent government agencies: the technical oversight agency Rostekhnadzor and the meteorological agency Rosgidromet.

It also appears that Russia has finalized its clean fuels roadmap and has introduced incentives for the purchase of Euro 4 and Euro 5 fuels.

17. French Carmakers Lower Carbon Output of Passenger Vehicles

About half of the 1 million passenger cars sold in France in 2007 emitted less than 140 grams of carbon dioxide per kilometer, for an average 149g/km for all cars sold in the country, putting France in third place in Europe that year, according to a report released on May 13th by the French Environment and Energy Management Agency (ADEME). The average carbon dioxide output for all passenger cars in use in France is 160g/km, ADEME said. Reducing that by about 20 percent, to 130g/km, would cut France's annual carbon dioxide emissions by 14 metric tons, it said.

ADEME said manufacturers in 2008 are offering 207 models that emit less than 120g/km, 50 percent more models than in 2007. Manufacturers also offer three diesel vehicles equipped with particle filters that emit under 100g/km, the agency said.

Since May 2006, all cars sold in France must be labeled with an energy efficiency rating from A to G. An "A" rating indicates the vehicles emits less than 100g/CO₂/km, while a G rating means it puts out more than 250g/CO₂/km. Vehicles with a "C" rating were the most purchased cars in France in 2007, making up 30 percent of total sales. Class D vehicles, the most purchased class in 2006, have lost 13 percent of market share in the last six years. Classes E, F, and G accounted for less than a quarter of sales in 2007, down 8 percent in six years, ADEME said.

In 2007, France's Minister of Ecology, Energy, Sustainable Development and Territorial Planning Jean-Louis Borloo introduced a carrot-and-stick approach for new vehicles. The so-called bonus-malus system, which went into effect on January 1, 2008, rewards consumers who purchase cleaner cars, while penalizing those who purchase more polluting vehicles. For example, the purchaser of a car emitting from 61 to 100g/CO₂/km would benefit from a [Euros]1,000 (\$1,500) credit, but one buying a vehicle that emits more than 250g/CO₂/km would have to pay a [Euros]250 (\$390) "malus" charge.

18. British Climate Change Chief Optimistic

Adair Turner, the head of Britain's new Climate Change Committee, sees some tough times ahead guiding the government towards its carbon reduction goals but says he is quietly confident of success. The committee that will become a legal entity when the Climate Change Bill becomes law later this year will have to decide what cuts should be achieved by 2050, set five-year carbon budgets and monitor government progress annually.

"A lot of the progress we have made in reducing carbon dioxide emissions so far has been down to circumstances -- the end of the de-industrialization of Britain in 1990 and the dash for gas replacing coal in power generation," he said. "Now the difficult stuff starts and we no longer

have those factors in our favor," the businessman and academic added in an interview. "But it can be done. I would describe my position as one of optimistic rationality."

The Climate Change Bill sets a target of cutting Britain's carbon dioxide emissions by 26-32 percent by 2020 and at least 60 percent by 2050. It is the first time any government will have set itself such legally-binding targets. But Turner's committee has been asked by the government to decide in December whether that end target should be raised to the 80 percent many environmentalists have been pushing for.

"Whatever we decide it should be -- 70, 80 or even 90 percent -- is not the problem. I am confident that by 2050 we can have decarbonized electricity generation, and that is crucial," the non-executive director of Standard Chartered Bank said. "What is much more difficult is what you do in the medium term. What should you aim for in 2020 or 2030? There is a very strong argument for really stretching medium-term targets. We have to see what policy levers are available."

When setting the carbon budgets Turner said his committee of scientists, technologists and economists would look at economic growth forecasts then add technological factors and investment lead times, taking account of the need to front load action.

Turner said promoting energy efficiency and getting the carbon out of electricity through renewables, nuclear power and carbon capture and storage -- grabbing and storing the emissions from fossil-fuelled power stations -- should be relatively easy. Transport, on the other hand was much trickier. Road transport, he said, might cut carbon emissions by improved engine performance driven at least in part by regulations and in part by different fuels and even electrification. What was needed there were long term policy frameworks that would survive both economic and political change and give manufacturers clear indicators to push their research and development.

Air transport, on the other hand, was a much harder nut to crack not just because of the personal choice it involved but the fact that it was growing so fast globally that it would become one of the chief causes of carbon-induced climate change. "Bringing it into the EU's Emissions Trading Scheme is step one. But it is an area where so far at least there is no obvious technological fix," Turner said.

19. U.S., Europe at Odds Over EU Airlines Plan; EU Goes Ahead Anyway

European and U.S. officials remain at odds over a European Commission proposal to tax carbon emissions on flights into, within, and originating in its airspace. At a U.S. House Transportation and Infrastructure Aviation Subcommittee hearing, members of the subcommittee clashed with John Bruton, the European Commission's ambassador to the United States, during a briefing on the European Union's plans to curb airline emissions.

Although U.S. officials favor creating a global emissions reduction program through the International Civil Aviation Organization, EU member countries have agreed to limit carbon emissions from all flights into, out of, and within those nations beginning in 2012 unless a global agreement can be reached. Countries such as the United Kingdom and the Netherlands also have proposed taxes on airline fuel consumption for all flights in their airspace. U.S. officials called the EU plans illegal under international treaties because they tax fuel consumed for the duration of the flight and not just within a levying country's airspace. Europe has proposed to

use the revenues to upgrade its air traffic control system, which would allow it to curb aircraft emissions by minimizing delays and hold times.

U.S. Rep. Peter DeFazio (D-Ore.) said Europe would instigate a "trade war" if it unilaterally pushed carbon taxes and extension of an emissions cap-and-trade scheme to flights in EU airspace. Daniel Elwell, assistant administrator for aviation policy, planning, and the environment with the Federal Aviation Administration, said the "unilateral nature of [the tax] is unacceptable to the United States."

Airlines account for 3 percent of total greenhouse gas emissions, National Oceanic and Atmospheric Administration research physicist David Fahey told the subcommittee. According to Fahey, the effects of airline emissions, which are emitted directly into the upper atmosphere, could be more significant proportionally than surface emissions. Additional study is needed to fill in the "uncertainties and knowledge gaps," he said.

However, the FAA and the airline industry touted the gains already made by the aviation sector. According to the FAA, airline fuel efficiency has increased 70 percent in the past 40 years with the aviation industry pledging to reduce fuel consumption by another 30 percent by 2025. Fuel currently accounts for 40 percent of aviation costs, providing a clear incentive for the industry to make fuel economy gains, according to the agency.

A deal to include aviation emissions in the European Union's Emissions Trading Scheme (ETS) could be concluded this summer, aided by likely fading of U.S. opposition in the last days of the Bush administration, according to the lawmaker in charge of the dossier in the European Parliament, German center-right lawmaker Peter Liese. Liese said that the threat of retaliatory action by the United States against the EU proposal to include in the ETS all international flights entering and departing the European Union is receding because of the forthcoming presidential election. "Times have changed" with the end of the Bush administration in sight, Liese said. Whoever forms the next U.S. administration, he or she "will work with Europe much more intensively and will establish a cap-and-trade scheme in the U.S., and this will cover aviation," Liese said.

In fact, Mr. Liese was proven correct as the European Union has reached an agreement requiring airlines arriving or leaving EU airports to buy pollution credits to offset aircraft emissions. The requirement, which is to take effect in 2012, will include non-European carriers.

20. Aircraft Improvements in Germany "Insignificant Until 2045"

Improvements in aircraft efficiency will not dramatically affect the all-round environmental performance of the German air fleet until after 2045, according to a new study for the German environment ministry. The study analyses aircraft industry goals to halve aircraft fuel consumption and noise emissions and cut nitrogen dioxide (NO₂) emissions by 80 per cent, all by 2020. It concludes that although more efficient engine features are now available, improvements beyond 10 per cent are not in sight.

Fuel efficiency goals cannot be achieved simultaneously with improvements in NO₂ and aircraft noise emissions, due to weight and engine efficiency conflicts, it says. New, more efficient planes now going into service would not be a major part of fleets until 2017, researchers found.

21. Power Plant Pollution "Could Be Cut Considerably"

Air pollution from large combustion plants (LCPs) such as power stations could be reduced to levels "considerably lower" than at present, according to a report published by the European environment agency. The report shows that applying best available techniques (BAT) and associated emission levels specified in EU industrial pollution guidance for the sector could reduce emissions of nitrogen oxides and sulfur dioxide in Europe by up to 87 and 97 per cent respectively.

The figures are based on EU emission data for 2004. Applying less demanding BAT emission levels to large combustion plants would still deliver significant reductions, cutting emissions to levels much lower than those achieved even by full compliance with binding limits in the 2001 LCP directive. Existing plants had until January 2008 to meet these limits.

BAT emission levels for NO_x and SO_x are much stricter than limits set in the LCP directive. The European commission wants to bring LCP limits in line with the tougher BAT limits as part of a major revision of the EU's 1996 integrated pollution prevention and control (IPPC) directive.

The electricity industry is opposed to the proposals. It says making BAT values for LCPs more binding is "contrary to the context in which they were drawn up" and would have "severe impacts" on the sector and "may jeopardize supply security".

The commission insists the LCP sector must make additional cuts if the EU is to achieve objectives in the Cafe thematic strategy on air pollution. The EEA report backs up this argument by highlighting the large potential for cutting air pollution.

German liberal MEP Holger Kraemer, who is leading European parliament discussions on the revised directive, said that guidance on BAT should become more firmly established throughout the EU. The environment committee vote is expected in early November.

NORTH AMERICA

22. California to Force Cleaner Trucks with New Regulations

California regulators have proposed sweeping new rules that would force the trucking industry to retrofit and replace dirty diesel trucks and buses. The state Air Resources Board's draft regulation targets 300,000 diesel trucks and buses operating in California as part of a campaign to cut diesel particulate emissions. The rule, to be finalized later this year, would make truckers retrofit pre-2007 models with soot filters and gradually replace all trucks with newer models beginning in 2012.

An analysis by ARB found the regulation would cost the trucking industry as much as \$5.5 billion to comply between 2010 and 2021. The state is also likely to allocate \$1 billion from a transportation bond to aid the transition.

ARB says the rule would prevent 11,000 premature deaths associated with exposure to diesel exhaust. "While we are sensitive to the economic impacts this measure poses to truckers, the public health benefits are far too great not to move forward," ARB Chairwoman Mary Nichols said in a statement.

A study released last month by ARB found that the risk of getting cancer from breathing polluted air in California's biggest port cities -- West Oakland and Long Beach -- is well beyond the

national average. In Oakland, ARB says 1,200 people out of 1 million will develop cancer due to exposure to diesel particulate matter from trucks and marine vessels; in Long Beach, the threat is 2,900 per million.

23. Pollution Costs California \$70 Billion and Thousands of Lives Each Year

Up to 24,000 deaths a year among Californians are linked to air pollution, new research finds. That is triple the previous estimate and may be shaving off up to 10 years of life of state residents. Those revealing numbers come from a California Air Resources Board draft report on premature deaths associated with dangerous air particles.



Based on 60 studies worldwide, “Our report concludes these particles are 70 percent more dangerous than previously thought, based on several major studies that have occurred in the last five years,” says Bart Croes, chief researcher for the board. The cost in premature death and illnesses is estimated to be \$70 billion a year in California.

Microscopic air pollution comes from power plants, cars, trucks and wood burning. The microscopic particles can sink deeply into the lungs where they do their damage. The particles can be as small as one-thirtieth the width of a strand of hair. Heart attacks, strokes and other diseases are increasing as the amount of particulate matter in the air increases.

The studies include one from the University of Southern California which tracked 23,000 people in Los Angeles. Another study by the American Cancer Society monitored the health of 300,000 across the country. Both found that heart attack rates and strokes as well as the number of hospitalizations, emergency visits and missed school days increased in the presence of higher amounts of particles of metal or dust.



Most of the premature deaths occur in areas around the San Francisco Bay, Los Angeles and the San Joaquin Valley.

California average small particle concentration is about 14 micrograms per cubic meter of air.

The good news is even if the levels of pollution are cut temporarily, the reduction death rates are immediate. Researchers note that is what happened in Dublin,

Ireland when it imposed a coal ban and in Hong Kong when it reduced sulfur dioxide.

California lawmakers are working on reducing the maximum permissible levels of soot, which at 12 micrograms of soot per cubic meter, is the lowest in the nation. The federal standard is 15.

California has made improvements in particulate pollution since the late '80s when levels were around 25 micrograms per cubic meter. Since the official year-round monitoring of PM_{2.5} in the air began in 1999, the board says concentrations have decreased 30 percent across California, most notably in the South Coast and the San Joaquin Valley regions.

In 2000, the ARB adopted a risk reduction plan that targets all diesel sources of particulate matter in California. As part of the plan, cleaner diesel fuels and new diesel engines have been developed for both on-road and off-road uses. Other regulations have been adopted to address diesel engines already on the road, including those in waste collection vehicles, transit fleet, school buses, stationary engines, transport refrigeration units and portable engines.

The process that produced the draft report began in 2006 when staff was directed by the board to update the health impacts methodology to reflect recent health information on PM_{2.5} exposures and premature death. A formal review of the updated methodology and analysis was conducted by a peer review committee formed by the University of California composed of experts in the fields of epidemiology, air quality measurement, risk management, health effects of air pollution, and biostatistics.

The draft staff report is now available for public comment. Public input will be considered in drafting the final report, due for release to the public in August.

Earlier this month The American Lung Association in its "State of the Air" report said Pittsburgh surpassed Los Angeles in short-term particle pollution which combines ash, soot, chemicals, metals, diesel and aerosols as well as smog or ozone.

24. Health, Environmental Groups Sue EPA Over Weak Ozone Standards

Health and environmental advocates filed a suit challenging the U.S. Environmental Protection Agency's refusal to adopt stronger ozone standards urged by its own scientists. The public interest law firm Earthjustice is filing the lawsuit on behalf of the American Lung Association, Natural Resources Defense Council (NRDC), Environmental Defense Fund, National Parks Conservation Association (NPCA), and Appalachian Mountain Club over the standards EPA adopted in March. The standards for ozone pollution are not only far weaker than what was unanimously recommended by EPA science advisors, but also leave public health and the environment at great risk, the groups contend.

"EPA officials ignored the advice of their own scientists when they chose these deficient standards, but they can't ignore the law," said Earthjustice attorney David Baron, who filed the lawsuit. "The Clean Air Act requires EPA to adopt standards strong enough to protect our lungs and our environment. We're fighting to make sure that happens. Stronger standards could save thousands of lives, by some estimates."

The lawsuit is being filed as EPA Administrator Stephen Johnson comes under fire for bowing to White House pressure to reject stronger smog standards. Johnson was grilled last week by members of the U.S. House Committee on Oversight and Government Reform who asked why he rejected the advice of scientists in setting the standard. He testified beside the head of EPA's

Clean Air Scientific Advisory Committee, Dr. Rogene Henderson, who critiqued Johnson's actions, telling committee members: "Policymakers wandered into science and they did not do it well," adding, "willful ignorance triumphed over sound science."

Henderson's committee had recommended that the agency set the health standard at between 60 and 70 parts-per-billion. Instead, Johnson and the EPA set the standard at 75 parts-per-billion, leaving asthmatics, young children, the elderly and others at greater risk for lung and heart disease than the standard recommended by health experts, the groups contend.

The lawsuit also challenges EPA's refusal to adopt a separate standard urged by its science advisers and the National Park Service to protect the environment and wildlife in national parks from smog impacts. Ozone pollution can cause substantial damage to trees and plants, stunting their growth, making them much more susceptible to disease, and leading to the yellowing or mottling of leaves. The science advisors unanimously called for a special growing season standard to protect forests and crops from ozone damage, and the Park Service strongly agreed, but EPA – on direct orders from the White House - rejected their advice.

25. Congress Says EPA Chief Backed California Emissions Rules Then Caved

Environmental Protection Agency chief Stephen Johnson originally backed California's effort to set the nation's toughest vehicle carbon dioxide equivalent emissions limits, but he dropped his support under pressure from the White House, according to a new congressional report. House Oversight and Government Reform Committee Chairman Henry Waxman said the new details - revealed in sworn testimony from top EPA officials - showed that the White House "played a decisive role in the rejection of the California motor vehicle standards" in December.

Waxman, a critic of the EPA's decision to deny California's request for a waiver from federal rules to implement stricter emissions standards for cars and trucks, used his subpoena power to get key documents leading up to Johnson's December 19th decision. He also got senior officials to get on the record about the EPA chief's deliberations.

EPA Associate Deputy Administrator Jason Burnett told the committee in a deposition that Johnson "was very interested in a full grant" of California's waiver in August and September of last year. Later in autumn, Burnett said, the EPA administrator came to believe that a partial grant of the waiver "was the best course of action." A partial grant would have allowed the state to implement its rules for several years, starting with 2009 model years.

The committee staff then pressed Burnett on whether the White House had communicated its views about California's request to Johnson. "I believe the answer is yes," he replied. But Burnett said he'd been instructed by EPA not to answer further questions about the White House's role. Asked if Johnson had changed his view after his discussions with the White House, Burnett said, "He ultimately decided to deny the waiver."

The testimony by Burnett is the first evidence that Johnson changed his mind about the waiver decision and suggests that White House influence might have played a part.

Environmentalists and California officials said the new revelation shows that politics, rather than science and law, drove the decision.

The White House has told Waxman's committee it has 32 documents that detail phone calls and meetings between senior White House and EPA officials but will not release them, citing executive privilege.

The decision has high stakes: New federal fuel economy rules, cited by Johnson when he made his decision, would require cars and trucks to get 35 miles per gallon by 2020. But the rules California proposed are much tougher - requiring 44 miles per gallon by 2020, which state officials say would cut greenhouse gases 74 percent more than federal law.

Waxman's report contained other details: It had been revealed earlier that Johnson overruled his own legal and technical staff in denying California's waiver request, but the new report showed the depth of the EPA staff's opposition. During a September 21st meeting, Johnson pulled his staff into a room and polled them on what he should do. Not a single staffer opposed the waiver, several EPA officials who attended the meeting told the committee. The staffers agreed that California had met the "compelling and extraordinary conditions" required by the Clean Air Act to grant a waiver.

26. Senate Committee Approves Bill to Allow California Emissions Standards

The Senate Environment and Public Works Committee approved a bill to allow California and 13 other states the right to impose a 30-percent reduction in vehicle tailpipe emissions by 2016. By a 10-9 vote, the committee voted to approve a bill to reverse a December 19th decision by the Environmental Protection Agency to deny California a waiver under the Clean Air Act to impose its own limits on vehicle tailpipe emissions of carbon dioxide, a greenhouse gas.

Sen. John Warner, R-Va., joined 9 Democrats in supporting the bill, while Sen. Tom Carper, D-Del., opposed the bill.

Committee chair Sen. Barbara Boxer, D-Calif., said that California had received more than 50 waivers since 1970 to implement its own regulations under the Clean Air Act and never been denied one. It's for "states to choose between the federal and the higher California standards," Boxer said.

Boxer conceded that in light of President Bush's opposition to the bill, it wasn't likely to become law this year. But she noted that all three presidential candidates, Sens. Barack Obama, D-Ill., Hillary Clinton, D-N.Y. and John McCain, R-Ariz., have agreed to support California's efforts to obtain a waiver.

A similar bill is in the House Energy and Commerce Committee, where the bill hasn't been scheduled for a hearing. The committee is chaired by Rep. John Dingell, D-Dearborn, a strong foe of allowing California and other states the ability to impose their own tailpipe emissions standards.

Mary Nichols, chairman of the California Air Resources Board, said the state is preparing to release a proposal by the end of the year to revise the state's limits on greenhouse gas emissions from vehicles. The original California limits aim to cut carbon dioxide emissions from cars by 30 percent between 2009 and 2016. Nichols said the new proposal will address greenhouse gas emissions beyond 2016, and that it will place a greater emphasis on low-emission vehicles and zero-emission vehicles, such as electric cars or plug-in hybrid cars. She also reiterated that the California standard is not a fuel economy standard, but rather a grams-per-mile emissions limit. She also said the California standard incorporates elements not in the

federal energy bill, such as requiring more efficient air conditioners and reducing the carbon content of fuel.

She repeated figures previously released by CARB, saying the California standards would prevent 36 percent more greenhouse gas emissions than the proposed federal rules would prevent by 2016, and 41 percent more by 2020.

27. EPA Says Upcoming Climate Proposal Will Draw from Suspended Auto Rule

The forthcoming solicitation by the Environmental Protection Agency of public comment on regulating greenhouse gas emissions will build on an agency rulemaking, suspended in December that aimed to control greenhouse gas emissions from vehicles, according to the head of the mobile source program. EPA is scheduled in June to release an advance notice of proposed rulemaking asking for public comment on possible ways to control greenhouse gas emissions and the potential impact of greenhouse gas regulations.

Margo Oge, director of the Office of Transportation and Air Quality, said at a forum of the Society of Automotive Engineers that the vehicle portion of the notice would build on a draft proposed rulemaking and finding of endangerment that EPA had completed in 2007 at the direction of President Bush. EPA suspended work on the rulemaking in December after Bush signed into law the Energy Independence and Security Act (Pub L. 110-140), which increased vehicle fuel economy from an average of about 25 miles per gallon to 35 miles per gallon in 2020, and which requires 36 billion gallons of renewable fuel use annually by 2022.

Oge said that the earlier EPA rulemaking had similar goals, but that it also was going to implement them in 2018 and require more efficient car air conditioners; inefficient air conditioners can reduce fuel economy. In addition, she said the abandoned rulemaking was going to rely on existing technology, including the increased use of diesel and hybrid electric technology.

Oge would not say whether EPA will release the draft rulemaking and endangerment finding. Several House committees have issued subpoenas for these documents. EPA has offered to provide them when it issues the greenhouse gas ANPRM or by June 21, whichever is sooner. EPA first undertook the rulemaking in response to the Supreme Court's *Massachusetts v. EPA* decision, which said EPA must either regulate greenhouse gas emissions from vehicles or explain why it is not. After Bush signed the energy bill, EPA Administrator Stephen Johnson suggested that the bill satisfied the requirements of the Supreme Court decision.

Most observers are skeptical that the White House will allow the EPA analysis to be included in the ANPRM.

28. Diesel Prepared To Compete For the US Market

The introduction of low-sulfur fuel has opened the door to sophisticated emissions controls that let diesel engines meet the strict pollution standards of the US EPA and California. Those rules require 2009-model diesels to be as green as gasoline or hybrid models. In the meantime, advances like turbocharging and high-pressure fuel injection have transformed diesel cars from soot-belching slowpokes with a telltale clickety-clack sound to smooth and powerful machines that many Americans would have a hard time distinguishing from gasoline models.

With technical and environmental hurdles overcome — and facing tougher mileage standards that call for a 35 m.p.g. average by 2020 — automakers are rushing in with clean-diesel cars. Starting with the 2009 model year, several automakers have developed diesels clean enough to pass muster in all states.

- Volkswagen says it will be the first to market, with Jetta sedans and wagons arriving in August. Mercedes will follow in October with diesel versions of its GL-, ML- and R-Class sport crossover utilities. BMW is preparing a twin-turbo 6-cylinder diesel for sale this fall in the 335d sedan and X5 35d sport wagon.
- Audi's Q7 3.0 TDI utility wagon goes on sale early next year. That automaker has been vividly demonstrating modern diesel's one-two punch by dominating recent runnings of the 24 Hours of Le Mans with its R10 racers, which are not only fast, but are the quietest, cleanest and most fuel-efficient cars in the field.
- Three Japanese companies — Honda, Nissan and Subaru — are also ramping up the technology. Long known for efficient gasoline engines, Honda will offer its first American diesel next year, as an option on the Acura TSX sedan. A similar diesel Honda from Europe achieved 53 m.p.g. on the highway. Honda also plans to offer a diesel V-6 around 2010 that may find its way into the Acura TL sedan, the Acura MDX utility or the Honda Odyssey minivan.
- Nissan will install a Renault-designed diesel in its Maxima sedan for 2010; Subaru will counter with a diesel the same year, probably in a Legacy sedan or Outback wagon. A Jeep Grand Cherokee diesel arrives in 2009, and General Motors, Ford and Dodge all plan 50-state diesel versions of their light-duty pickup trucks in 2009 or 2010.

The greening of diesel involves the new ultra-low-sulfur fuel, cleaner-burning engines and a suite of emissions equipment. Filters trap sooty particulates while catalyts use ammonia to convert nitrogen oxides into nitrogen and water in the exhaust.

For many models, including those from BMW, Mercedes and Audi, their S.U.V.'s will carry six- to eight-gallon tanks of urea, an ammonia-rich solution injected into the exhaust to neutralize smog-forming pollution. And to ensure that consumers don't let the urea run dry, Mercedes is installing a dashboard alert that warns consumers when the urea level drops below one gallon. From there, owners will be on a countdown - until the tank is topped off: the cars will start just 20 more times before they cannot be operated. That countdown is a concession to federal regulators, who demanded technical assurances that these groundbreaking systems would work continuously to keep emissions below legal levels.

The smaller 4-cylinder VW and Honda diesels, in contrast, meet 50-state standards without requiring urea tanks that would have to be replenished every 12,000 miles or so.

One unexpected development is threatening to spoil the emergence of diesels in the US light duty vehicle market, however. For decades, diesel fuel cost less than gasoline, amplifying the advantage of its higher mileage. But over the last year, diesel has soared to a record average of \$4.33 a gallon nationwide, compared with \$3.72 for regular gasoline.

Many analysts expect diesels to blow past hybrids in popularity. J. D. Power & Associates estimates that diesel will explode from its 3 percent market share to 11.5 percent by 2015, exceeding hybrids at 7 percent. Continued high diesel prices could force an adjustment in that projection.

29. CARB Approves San Joaquin Valley Plan for Pollution Reductions

The California Air Resources Board voted unanimously to approve a plan to reduce particulate-pollution in the San Joaquin Valley. The plan, crafted by the San Joaquin Valley Air Pollution Control District, includes tougher restrictions on industry, farms and residents, and requires upgrades of factory boilers and internal combustion engines. It could also trigger more wood-burning restrictions for Valley residents.

Critics say the document relies too heavily upon a separate plan by the state to clean up dirty diesel trucks. That plan has yet to be approved. "We think the board needs to take a very cautious approach here given the pollution problems in the Valley," said Bonnie Holmes-Gen, an advocate with the American Lung Association in Sacramento.

James Goldstene, executive officer for the state air board, said the Valley is making good progress toward meeting PM_{2.5} goals; the northern counties are already in compliance, he said.

30. Air District Approves \$10 Million to Reduce Diesel Fumes over West Oakland

The regional air quality district has approved a \$10 million plan to scrub diesel exhaust from trucks at the Port of Oakland to help reduce air pollution affecting West Oakland residents. The Bay Area Air Quality Management District intends to install diesel exhaust filters on as many as 1,000 of the Port's heavy-duty vehicles, the district announced.

District Executive Office Jack Broadbent said in a prepared statement that the program "will greatly improve air quality and health in an area that experiences diesel particulate concentrations that are among the highest in the Bay Area."

According to the district, the program, developed in partnership with the California Air Resources Board, the Port of Oakland and Bay Area truckers, aims to eliminate 900 tons of emissions over the lifetimes of the vehicles.

31. New Air Pollution Fees Are Approved In San Francisco

Air pollution regulators in the San Francisco Bay Area voted to approve new rules that impose fees on businesses for emitting heat-trapping gases. The Bay Area Air Quality Management District's board voted 15 to 1 to charge companies 4.4 cents per ton of carbon dioxide they emit. They will take effect on July 1.

Some contended the Bay Area agency did not have the jurisdiction to impose the fees. They said that should be left to the California Air Resources Board, the District's state equivalent, which is charged with implementing AB 32. AB 32, the Global Warming Solutions Act, was signed into law by Gov. Arnold Schwarzenegger in 2006 and calls for state greenhouse gas emissions to be reduced to 1990 levels by the year 2020.

District officials claimed they not only possessed the legal authority to impose the fees, but that the plan could later be integrated into state efforts.

District Executive Officer Jack Broadbent, in a statement released following the vote, called the greenhouse gas fees "a new tool that we expect other air districts will also adopt to help fund their mandated climate protection activities."

Air Resources Board spokesman Stanley Young said that his agency has a statutory deadline to begin the AB 32 implementation by 2012 and that the District has informed his agency that they "will roll existing fees into the broader state fee structure." "That provision accords with our understanding of what the implementation of AB 32 should include," Young said.

Oil refineries and power plants make up by far the heaviest sources of air pollution covered under the District's greenhouse gas fee program. The worst offender, according to the District's 2005 figures, is the Shell refinery in Martinez, which is estimated to discharge nearly 4,440,000 metric tons of pollution into the air each year. Under those estimates, it would be assessed a fee of more than \$195,000 annually. Second on the District's list, the Chevron refinery in Richmond would have to pay nearly \$170,000.

According to the District, however, the "vast majority" of businesses, some of which may include gas stations or dry cleaners, or small businesses using power generators, will only have to pay less than \$1 annually.

Proceeds from the program, estimated at an annual \$1.3 million, are to be used toward the District's ongoing climate protection activities, District officials said.

32. Arizona Governor Vetoes Attempt to Block Emissions Regulations

Arizona Gov. Janet Napolitano has vetoed legislation that attempted to block state agencies from enacting vehicle emissions regulations. Arizona H.B. 2017 would have prevented the Arizona Department of Environmental Quality (ADEQ) or any state agency from adopting government programs that would in any way regulate the emission of greenhouse gas or motor vehicle fuel economy without specific legislative authorization from the Arizona legislature.

Napolitano released a letter addressed to Jim Weiers, Arizona speaker of the House, in which she justified the veto. The letter explained that a requirement of legislative authorization would constitute micromanagement of ADEQ and other state agencies. Additionally, the letter noted Arizona's efforts in adopting the Clean Car Rules through the process required by law.

The legislature approved this program May 6. The governor used this climate change program as an example of one in which additional government approval would have proven unnecessary. Napolitano concluded by recognizing Arizona's role in the Western Climate Initiative (WCI) and pledging to provide Arizona with cleaner air and a better environment.

33. British Columbia Pushing For Tougher Vehicle Emissions Standards

Proposed British Columbia legislation to adopt California's tailpipe emissions standards would reduce greenhouse gas emissions from vehicles while providing savings to consumers through reduced fuel costs, according to province Environment Minister Barry Penner. Bill 39, the Greenhouse Gas Reduction (Vehicle Emissions Standards) Act, would establish standards equivalent to those developed in California in 2004. Implementing those standards would reduce vehicle greenhouse gas emissions in the province by 30 percent relative to current

models and cut overall emissions by 600,000 metric tons per year by 2016, Penner said in a statement.

The proposed legislation would require automobile manufacturers' fleets of family vehicles to meet predetermined average greenhouse gas emission standards, according to a Ministry of Environment background document. The fleet average approach would permit manufacturers to continue selling vehicles that exceed the new standards provided that they sell enough low-emission vehicles to meet the average, the background document said. The legislation would also give the provincial government the authority to require larger vehicle manufacturers to include in their fleets a percentage, or set number, of zero-emission vehicles each year, it said. This provision is based on California's current approach, and would target emissions of both greenhouse gases and other air pollutants, the document said.

34. Canada Renews Leaded Gas Exemption for Racing

Canada's federal government will extend to January 1, 2010, an exemption for competition vehicles from the ban on lead content in gasoline, Environment Minister John Baird said April 28. The Gasoline Regulations, passed in 1990, effectively eliminated lead content in gasoline sold in Canada, and many categories of racing vehicles already have converted to unleaded gasoline, Baird said in a statement. But alternatives to leaded racing fuels have not been accepted by all race-sanctioning associations for all types of competition vehicles, and many foreign sanctioning bodies continue to use leaded gasoline in competition vehicles, he said. "The amount of leaded gasoline used by the racing industry represents less than 2 percent of the total leaded fuel use in Canada. The remaining volume is used under a permanent exemption provided to aviation because there is currently no suitable non-leaded replacement fuel available for some aircraft," the statement said. The continued exemption was implemented through amendments to the Gasoline Regulations, published in final form in the April 30, 2008, issue of the Canada Gazette, Part II.

35. US Senator Promotes Bill to Freeze Ethanol Mandate

US Sen. Kay Bailey Hutchison has proposed freezing the federal mandate for corn-based ethanol at this year's level, contending that using so much grain for fuel was pressuring the food supply. Hutchison introduced legislation that would freeze the federal mandate for corn-based ethanol at 9 billion gallons. The Texas Republican said this would allow for transition to a sustainable renewable fuel source that does not use food.

"The ethanol mandate is clearly causing unintended consequences on food prices for American consumers," Hutchison said. "Freezing the mandate is in the best interests of consumers, who cannot afford the increasing prices at the grocery store due to the mandate diverting corn from food to fuel." Republican presidential candidate John McCain is a co-sponsor of the bill.

Hutchison said World Bank numbers show global food prices have jumped 83 percent in the last three years. She cited a United Nations report that predicted food costs will increase another 10 to 15 percent due to biofuels production if the renewable fuel mandate is not changed.

Energy legislation signed into law last year requires an annual increase in the amount of ethanol produced domestically, from 4.7 billion gallons in 2007, to 9 billion this year, increasing to 15 billion in 2015 and then 36 billion gallons by 2022.

Congress provided the Environmental Protection Agency with the authority to waive the mandate, or adjust it as necessary to provide relief for consumers.

The EPA already is considering a request from Texas Governor Rick Perry to cut the renewable fuel standard in half for this year, claiming the adverse economic impact of ethanol production is causing higher corn prices. The agency said the governor's request will be open for public comment for 30 days. The EPA must decide on the waiver request within 90 days after receiving it, which means the agency has until late July to act on it.

36. GM Takes Another Stake in a Biofuels Company

General Motors Corp is taking another stake in a company focused on developing ethanol from sources other than corn, the automaker has announced. Mascoma Corp is testing its process for converting biological wastes -- plant matter, grasses, wood chips and other non-grain sources -- to fuel. It expects to start producing ethanol later this year at a demonstration plant in New York State.

In January, GM announced it was taking a stake in Coskata Inc of Warrenville, Illinois, a biofuels company looking at sources of energy including garbage, old tires and plant waste.

"These investments in leading edge firms supports belief that ethanol has the greatest near-term potential as a clean-burning, renewable fuel that can help reduce oil dependence," GM President Fritz Henderson said in announcing the Mascoma deal. Henderson would not disclose the size of the equity stake in Boston-based Mascoma, which is privately held. Mascoma said its technology is designed to produce ethanol more efficiently and at lower cost.

US gasoline prices are at all-time highs, prompting automakers, already under pressure from the government to make more efficient vehicles, to consider more ways to conserve fuel.

More than three million GM cars and trucks on US roads are "flex-fuel" capable, meaning they can run on either gasoline or an ethanol/gasoline blend but there is little infrastructure in the United States to deliver ethanol and other alternative fuels to most consumers so most "flex-fuel" vehicles run on straight gasoline.

Congressional negotiators trying to complete a new farm bill are proposing to reduce a tax credit for producers of corn-based ethanol and create one for those that make cellulosic fuel.

37. Most Oil Companies Settle MTBE Groundwater Suit

A dozen oil companies have agreed to pay \$423 million in cash plus clean-up costs to settle litigation over groundwater contamination from the gasoline additive, MTBE, according to lawyers representing public water utilities and public agencies in 17 states. The settlement, filed in the US District Court in Manhattan, involves BP America Inc, Chevron Corp, ConocoPhillips, Shell Oil Co, Marathon Oil Corp, Venezuela's Citgo Petroleum Corp, Sunoco Inc and Valero Energy Corp. The one big holdout was ExxonMobil Corp; five smaller companies, including Lyondell Petrochemical Corp, the chemical's maker, also have not settled.

The 2003 lawsuit by public water providers in 17 states was consolidated into a single federal case. MTBE, or methyl tertiary butyl ether, was added to gasoline for some three decades to curb smog emissions.

38. Rockefellers Call For Change at Exxon Mobil

Members of the Rockefeller family are calling on Exxon Mobil Corp to make corporate governance changes and adopt a renewable fuels strategy to help address the soaring cost of energy.

John D. Rockefeller founded the Standard Oil Co in 1870, which was a precursor to Exxon Mobil. Exxon Mobil is the world's largest publicly traded oil company based on market capitalization, and is a favorite target of consumer advocate groups and politicians unhappy with record prices for oil and gas and its effects on the environment. Fifteen descendants of the oil baron are involved in four shareholder resolutions seeking changes at Exxon, including dividing the CEO and chairmanship positions.

They also seek to establish a task force study of the consequences of global warming on poor economies, called on Exxon to reduce greenhouse gas emission at its own operations and adopt a renewable energy policy.

Exxon is "profiting in the short term from investments and decisions made many years ago by focusing on the narrow path that ignores the rapidly shifting energy landscape around the world, including developing nations," said Neva Rockefeller Goodwin, great granddaughter of John D. Rockefeller. Goodwin called on Exxon to reconnect with the forward-looking vision of her great grandfather. "Kerosene was the alternative energy of its day when he realized it could replace whale oil. Part of John D. Rockefeller's genius was in recognizing early the need and opportunity for a transition to a better, cheaper and cleaner fuel."

39. Mexico's Supreme Court Upholds Gasoline Tax, Bolstering Reforms

On May 12th, Mexico's Supreme Court upheld a new progressive tax on gasoline and diesel against a challenge from opposition lawmakers, bolstering a major fiscal reform approved by Congress in September 2007.

The gasoline and diesel tax, which was effective January 1st, raises the price at the pumps by 2 Mexican centavos (0.2 cents) per liter per month over 18 months until it reaches 32 centavos (3 cents), or a 5.5 percent raise.

On January 18th, 171 lawmakers backed a challenge to the gasoline tax in the Supreme Court, alleging that it was forcing up the prices of basic goods, violating a constitutional article that states that these goods cannot be taxed. The challenge also argued that the tax, which is collected by state governors, violated articles that oil wealth should be administered directly by the federal government.

In a series of votes, a majority of the court's 11 judges threw out the challenge, saying the arguments held no legal weight. But the court did reject a clause in the reform that stated that the gasoline tax had to be spent on infrastructure or the environment. Congress can allocate funding to the states, but it cannot dictate how it is spent, the judges ruled.

40. Daimler Closes Big 'Green' Vehicle Deal With UPS

Daimler AG said United Parcel Service Inc. ordered 200 hybrid electric vehicles and 300 compressed natural gas vehicles in what the German automaker called the biggest sale of "green" trucks ever recorded.

The eco-friendly crop of vehicles, built by Daimler Truck North America's Freightliner Custom Chassis Corp. (FCCC) division, will join the 25 hybrid delivery trucks already in operation at UPS next year. FCCC has more than 160 hybrids in service since 2004, when it became the first manufacturer to introduce the fuel sippers into fleet operations.

The hybrid-electric power train achieves a 40% improvement in fuel economy and a 90% reduction in emissions compared to the non-hybrid version, the company said. The 200 new hybrids are expected to save 176,000 gallons of fuel a year and cut carbon dioxide emissions by 1,786 annually.

The vehicles are part of Daimler's "Shaping Future Transportation" initiative that was launched late last year with a goal of building 1,500 hybrid trucks in North America over the next three years along with introducing a hybrid version of the Thomas Built school bus.

41. Cummins Will Cut 125 Jobs

Falling sales of diesel pickup trucks have claimed 125 jobs at the Cummins diesel engine plant in Walesboro. This decision follows Navistar's temporary shutdown of its Indianapolis diesel line, idling 500 workers through the week of July 14.

Cummins Walesboro is the sole source of diesels for the Dodge Ram pickup truck, while Navistar's plant in Indianapolis supplies all diesels for Ford's F-series pickups. The Walesboro plant employed about 1,000 workers a year ago. Since then, about 100 temporary workers were let go. Sales of diesel pickups have sagged as the building industry hit hard times and diesel prices at the pump soared.

In Indiana, both diesel makers have described the layoffs as temporary. Navistar expects diesel orders will rise once overstocked Ford dealers sell off unsold trucks. Beginning in August, Chrysler will make the restyled 2009 Dodge Ram, and diesel orders are expected to rise at that time, Cummins said.

Cummins layoffs come as pickup truck sales ebb from the huge volumes of recent years. Dodge, for example, has sold about 93,000 diesel and gas Rams this year through May, down 24.2 percent from the same period a year earlier. F-series sales have slipped 15.5 percent, while Chevrolet Silverado sales have declined 20.8 percent.

Diesel trucks, which account for about a third of the pickup market, have been particularly hard hit as fuel prices rise. In the Indianapolis area, diesel averaged \$4.84 a gallon, AAA reports, 89 cents more than the average price of unleaded regular gasoline.

42. Nichols Questioned About AB 32 Economics, ZEV Direction; Confirmed

During her Senate appointment confirmation hearing, air board chairwoman Mary Nichols said the board must still extensively analyze the economic impacts of a variety of regulations and market-based measures on various industry sectors planned under the implementation of the climate change law AB 32. Nichols also sought to quell concerns raised by senators over a potential greenhouse gas (GHG) cap-and-trade program under AB 32, and the future direction of the state's zero-emission vehicle (ZEV) regulation.

On June 4th, the Senate Rules Committee approved the confirmation of Nichols. Senate confirmation of Cal/EPA officials such as the chair of the Air Resources Board has traditionally served as an opportunity for lawmakers to ask critical questions of agency heads and also influence policy or regulations. The confirmation of Nichols drew special attention because the board is set to release a sweeping regulatory plan to reduce GHG emissions as required by AB 32.

Prior to the panel's vote, Nichols was questioned by lawmakers over the board's work on reducing diesel emissions from the goods movement sector, its recent changes to the ZEV regulation, and how the board views "cap-and-trade" as a policy tool to enforce AB 32.

In response to questions from Sen. Bob Dutton (R-Inland Empire) regarding the progress of the board's draft "scoping plan" for AB 32, Nichols said that more work needs to be done regarding economic impacts. "We've done a lot of economic modeling and research, but a lot more still [needs] to be done," she said.

Sen. Alex Padilla (D-Los Angeles), one of several Los Angeles-area senators who have objected to a potential cap-and-trade system, asked how Nichols intends to "push back on forces" that are pressuring ARB into seeking a cap-and-trade system. She reiterated to the committee what she and ARB staff have stated for the last several months -- that there are many issues and questions to be addressed before making a decision on cap-and-trade.

In response to Senate President Don Perata (D-Oakland) regarding ARB's future direction with the ZEV program, Nichols said "we need to drive this whole industry in the direction of electric-drive vehicles," noting that this could be fuel-cell or battery technologies, but that the board does not want to take sides among competing technologies. Perata chairs the Rules committee.

ARB in March adopted changes to its ZEV program, which requires automakers to offer for sale increasing numbers of fuel-cell or battery-electric vehicles over the next several years. The changes resulted in ARB significantly reducing the number of ZEVs required in the coming years and instead required automakers to produce more "plug-in" hybrids. Nichols said the changes will result in about 80,000 plug-in hybrids on California roads by 2012.

ARB staff is in the process of reviewing all of its clean-vehicle regulations and is expected to return to the board in 2009 with a plan to overhaul the ZEV program. This would include spinning off requirements into other ARB vehicle regulations, including the AB 1493 or "Pavley" rules, which require tailpipe reductions of GHG emissions, and the low-emission vehicle program. Nichols described this new staff effort as "trying to give us a single program, so we don't just deal with one issue at a time, but a comprehensive approach."

43. GM Says All-Electric Volt Approved For 2010 Launch

General Motors Corp said its all-electric Chevrolet Volt was on track for a launch in 2010 after the company's board approved funding for production of the plug-in vehicle. "The Chevy Volt is a go," GM Chief Executive Rick Wagoner told reporters ahead of the company's annual meeting with shareholders in Wilmington, Delaware. The announcement represents the most detailed road map toward bringing the highly anticipated car to the market by the end of 2010.

A successful launch of the Volt is critical to GM as the top US automaker struggles with a heavy lineup of gas-thirsty trucks and works to claim an edge in fuel-saving technology against Toyota Motor Corp and its market-leading Prius hybrid.

Wagoner said GM's plan is to manufacture the Volt in its Hamtramck, Michigan plant. That depends on negotiations with state and local governments for tax incentives, he said.

GM remains committed to its target of getting the vehicles into showrooms by the end of 2010, said Wagoner.

Unlike gas-electric hybrids such as the Prius, which run on a system that twins battery power and a combustion engine, the Volt will be powered entirely by an electric motor and have a battery that can be charged through an ordinary power socket. The Volt's on-board engine will be used only to power the battery on longer trips, GM has said.

Executives, including Wagoner, have previously said the 2010 timeline would be a "stretch" to meet since GM was rushing to do basic battery-development work at the same time that it engineered a new vehicle from the ground up.

GM is designing the Volt to run for 40 miles powered by a 400-pound lithium-ion battery pack that can be recharged at a standard electric outlet when the vehicle is parked. The Volt marks one of the first attempts to adapt lithium-ion batteries, widely used in consumer electronics, to power a car. Toyota is also racing to market its own plug-in hybrid by 2010 using similar technology.

Getting the plug-in hybrid to the market first has become more urgent for GM as it copes with high gasoline prices the automaker now sees as a permanent threat to its business. GM is also under increasing pressure from the government and environmentalists to improve fuel economy.

GM has been testing two sets of battery packs supplied by a subsidiary of Korea's LG Chem Ltd, and German auto parts supplier Continental AG using technology developed by privately held A123 Systems. GM product Chief Bob Lutz said he expected to name a Volt battery supplier "soon" without elaborating.

The Volt has attracted an active fan base of bloggers and potential buyers unlike any other vehicle in the industry's usually secretive development process. Capitalizing on the enthusiasm for the vehicle, GM has also featured the Volt in its advertising.

44. Breathing Dust and Soot Raises Risk of Stroke

Short-term exposure to low levels of particulate air pollution may increase the risk of stroke or mini-stroke, according to new research that suggests current standards are not sufficient to protect the public. Stroke is the third leading cause of death in the United States.

The study examined particulate air pollution in the southeast Texas community of Corpus Christi where there is a large petroleum and petrochemical industry presence. The results showed what the researchers called "borderline significant associations" between same day and previous day exposures to fine particulate matter and risk of ischemic strokes. Ischemic stroke occurs when an artery to the brain is blocked.

In the study, researchers identified ischemic strokes and also transient ischemic attacks, or TIA, sometimes called mini strokes that often lead to a stroke later. Findings suggest that recent exposure to fine particulate matter may increase the risk of these types of stroke events specifically.

Particulate pollution comes from such diverse sources as factory and utility smokestacks, vehicle exhaust, wood burning, mining, construction activity, and agriculture.

"The vast majority of the public is exposed to ambient air pollution at the levels observed in this community or greater every day, suggesting a potentially large public health impact," said Lynda Lisabeth, lead author and assistant professor in the University of Michigan School of Public Health, where the research is based. Lisabeth stressed that the association requires further study in other areas with varying climates and alternative study designs.

Ischemic stroke is by far the most common kind of stroke, accounting for about 88 percent of all strokes. Stroke can affect people of all ages, including children although the risk of stroke increases as people age. At each age, stroke is more common in men than women, and it is more common among African-Americans than white Americans.

The study, "Ambient Air Pollution and Risk of Ischemic Stroke and TIA," will be published in the July 2008 issue of *Annals of Neurology* <http://www.interscience.wiley.com>, the official journal of the American Neurological Association.

45. Goldman Executive to Head Nature Conservancy

US environment group The Nature Conservancy has announced that it will appoint Mark Tercek, the head of Goldman Sachs' environmental markets centre, as well as its environment strategy group, as its new president and chief executive starting in July.

"Mark is opening innovative possibilities for aligning economic forces with conservation," Gretchen Daily, a biology professor at Stanford University and a Nature Conservancy board member, said in a statement. Tercek worked with Daily on advancing finance and policy mechanisms for valuing forest systems for the roles they play in supporting human health, thereby creating alternatives to rainforest destruction, the Conservancy said.

He was also an advisor in the 2007 buyout of utility TXU Corp by a group, including private equity firm Kohlberg Kravis Roberts & Co, in which the power generator agreed to halt plans to build several coal-fired power plants.

The Nature Conservancy is working to achieve its 2015 goal of conserving 10 percent of all natural habitats on the planet.

46. Senate Climate Bill Dies as Expected

U.S. legislation that would have set up a cap-and-trade system to limit climate-warming carbon emissions died after a procedural vote in the Senate. The bill, which had bipartisan support but not enough to overcome opposition, aimed to cut total U.S. global warming emissions by 66 percent by 2050. Opponents said it would cost jobs and raise fuel prices in an already pinched American economy.

Known as the Lieberman-Warner Climate Security Act, the bill's chances of passage were always slim. Even if Congress had approved it, President George W. Bush had vowed a veto. Bush has consistently opposed any economy-wide program to curb the carbon dioxide emissions that spur climate change, arguing that this would hurt the U.S. economy. Bush slammed the bill, saying it would cost the US economy \$6 trillion. His estimate drew quick

denials from those who support the legislation, including Sen. Barbara Boxer, a California Democrat and long-time environmentalist.

U.S. greenhouse gas emissions would have dropped by about 2 percent per year between 2012 and 2050, based on 2005 emission levels, under the measure if it were adopted.

Senators John McCain and Barack Obama, the respective Republican and Democratic presidential nominees, were not present for Friday's vote, but both support limiting human-generated emissions that spur climate change.

Rajendra Pachauri, head of the Intergovernmental Panel on Climate Change, welcomed the effort as far more stringent than a plan outlined last month by President Bush that would let US emissions rise to a 2025 ceiling. Bush's plan upset some of his industrial allies because it is far less tough than the UN's Kyoto Protocol under which 37 developed nations have agreed to cut emissions, mainly from burning fossil fuels, by 5 percent below 1990 levels by 2008-12.

Several leading scientists in the UN panel, which shared the 2007 Nobel Peace Prize with former US Vice President and climate campaigner Al Gore, urged far deeper cuts than those now under consideration by major nations. The authors, including British scientist Martin Parry, wrote in the journal *Nature* that the world had to cut emissions by 80 percent below 1990 levels by 2050 to limit temperature rises to 2 Celsius (3.6 Fahrenheit) above pre-industrial levels. A 2.0 Celsius rise is viewed by the European Union and some other nations as a threshold for "dangerous" climate changes.

Pachauri said that estimates by the UN Climate Panel showed that "if you want to stabilize the increase in temperatures to between 2.0 to 2.4 Celsius we are talking about cuts of 25 to 40 percent by 2020" below 1990 levels.

Almost 200 nations including the United States agreed in Bali, Indonesia, in December to work out a new UN treaty by the end of 2009 to curb global warming after a first period of the Kyoto Protocol runs out in 2012.

Far from being discouraged, Sen. Joe Lieberman said international observers would be gratified that the measure got support from a majority in the Senate, including presumptive presidential nominees John McCain and Barack Obama. "I think people around the world are going to be greatly encouraged by the fact that 54 members of the US Senate are saying they want to support a real response to global warming," Lieberman, the independent senator from Connecticut who sponsored the bill, said after the measure ended with a procedural vote.

The vote showed 48 senators favored the bill with 36 opposed. Six more senators, including Illinois Democrat Obama and Arizona Republican McCain, wrote letters saying they would have voted in favor if they had been in town to vote. Sixty votes were needed to take the bill to the next stage of consideration.

Senate leaders opposed to the bill used a variety of tactics during weeklong debate on the Senate floor, including a rare maneuver by Republicans that forced clerks to read an updated version of the 491-page bill aloud. That took 10 hours.

Even though the Senate climate bill was yanked from the Senate floor, House Energy & Commerce Committee Chairman John Dingell (D-MI) has announced that he will hold hearings soon on greenhouse gas reduction proposals, including a review of the stalled Senate bill.

In the House hearings – which follow more than 20 others the committee has held to date – the committee will consider “various legislative proposals” that have been referred to it, including H.R. 1590, the Safe Climate Act of 2007 sponsored by Rep. Henry Waxman (D-CA) with 152 cosponsors, H.R. 6186 sponsored by Rep. Edward Markey (D-MA) and S. 3036.

In the absence of federal action, both regional and voluntary systems have sprouted up throughout the country. Among these is the Regional Greenhouse Gas Initiative, which joins 10 states in a commitment to cap greenhouse gas emissions at 2003 levels by 2009 and to start reducing emissions after 2014. The initiative also establishes a cap-and-trade program.

On the West Coast, the Western Climate Initiative joins seven states and three Canadian provinces that have pledged collectively to cut greenhouse gas emissions to 15 percent below 2005 levels by 2020 and is in the process of setting up a cap-and-trade system.

One of the more robust voluntary markets, the Chicago Climate Exchange, launched in 2003, sets voluntary but legally binding emissions-reduction targets and establishes a system for trading emissions allowances. In 2007, the total trading volume in the exchange was \$72 million, according to a May World Bank Report. The Chicago Climate Exchange counts among its members companies such as Ford Motor Co., Sony Electronics Inc., and DuPont, as well as several municipalities, universities, and the states of Illinois and New Mexico.

47. Canada's Greenhouse Emissions Fell in 2006 but Are Well Above Kyoto Goal

Canada's emissions of greenhouse gases for 2006 decreased 1.9 percent from 2005 levels to 721 million metric tons, but that still left Canada significantly above its Kyoto Protocol target of 558.4 million metric tons, Environment Minister John Baird said on May 16th while releasing the Canadian government's report to the United Nations Framework Convention on Climate Change on its annual national greenhouse inventory.

Under the Kyoto Protocol, Canada is committed to a 6 percent reduction in greenhouse gas emissions from 1990 levels by 2008-2012. The government has consistently acknowledged that it will be unable to meet this goal, but that it will pursue a broad plan to reduce the emissions intensity of Canadian industry. Highlights of changes in emissions levels between 1990 and 2006 cited in the report include:

- A net increase of greenhouse gas emissions of about 128 million metric tons, with increased emissions from the energy industries and transportation sector accounting for about 119 million metric tons of the increase.
- Overall emissions from the energy sector, including electricity and heat generation, fossil fuel industries, combustion emissions from pipelines, and fugitive releases, increased by about 65 million metric tons, with nearly two-thirds of that increase, 43.1 million metric tons, from the fossil fuel industries, pipelines, and fugitive releases as a result of a 66 percent increase in oil and gas production over that period.
- Emissions from the transportation sector have increased by 31.7 percent, or about 44 million metric tons, largely due to a 116 percent increase in emissions from light-duty, gasoline-powered trucks, a reflection of the growing popularity of sport utility vehicles.

- Industrial processes emissions decreased 0.7 percent (0.4 million metric tons) despite significant increases in some sub-sectors, including the use of hydrofluorocarbons in refrigeration and air conditioning as substitutes for ozone-depleting substances (up 1,000 percent to 4.7 million metric tons).
- Emissions from the agriculture sector increased by 25 percent (12.4 million metric tons), largely due to significant expansion of the beef cattle, swine, and poultry industries, as well as increases in the use of synthetic nitrogen fertilizers.
- Waste sector emissions increased 15.2 percent (2.8 million metric tons) due to increased waste sent to landfills, but the increase would have been larger without the implementation of landfill gas recovery projects and waste diversion programs. The increase is slightly lower than the 18 percent increase in Canada's population over the 1990-2006 period.

48. US Issues Climate Assessment Forced By Court Order

The Bush administration has finally released a climate change assessment -- four years late and pushed forward by a court order -- that says that human-induced global warming will likely lead to problems like droughts in the US West and stronger hurricanes. The "Scientific Assessment of the Effects of Global Change on the United States" synthesized previous reports, including those by the government's climate change science program and last year's work by the UN's Intergovernmental Panel on Climate Change. It is intended to give US government agencies and lawmakers in Congress a single document to refer to when forming climate policy.

A 1990 law, the Global Change Research Act, requires the government to do an assessment on global warming every four years. The last one had been issued in 2000 during President Bill Clinton's administration.

Sharon Hays, the White House associate science director, said the document offered "a greater focus on what scientists know about climate change impacts in the United States" than the 2007 reports by the UN panel.

49. Bush Says 'Meaningful Commitment' Needed From China, India to Curb Emissions

On June 10th, President Bush said that without a meaningful commitment to reduce greenhouse gas emissions from advanced developing countries such as China and India, no international climate change accord is likely to be effective. And without such a commitment, the United States will not sign off on any future United Nations climate change agreement, the president said following the annual EU-U.S. Summit on Transatlantic Cooperation and Global Issues.

Despite ongoing disagreement, both the United States and the European Union expressed varying degrees of optimism that an accord on global climate change can be achieved as early as July, at the next Group of Eight summit in Japan.

C. Boyden Gray, the former U.S. ambassador to the European Union and now a special envoy, told journalists after the summit that it was the U.S. belief that an agreement on climate change could be reached as soon as July 7-9 at the G-8 summit in Japan. "The condition is that countries such as China, India and Brazil commit to a verifiable reduction in greenhouse gases," Gray said. "There need not be a specific amount, but there must be a commitment." Gray also insisted that if no climate change agreement can be reached before Bush leaves office it is highly unlikely the next U.S. president will have time to be prepared for the U.N. meeting in Copenhagen in 2009.

Emerging from a meeting with German Chancellor Angela Merkel, Bush said he is hopeful that the G-8 and developing nations, including China and India, will reach an agreement next month on a "long-term, binding goal" to reduce greenhouse gasses. The president said he would like to see the various nations commit to having midterm goals. But the United States will tell the July meeting that it cannot meet big cuts in emissions by 2020, its chief climate negotiator Harlan Watson said. "It's frankly not do-able for us," he told the press, referring to a goal for rich countries to curb greenhouse gases by 25-40 percent by 2020 compared to 1990 levels.

The European Union says it will cut emissions by 30 percent if other rich countries do and supports a goal of 25-40 percent for all industrialized nations.

The candidates running to replace US President George W. Bush, and who all support action to stem climate change, were only talking about returning to 1990 or 2000 US emissions levels by 2020, Watson said. "And I think most analysis of whether we could do that (say) it would be a heavy lift for the United States given our current infrastructure." US power production is about 50 percent reliant on high carbon-emitting coal, Watson noted.

50. Lawmakers Eye Energy Tax Bill as Vehicle to Freeze Biofuels Mandate

Senate proponents of a bill to freeze the federal corn ethanol mandate at current levels say the measure will likely be offered as an amendment to energy tax legislation. Just last December Congress overwhelmingly voted for a three-fold increase in the amount of corn ethanol blended into the nation's fuel supply, but many lawmakers who voted for that bill now are wary of the massive increase due to fears that the mandate is driving up food prices.

In an interview on June 4, Sen. Susan Collins (R-ME), who characterizes herself as a "long time" opponent of ethanol subsidies, said she believes the bill will be offered "when we do the energy tax bill later this year." Sen. Kay Bailey Hutchison (R-TX) introduced the legislation on May 19. It would freeze the corn ethanol mandate at current levels, i.e. nine billion gallons a year. Current law requires the corn ethanol mandate to increase to 15 billion gallons by 2015.

Hutchison said that the mandate needs to be frozen because ethanol is contributing to higher food prices. "The ethanol mandate is clearly causing unintended consequences on food prices for American consumers," she said in a statement. "Freezing the mandate is in the best interests of consumers, who cannot afford the increasing prices at the grocery store due to the mandate diverting corn from food to fuel."

SOUTH AMERICA

51. Lula Seen Putting Brazil Economy Ahead Of Amazon

Hailed as Brazil's first "green president" when he took office, Luiz Inacio Lula da Silva appears to have thinner environmental credentials than ever after the resignation of Amazon defender Marina Silva. The former rubber tapper and union activist was one of the fresh faces who marked a break from Brazil's conservative past when she was appointed environment minister in Lula's first cabinet. Her departure underlines Lula's long journey from strong union leader to business-friendly president more than 5 years after he became Brazil's first working-class leader.

The government named Silva's replacement as Carlos Minc, a co-founder of the Green Party in Brazil. Environmentalists said he was well respected but could run into the same problems as Silva without stronger support from Lula.

Silva's resignation came at a critical moment for the world's largest rain forest. Pressure on its resources from high world food prices and growing energy demands are pushing it closer to what environmentalists warn is a "tipping point" of destruction where its rain-making capacity could start to fail and affect the regional climate.

Silva had become increasingly isolated inside Lula's team, analysts say, over issues ranging from the government's support for biofuels, to genetically modified crops and nuclear power. A major clash with business interests and other ministries came with her opposition to the expansion of hydroelectric power from dams in the Amazon region at a time when fast-growing Brazil is hungry for energy. She unsuccessfully opposed several infrastructure projects in the rain forest, including two hydroelectric dams and a road that will link the western grain belt with the Amazon River. The last straw for Silva appeared to come when Lula publicly rebuffed her and named another minister to oversee a government development plan for the Amazon.

The Amazon basin covers half of Brazil and holds a fifth of the world's fresh water, and 15 percent of all plant and animal species on earth. But illegal logging and mining are rife as well as legally sanctioned felling, and swathes of land the size of US states have been deforested in recent years. Between August and December 2007 an estimated 2,703 square miles (7,000 square km) were chopped down, equivalent to two-thirds of the total for the previous 12 months.

Silva said in her resignation letter that she stepped down because of the "difficulty she had been having for some time in carrying out the national environment agenda," a presidential spokesman said.

Lula said there was no change in his government's environment policy. But analysts say it could now be easier to push forward with hydro-electric and other infrastructure projects in the Amazon that have been stalled over environmental concerns, such as the huge Belo Monte Dam in Para state.

Lula is presiding over an unprecedented period of economic growth and stability in Brazil, with new power and infrastructure projects seen as crucial to maintain growth at more than 5 percent a year.

Silva would have a lasting legacy, environmentalists said, including having presided over a 77,200-square-mile (20-million-hectare) expansion of protected area in the Amazon between 2003-2007, almost the size of Britain. Deforestation in the Amazon fell for three straight years after 2003, but last year saw a sharp increase, coinciding with a rise in global food prices.

52. Merkel Says Brazilian Biofuels Must Respect Amazon

German Chancellor Angela Merkel has urged Brazil to adopt tougher environmental standards in producing biofuels but said rich nations needed to pay up to help protect rain forests and their biodiversity. Brazil is the world's largest exporter of ethanol, which it derives from sugar cane. Critics say increased production is pushing cattle ranchers and farmers deeper into the Amazon and accelerating the destruction of the world's largest rain forest.

"Biofuels are a way to replace traditional fossil fuels but only if they are produced sustainably," Merkel said in Brasilia when asked about Germany's biofuels imports from Brazil. "There are statistics that raise concerns about deforestation, the process of displacement between soybeans, beef and the rain forest," Merkel said at a news conference with Brazilian President Luiz Inacio Lula da Silva.

Rich nations also needed to do more to support environmental protection in developing countries, Merkel said. Industrial countries have not lived up to their obligations. "If we want to be taken seriously here, we need to make the payments and aid we pledged," Merkel said.

Lula said Brazil was the most interested of all countries in protecting the Amazon but that the millions of people living there also had a right to prosperity. There was a cost for not chopping down trees in the Amazon, he said. Brazil was open to an international debate about the benefits and risks of biofuels, Lula said, but could not accept a "debate of half-truths" that represented trade interests of its competitors.

Germany's recent decision to postpone the increase of ethanol it uses in its motor fuel had to do with Germany's fleet of cars and the cost of fuel and not with environmental concerns, Merkel said.

She said she was encouraged to hear Lula say that Brazil's environmental policy would not change despite the resignation of Environment Minister Marina Silva. "She was highly respected and the international community owes her thanks," Merkel said of Silva.

53. Peru Establishes New Environment Ministry

On May 13th, Peruvian President Alan Garcia signed legislation (Legislative Decree 1013) establishing a new Environment Ministry. The legislation sets out the process for organizing the ministry, how it will function, and the process that will be followed over the coming months to merge existing environmental agencies, such as the National Environmental Council and the Protected Natural Areas Institute. The law provides a window of 90 working days for this to happen.

The new ministry will have two deputy ministries, one in charge of environmental management and the other focusing on natural resources. The law also establishes an Environment Evaluation and Oversight Agency, a National Protected Natural Areas Service, and an Environmental Controversies Tribunal, which will resolve conflicts.

Antonio Brack, who was named the first head of the Environment Ministry, headed the committee that designed the new ministry. He has worked for different environmental agencies and organizations, including the United Nations, for nearly four decades.

The new ministry will have 18 specific functions, which are spelled out in Article 7 of the decree. The principal function is to "formulate, approve, coordinate, supervise, execute and evaluate the National Environmental Action Plan and National Environmental Agenda." The legislation also gives the ministry power to "admonish, fine, confiscate, immobilize, [and] suspend" activities in violation of environmental policy.

"Mining is at the root of the principal social conflicts in the country, but we do not know for certain if this new ministry will have the power to oversee this sector in a transparent and open way. This is troubling," said Miguel Palacin, founder of the National Confederation of Communities in Peru Affected by Mining.

While not planned, the president's timing also coincided with a new survey on environmental concerns in Lima, carried out by the Catholic University of Peru. More than 95 percent of respondents said environmental protection is necessary, and 88 percent approved of the establishment of the new ministry, which the president first announced in December.

54. Bill Would Force Columbia's State-Owned Oil Firm to Reduce Diesel Sulfur Levels

On June 12th, the Colombian Congress approved a bill requiring the state oil company to progressively lower concentrations of sulfur in diesel fuel, in a bid to reduce air pollution. Legal Project 200 of 2007 requires state oil company Ecopetrol to reduce the sulfur content of diesel fuel sold nationally to no more than 50 parts per million by the year 2013. It would prohibit the distribution, commercialization, consumption, or transportation of diesel fuel containing more than 50 ppm of sulfur.

In the interim, the law requires Ecopetrol to provide diesel with sulfur concentrations of no more than 500 ppm for public transit vehicles in the capital, Bogota, by July 1, 2008, and no more than 50 ppm by July 1, 2010. Diesel sold in the capital for other vehicles must meet the standard of 50 ppm by July 1, 2012.

Outside the capital, sulfur content in diesel used for vehicle fuel must be reduced to 3,000 ppm by July 1, 2008; 2,500 ppm by Jan. 1, 2009; 500 ppm by Jan. 1, 2010; and 50 ppm as of Jan. 1, 2013. Fuel used by the public Organized Systems of Mass Transit (SITMs), however, must contain no more than 50 ppm of sulfur by Jan. 1, 2010. Currently, diesel fuel sold in Bogota contains roughly 1,200 ppm of sulfur, while diesel sold in the rest of the country has a sulfur content of 4,500 parts per million, according to the law's introduction.

Colombian President Alvaro Uribe is expected to sign the bill into law.

Vehicles produce about 86 percent of the air pollution in Colombian cities and 50 percent of vehicle emissions come from diesel engines. The capital's air quality has violated standards in 75 percent of samples during the past two years.

The law charges the ministries of environment and of mines and energy with developing the detailed regulations to carry out the law.

The law complements an agreement signed between Bogota's municipal government, Ecopetrol, and the environment ministry that also requires the company to reduce the sulfur content in the diesel fuel sold in the capital.

55. Petrobras Aims to Become World's 3rd-Largest Refiner

Petroleo Brasileiro SA, (Petrobras) Brazil's state-controlled oil company, said it may become the world's third-biggest oil refiner with a plan to build two new plants. The two refineries in Rio Grande do Norte and Ceara states, along with plants that are either under construction or being planned, will boost processing capacity by at least 1 million barrels a day by 2014, the company said in a statement on its Web site. Petrobras would then rank behind only Exxon Mobil Corp. and Royal Dutch Shell Plc.

Petrobras, currently ranked sixth by capacity, plans to make more higher-value fuels for sale in the U.S. and other markets. The Rio de Janeiro-based company earns more from exports as the Brazilian government, to curb inflation, hasn't allowed the prices of oil products to rise in step with crude oil, which has more than doubled in a year.

"It makes sense to build those plants in Brazil," said Thereza Fernandes, an energy analyst with MB Associados in Sao Paulo. "You are going to end up exporting products anyway, you may as well export a product, fuels, with more value added than crude."

Petrobras said it may build a refinery in Ceara to process 300,000 barrels a day by 2014. The facility will produce low-sulfur gasoline and other fuels that meet U.S. environmental standards. The refinery will complement a plant planned for Sao Luis, which is expected to process as much as 500,000 barrels a day into low-sulfur fuels for export.

The company, which has the capacity to process 2.17 million barrels a day, also is building a 200,000 barrel-a-day heavy-oil refinery near Recife, Brazil, and a 150,000 barrel-a-day petrochemical plant near Rio de Janeiro.

Petrobras didn't say how much oil the refinery in Rio Grande do Norte would process. The plant would produce diesel, the most-used vehicle fuel in Brazil, and would likely commence production in 2010, according to the statement.

Not counting the Rio Grande do Norte refinery, Petrobras will see crude processing capacity rise at least 60 percent to 3.17 million barrels a day. Exxon Mobil can process 6.30 million barrels a day and Shell 3.95 million barrels.

Petrobras has made refining acquisitions in the U.S. and Japan. The company is looking for more deals so it can focus on selling refined fuels rather than crude to generate more profit from offshore oil discoveries. Brazil, which became a net oil exporter for the first time last year because of rising output, also is one of the world's largest oil consumers. Its population of about 190 million and economy are the largest in Latin America.

Petrobras is investing \$29.6 billion in its so-called downstream, or refining, operations through 2012, part of a 2008-2012 strategic plan unveiled last year. Under the \$112 billion program, Petrobras seeks to increase oil-processing capacity by 50 percent. Construction of the \$4 billion Recife refinery began in March.

Petrobras plans 54.9 billion reais (\$33.5 billion) in investments this year, CEO Gabrielli said in New York recently in a speech sponsored by the Brazilian American Chamber of Commerce. The oil company, which is ramping up development of offshore discoveries, previously said it plans capital spending of \$22.5 billion a year, on average, through 2012.

56. Chilean Government Introduces Bill to Establish New Environment Ministry

The Chilean government has sent a bill to congress that would create the country's first environment ministry and a new regulatory body to enforce environmental norms. President Michelle Bachelet, speaking on World Environment Day June 5, said creation of the new bodies would lead to "a modern and efficient institutional setup that seeks sustainability, the integration and quality of life of the community," while "seeking a balance between the economy and nature."

The new ministry would be responsible for designing and implementing environmental policies and programs, including biological diversity and renewable natural resources, and promoting environmental policy between ministries. The bill proposes creating five divisions within the new ministry, responsible for environmental regulation; environmental data and economics; education, local, management and participation; natural resources and biodiversity; and climate change and international agreements.

The ministry also would run a new integrated system of protected areas, including Chile's existing network of national parks, reserves, and natural monuments. The new ministry also would have a seat on the board of the national forestry corporation CONAF, whose tasks include forest administration.

Bachelet said the ministry, Superintendencia de Fiscalización Ambiental, "will have powers to manage an integrated system of environmental regulation in order to resolve the main weaknesses of the current model."

Growing public awareness about the environment and some high profile breaches of water emission standards, especially water discharges by pulp plants, and other norms have highlighted the need for greater scrutiny of environmental issues in government.

Environmental standards are currently handled by range of government bodies, including regional health services (for air pollution) and the water regulator (for discharges into rivers and lakes), with the existing national environment commission, CONAMA, and its regional counterparts acting as coordinators.

CONAMA will continue to run Chile's environmental approval system, established under the country's first environment legislation in the early 1990s. Renamed Servicio de Evaluación Ambiental, the body will seek "to simplify processes as well as improve the effectiveness and transparency of the evaluation," Bachelet said.

The bill will now be studied by the two houses of Chile's Congress where the president predicted it will generate a great deal of debate. "For some, it will be insufficient and for others, it will be too much," she said.

ASIA-PACIFIC

57. China Backs Japan's 'Sectoral Approach' To Cut Emissions Post-Kyoto

On May 7th, in a bilateral summit between Japan and China, Chinese President Hu Jintao expressed support for Japan's "sectoral approach" to reduce greenhouse gas emissions in a post-Kyoto framework. Japan's sectoral approach would calculate national emissions limits

based on industry-specific reduction targets. The two countries also agreed that Japan would extend technological assistance to China to promote the country's carbon collection and storage (CCS) program, which is expected to be among the world's largest.

The developments signal a move forward for China regarding its intention to sign a future global greenhouse gas emissions reduction framework to replace the Kyoto Protocol, which expires in 2012. Beijing's participation would place additional pressure on the United States, India, and other large emitters that did not sign the Kyoto treaty to join a post-2012 framework. "It is significant progress," an official with the Japanese Environment Ministry's Global Warming Policy Division said May 8th.

58. Ford India Moves Toward Becoming Diesel Engine Manufacturing Hub

Ford India is doubling the output from its diesel engine plant near Chennai to enable it to reach its full manufacturing capacity of 60,000 petrol and diesel vehicles a year. With the doubling of capacity, Ford will make 50,000 diesel engines and 10,000 petrol ones. The engine plant, which makes Duratorq diesel engines for Ford's Fiesta and Fusion, will start a second shift soon.

Ford India, which will eventually have a capacity of 250,000 engines aims to first sell the engines in the Indian market, and then pursue exports.

Michael Boneham, president and managing director of Ford India said, "The domestic assembly of these engines will facilitate quicker time-to-market response, and greatly enhance the efficiencies of our operations." He went on to say that the facility would help position Ford India as a strategic manufacturing hub for low displacement powertrain engines within the Asia Pacific and Africa region.

The diesel plant at Chennai started production last month and has enabled Ford India to make a savings of 20 per cent by increasing the indigenous content in the Fiesta to 85 per cent from 80 per cent and in the Fusion to 60 per cent from 55 per cent. This has improved the company's ability to price its vehicles more competitively in the Indian market, which is expected to touch 2 million units by 2010, said Boneham.

59. Honda to Roll Out Cheaper New Hybrid Model in Early '09

Honda Motor Co has announced it will launch a new, low-cost hybrid car in Japan, North America and Europe in early 2009 as it seeks to cut the lead of Toyota Motor Corp in the green car race. Despite the pressure of record-high oil prices and concerns over climate change, fuel-efficient and low-emission hybrids still occupy a small niche in the global car market, partly due to their higher costs for both consumers and automakers.

Japan's top two automakers lead the industry in the fuel-saving technology which runs on both electricity and gasoline, but Toyota has dominated sales with its groundbreaking Prius model, which is only available as a hybrid.

By twinning a conventional engine and battery-powered electric motor, hybrids currently add \$5,000 or more to comparable gasoline models, a premium Honda Chief Executive Takeo Fukui sees coming down to around \$2,000 in the next generation of hybrids. "It is important to move hybrid vehicles from the current image-oriented stage to the new stage toward full-scale penetration," Fukui told a news conference. Executive Vice President Koichi Kondo said Honda hoped to price the hybrid-only car under 2 million yen (\$19,290).

Honda now only sells one hybrid car -- a gasoline-electric version of the mass-volume Civic sedan which starts at around 2.3 million yen -- after discontinuing its hybrid-only Insight 2-seater in 2006 and a hybrid version of its Accord in 2007.

Honda expects annual sales of 200,000 for the new hybrid. Total hybrid sales, including the Civic hybrid, a new hybrid version of its popular Fit subcompact and a planned sports car based on the CR-Z concept model, are expected to reach 500,000 vehicles a year after 2010, roughly one-tenth of total sales.

Announcing other details of the new hybrid-only car for the first time, Honda said the car would be a 5-door, 5-seater similar in design to its sleek FCX Clarity fuel-cell vehicle. The car would use more compact and lightweight components for the hybrid system and have a new vehicle platform that places the control unit and battery underneath the cargo space. A new production line for electric motors will be added at Honda's Suzuka factory in western Japan to more than double the production speed and cut costs.

Toyota is also racing to slash production costs for future hybrid cars. It has not disclosed when the third-generation Prius would be ready, although many expect a 2009 launch. Toyota, the world's biggest automaker, is aiming to achieve annual hybrid sales of 1 million vehicles soon after 2010, also targeting roughly one-tenth of its total sales.

Honda, which plans to improve fuel efficiency on bigger cars with clean-diesel technology, expects to sell more than 4.5 million cars and 18 million motorcycles worldwide in 2010. Last year, it sold 3.767 million cars and 13.48 million motorcycles.

60. Diesel Cars Sales Tumble in Korea as Fuel Price Climbs

The wholesale price of diesel fuel has begun climbing above that of gasoline and the high price has turned consumers off diesel vehicles, causing sales to plummet and prompting carmakers to shut down assembly lines. S-Oil is reportedly supplying diesel to gas stations at W4 to W5 (US\$1=W1,045) higher per liter than gasoline. GS Caltex, another refiner, is expected to readjust its supply prices and will likely set diesel at over W4 higher per liter than gas.

After domestic sales fell more than 20 percent year-on-year, Ssangyong Motor has decided to shut down the assembly lines of its diesel-powered Rexton and Actyon SUVs. Hyundai-Kia Automotive Group's diesel SUV sales have also fallen off. In fact the entire diesel car market has been slipping into recession.

Kia sold 1,615 units of its diesel Sorento in December in Korea, but sales halved to 812 in January and again to 493 in April. April sales of the Kia Sportage, a smaller model than the Sorento, totaled 2,203 units, down more than 20 percent from 2,898 in April 2007.

The prices of used diesel cars are also plummeting. According to SK Encar, a used car website, the prices of used diesel SUVs and RVs dropped by an additional W1 million to 2 million on average month-on-month. Officials with the used car market said only mid- and large-size sedans are selling as well as before. Few customers are looking for bulky diesel-powered SUVs, and inventories are growing.

61. Tokyo Plans to Regulate Emissions of Fine Particulate Matter Within Three Years

The city of Tokyo, which successfully used regulations in 2003 to reduce the amount of suspended particulate matter (SPM) released from diesel engines, is now setting its sights on smaller particulates, 2.5 micrometers in size or smaller, with plans to regulate these fine particulates within three years.

In late April, Tokyo initiated a detailed scientific study into the level in Tokyo of $PM_{2.5}$, said Yukihiro Higuchi, general manager of the city's Environment Standard Division. The research will examine direct emissions from diesel vehicles, factories, and other sources as well as emissions from chemical reactions of sulfuric oxide, nitrogen oxide, and other substances, he said. "Based on the [research] findings, we are going to set tolerance levels" for $PM_{2.5}$, Higuchi said, a process that he expects could take up to three years, due to the complexity of the research.

According to an official with Tokyo's Environment Bureau, while $PM_{2.5}$ can affect cardiovascular health and lead to lung cancer, they are not subject to regulations of the Basic Environment Law, an omnibus law passed in 1993 that covers most facets of the environment in Japan.

The United States established in 1997 an annual tolerance standard for the $PM_{2.5}$ at 15 micrograms per cubic meter of air, the city official said. In comparison, Higuchi said Tokyo's $PM_{2.5}$ levels during fiscal 2006 (ending March 2007) averaged between 20 and 25 micrograms per cubic meter of air.

Japan approved tougher vehicle emissions standards, including standards for larger particulate matter (up to 10 micrometers in diameter), in 2003. As a result, diesel-vehicle emissions of larger particulate matter are decreasing in the city. But emissions of fine particulates less than 2.5 micrometers in size are still on the rise in Japan, Higuchi said.

Higuchi said that Japanese and European automakers are developing clean diesel vehicles for launch this year. The new vehicles are expected to emit $PM_{2.5}$ in levels below current standards in Europe and the United States, he said.

62. China Orders Priority in Diesel Supply for Wheat Crop



Farmers crop wheat in Yuanyang County of Xinxiang City in central China's Henan Province, on June 4, 2008. The harvest of over 5.2 million hectares of wheat in Henan Province was completed by 5 p.m. on June 11. The whole summer grain crop of Henan is expected to break 30 billion kilograms.

Chinese President Hu Jintao and Premier Wen Jiabao have ordered that supplies for the summer harvest be guaranteed amid reports of shortages in some areas. Following their order, the State Council has asked local governments and related enterprises to prioritize supplies such as diesel, the fuel for farm vehicles, to take advantage of the best time for the ongoing wheat harvest. The summer harvest is vital for China as wheat production would add to the grain output for the year.

Tight supplies of diesel were reported in some areas since the country began to reap the wheat crop in May as refiners experienced losses resulting from domestic prices that were kept below the spiraling international prices. The State Council asked producers to enhance production to increase supplies. It also warned related departments to impose tighter supervision over the market in order to cap prices.

It said more specific measures, such as providing exclusive supply channels for diesel-powered farming vehicles, handing out special filling cards for farming vehicles and direct diesel delivery to farmers, would also be implemented.

The government's efforts in encouraging agricultural production had greatly aroused farmers' enthusiasm, and the country expected a bumper harvest this summer, Premier Wen Jiabao said at an executive meeting of the State Council, China's Cabinet. He urged governments at all levels to extend efforts to ensure the coming harvest.

63. PetroChina Says China Diesel Shortage Due To Demand, Not Pricing Regime

Diesel shortages in China are due mainly to demand, rather than problems with pricing, a PetroChina official said. 'The main problem for diesel supplies is the rise in demand,' said Jin Anyao of the company's retail division. He noted that shortages in Inner Mongolia and the northeast have been particularly pronounced because of the growing mechanization of agriculture.

Jin played down the impact of price controls on the company's operations, saying that downstream refining was only one of 10 business segments. However, he also said that the opening up of the price system was a 'necessity.'

High crude prices and domestic price controls mean refiners operate at a built-in loss. These pricing distortions are thought to have caused smaller refiners to reduce or shut down operations, leaving the market largely to the majors, who have a mandate from the government to keep up supply.

Another major domestic producer, Sinopec, said recently it plans to increase imports of oil products to prevent shortages of diesel and gasoline during the summer harvest and the Beijing Olympic Games.

64. Chinese Ministry Gives Mixed Report on Pollution

After rising steeply for many years, emissions of three important pollutants began to decline last year, the Chinese Ministry of Environmental Protection has announced. But total levels of pollution in China's lakes, rivers and coastal waters continued to rise, the ministry said, as more pollutants continued to flow into them than their ecologies could absorb. And the air in many Chinese cities remains severely polluted.

The ministry said that emissions of sulfur dioxide, mainly emitted by coal-fired power plants and the primary cause of acid rain, declined 4.66 percent last year. The government has been pursuing a stringent program of requiring power plants to cleanse most of the sulfur dioxide from their flue gases before they are emitted.

Emissions of organic pollutants into waterways, as measured by tests of chemical oxygen demand, also declined by 3.14 percent last year, the ministry said. And industries reduced their discharges of solid waste into the air and water by 8.1 percent last year.

The proportion of Chinese cities with fairly good air quality was practically unchanged last year, while the number of extremely polluted cities declined. Fresh air typically flows in from Siberia and Central Asia while China's polluted air is wafted east across the Korean peninsula, Taiwan and Japan, with some pollution reaching the United States.

Air quality experts calculate that up to 90 percent of deaths from air pollution are caused by tiny particles of soot. The biggest contributors inside cities, released close to where people breathe, are trucks, which China has struggled to clean up. The ministry provided no figures for emissions of particles.

65. Reliance Sells 0.005% Diesel to Vitol

India's Reliance Industries has awarded up to seven 0.005 percent diesel cargoes to Vitol, its first ever term sale of the grade, to lock in customers before its new refinery comes online, according to press reports. Vitol would pay a premium of \$6.5-\$7 a ton to Middle East quotes for 40,000-60,000 ton cargoes of the ultra-low sulfur grade, used mainly in Europe.

Reliance, which is targeting new markets and strengthening its foothold in existing ones, would ship cargoes on a free-on-board basis ex-Jamnagar in Gujarat. Reliance Industries runs a 660,000 bpd refinery in Jamnagar, while its subsidiary Reliance Petroleum is setting up a 580,000 bpd, also in Jamnagar.

U.S. firm Chevron owns a 5 percent stake in Reliance Petroleum.

Reliance Petroleum Chairman Mukesh Ambani told a shareholders meeting that Europe appeared to be the most attractive market for diesel, while the United States, Africa and the Middle East were the key gasoline markets.

Reliance's new plant will begin trial runs from July and is slated for commissioning in September. Reliance aims to produce 12-13 million tons of diesel annually from the new plant.

66. Peugeot Diesel Smashes Fuel Economy Records

John and Helen Taylor drove a completely standard Peugeot 308 HDi 110 hatchback on a 25 day, 9000 mile (14,484km) journey around the coast of Australia. During the journey they broke two world records by recording an unprecedented 1192 miles (1918km) on just 60 liters of diesel fuel and an average fuel consumption of 90.75 mpg (3.11 l/100km).

The Peugeot 308 HDi 110 hatchback now holds the World Record for both the highest average fuel consumption on a journey, a record previously held by a Peugeot 307 hatchback, and the record for the furthest distance travelled on a full tank of fuel.

Pierre Louis Colin, Managing Director, Peugeot UK said, "The feat performed by John and his wife, Helen, in the 308 is outstanding. It proves the difference that driving economically can make on both the environment and with the rising cost of fuel, your pocket."

The setting of these records also comes hot on the heels of the UK economy-run success, where the 308 HDi 110 achieved an average fuel consumption of 71.92 mpg (3.92 l/100km), a 15 per cent increase on its listed fuel economy figure, during the 2007 Fleet World MPG Marathon.

The 308 HDi 90 also claimed an economical accolade at the beginning of 2008, travelling 117 miles (188kms) around London's Orbital, the M25, on less than 10 pounds' worth of diesel fuel.

The record attempt was completed in a standard, Peugeot 308 HDi 110. It was verified by an independent scrutinizer to ensure all the requirements of the Guinness World Records regulations were met and all stipulations for setting the record were followed. In particular, nothing at all was removed from the car to save weight in order to save fuel. Indeed, along with Helen and John were their two large suitcases with clothes for the entire 25 day trip.

67. Vehicles Causing Pollution Increases in Madras

Central Pollution Control Board statistics show that the quality of air in the Madras Medical College (MMC) campus has slowly deteriorated over the years, particularly with respect to respirable dust particulate matter (RSPM) and suspended particulate matter (SPM). The CPCB data shows a high level of pollution with violations 24% of the time for SPM and 19% for RSPM in the campus after monitoring for 91 days. The campus is labeled a residential area.

The average level of pollution with respect to RSPM has gone up from 42 $\mu\text{g}/\text{m}^3$ in 2005 to 71 $\mu\text{g}/\text{m}^3$ in 2006. Similarly, the SPM has gone up from 121 $\mu\text{g}/\text{m}^3$ to 171 $\mu\text{g}/\text{m}^3$ in a year. Chronic exposure to higher levels of RSPM and SPM will lead to respiratory diseases.

"It is basically because of vehicular pollution at the junction of Central Railway Station and MMC," says an official in the Tamil Nadu Pollution Control Board (TNPCB). Studies by the TNPCB this decade has revealed that Chennai's air quality has deteriorated with an increase in the number of vehicles. A study in 2003 found that vehicular emissions to be the major source of air pollution with vehicles contributing to 71 percent of the load.

68. Air Pollution Improves in Shanghai

Water and air quality improved in Shanghai last year, but noise pollution was worse, the city's Environment Protection Administration said. Shanghai had 328 days of good air last year, four more than in 2006. It was the fifth-straight year that the number of good air quality days reached 85 percent for the year, the administration said.

Road noise on Shanghai streets hit an average of 71.9 dB during the day while it dropped to 65.9 dB at night, failing to meet last year's target, the report said.

Shanghai invested 36.62 billion Yuan (US\$5.28 billion) last year in environment protection, taking a 3.05 percent slice of the city's gross domestic product, the administration added.

69. Ho Chi Minh (HCM) City Residents Dying From Dust and Smoke

Air pollution from smoke and dust is killing HCM City's people and the pollution is getting more serious. According to the HCM City Environmental Protection Agency, HCM City is one of the localities suffering from the highest level of air pollution in Vietnam, with air pollution 2.5 times higher than the acceptable level.

On busy roads, dust oppresses passers-by. For example, at An Suong crossroads in District 12, dust concentration measures nearly 1.2 mg/m³. Carbon monoxide at this site is 5mg/m³ more than the permitted threshold. The areas suffering from the worst air pollution are crowded residential areas.

Annual environmental observatory reports by the HCM City Environmental Protection Agency show that air pollution is at the highest levels in HCM City's eastern and northwestern areas, at 1.3-1.8 fold higher than the standard.

Dust concentration in District 9, Thu Duc district and along the Hanoi expressway has been 2-7 times more than permitted levels for years.

Air pollution is alarmingly high at 15 industrial and export processing zones in HCM City and it is increasing.

Nguyen Thi Xuan, 54, on Huynh Tan Phat road, Tan Thuan Dong ward, District 7 waters the road section in front of her house between 15-20 times per day but the furniture in her house is always covered by a thick layer of dust. Xuan's neighbors do the same, plus take other measures like covering their houses with canvas, etc.

Tran Huu Hinh, whose house is located next to the Tan Binh Industrial Zone, said: "We have had to live with dust and toxic chemicals for tens of years."

Doctor Tran Ah Tuan, Head of the Respiratory Ward of Children's Hospital 1 in HCM City, said the number of child patients with pneumonia, and asthma due to air pollution is on the rise. The ward's statistics reveal that over 50% of children living in highly-polluted districts in HCM City like Tan Binh, Binh Chanh, 8, 9 and 11 were examined at the Children's Hospital 1 and around 15% of its child patients come from Tan Binh district.

MIDDLE EAST

70. Renault Seen Investing Up To \$1 Billion in Electric Car

The head of an Israeli-backed electric car project estimated that its partner, the Renault-Nissan alliance, would likely invest \$500 million to \$1 billion in the swappable-battery electric cars. "This is the cost for a three-year car program," Shai Agassi, the founder and chief executive of California-based Project Better Place, said on the sidelines of a news conference to introduce the electric car prototype.

Renault and Nissan signed a deal with Better Place in January to begin mass producing electric cars as a part of a project to develop alternative energy sources and slash oil dependency. Better Place will build the first electric grids in Israel and Denmark, with initial deployment slated for 2010.

Denmark's DONG Energy recently signed a letter of intent with Better Place to introduce the electric cars to the Scandinavian country, where the batteries will be charged using wind power. DONG Energy is the world's largest offshore wind power operator, with several wind farms in Denmark and Britain.

Agassi said that up to 20 percent of Denmark's electricity production comes from wind but that 7 percent was not being used -- enough to power every car in Scandinavia.

A few dozen cars will be available in Israel later in 2008, mainly for demonstration. In Israel, much of the electricity is generated using fossil fuels such as coal, though natural gas is now being introduced. But Agassi said the plan was to use solar energy generated in Israel's Negev Desert to power the batteries.

"If all of Israel travelled by electric cars, you would need to add 6 percent of electricity production," Agassi said.

Renault will provide Better Place with vehicles while Nissan, through its joint venture with NEC, has created a lithium-ion battery pack. The project will also use batteries made by A123 Systems. The batteries, weighing about 200 kg, will have a range of 160 to 200 km before needing to be recharged or swapped.

Agassi said the project was open to anyone who wants to join.

The initial \$200 million investment in Better Place is led by holding company Israel Corp, and includes Morgan Stanley, venture capital firm Vantage Point and a group of private investors.

Better Place in Israel will deploy more than 500,000 charging spots, including at the homes and offices of its clients, and hundreds of battery exchange stations.

Moshe Kaplinsky, CEO of Better Place Israel, said a study conducted by Israeli consultancy and research institute Geocartography Knowledge Group, showed that two thirds of the public have a positive opinion of electric cars. "We are not operating in a climate of indifference. The Israeli public is interested in what we are doing," Kaplinsky said. "We need to stop our dependence on oil." In Israel, where most of its oil comes from Russia, 1.2 million households own cars and 210,000 would consider purchasing an electric car, the study showed.

Agassi said Better Place was in discussions in other countries to introduce similar projects. European countries are interested in Better Place for environmental reasons while Asia is seeking to reduce pollution, and Africa sees huge potential to generate solar energy in the Sahara Desert, Agassi said. North America is seeking to reduce its oil dependence.

71. Electric Car Hits the Road in Fuel-Starved Gaza

A Palestinian-designed electric car has drawn admiring stares from Gazans forced to use cooking oil to power their cars because of a fuel shortage. "At first people laughed, saying it would not work, now people are begging us to convert their cars," said Fayez Amman. Working with fellow electrical engineer Wasim al-Khuzundar, Amman hooked up an engine to 32 batteries. Driving their small car through the streets of Gaza City, they said the vehicle could travel up to 200 km (120 miles) on a single charge.

Israel has reduced the amount of fuel it pumps into the Gaza Strip since Hamas Islamists seized control of the territory in June from Palestinian President Mahmoud Abbas's Fatah faction. Local fuel distributors have been on strike in protest at the Israeli cutbacks, forcing the closure of many petrol stations. Some motorists have turned to cooking gas and cooking oil to power their cars.

"The lack of fuel, the bad smell of cooking oil and the continued siege motivated us to enhance the work until we were successful and made the car operational," Annan said. He put the cost of the project at \$2,500 but said the price of converting a car to electric power would depend on its size.

GENERAL

72. Study Links Air Pollution, Blood Clots in Veins

Small air pollution particles may cause blood clots in the legs, the same condition air travelers call "economy class syndrome" from immobility during flight, according to researchers. Dr. Andrea Baccarelli of the Harvard School of Public Health in Boston and colleagues said they found the link after looking at 870 people in Italy who had developed deep vein thrombosis between 1995 and 2005.

When compared with 1,210 others living in the same region that did not have the problem, they found that for every increase in particulate matter of 10 micrograms per square meter the previous year, the risk of deep vein thrombosis increased by 70 percent. On top of that, the blood of those with higher levels of exposure to particulate matter was quicker to clot when tested at a clinic, they reported in the Archives of Internal Medicine.

Air pollution from automobiles and industry can contain tiny particles of carbon, nitrates, metals and other materials that have been linked over the years to a variety of health problems. While lung diseases were an initial concern, later research has indicated it may cause heart disease and stroke, possibly because it increases the rate at which blood can coagulate, Baccarelli and colleagues said.

Until now particulate pollution had not been linked to blood clots in the veins. The mechanism that causes problems for some air travelers is related not to the blood itself but to impaired circulation when sitting in one place without exercise for long periods of time. The findings introduce a new and common risk for deep vein thrombosis, the researchers said and "give further substance to the call for tighter standards and continued efforts aimed at reducing the impact of urban air pollutants on human health."

In a commentary, Dr. Robert Brook of the University of Michigan in Ann Arbor said if the findings are proven by additional research it may turn out that "the actual totality of the health burden posed by air pollution, already known to be tremendous, may be even greater than ever anticipated."

73. G8 Environmental Ministers Seek Deep Emissions Cuts

European and developing countries urged the United States and Japan to commit to deep cuts in greenhouse gas emissions by 2020—a step they say is needed to defuse a coming ecological disaster caused by global warming. The calls at a meeting of environment ministers

from the Group of Eight industrialized nations in Japan coincided with rising concern that momentum is draining from U.N.-led efforts to force a new climate change agreement by a December 2009 deadline.

The G8 nations—the United States, Britain, Japan, Germany, Italy, Canada, Russia and France—are largely on board with a proposal to attempt to reduce emissions of carbon dioxide and other gases responsible for global warming by 50 percent by 2050. But a major focus of the meeting in Kobe is midterm targets for 2020, which scientists say are needed to avoid a potentially disastrous rise in world temperatures of more than 3.6 degrees Fahrenheit over levels prior to the industrial age. "A long-term goal is not a substitute for midterm, mandatory targets," said Matthias Machnig, Germany's environment minister.

The European Union has pledged a 20 percent emissions reduction and has offered to raise it to 30 percent if other nations sign on. A U.N.-brokered agreement last December included a footnote referencing the need for cuts of between 25 percent and 40 percent. The United States, however, has not committed to a midterm goal, demanding that top developing countries like China also commit to reductions. Japan has called for emissions by industrialized countries to begin to fall in the next one or two decades, but it too has stopped short of setting a 2020 target.

U.N.-led talks are racing to meet a 2009 deadline to strike an accord to take over from the Kyoto Protocol, whose first phase will expire in 2012. The head of those talks, U.N. climate chief Yvo de Boer, has said he fears enthusiasm for the effort was waning, and he called for G8 countries to send a stronger signal especially with short term targets if they were serious. "If you are a businessman planning an investment, you probably want to know more about where governments intend to go in 2020 rather than the middle of the century," he told news agency AFP.

In a statement released at the close of the three-day meeting, G-8 ministers expressed a need "for effective midterm targets which take into account the findings" of the U.N. Intergovernmental Panel on Climate Change. The countries, however, were not able to reach a final agreement on specific midterm targets. But Mr. de Boer said that he is "hopeful" that G-8 countries will agree to set midterm targets at the full G-8 summit in Toyako, Japan, in July.

"Climate change is ... headed for a decisive moment," German Secretary of State for the Environment Matthias Machnig said at the news conference. Machnig urged rich and developing countries to strike a tangible agreement for starting greenhouse gas reductions as soon as possible. For its part, Machnig said Germany will reduce greenhouse gas emissions 40 percent by 2020, compared with 1990 levels.

74. UN Advisor Says U.S, EU Must Cut Back On Biofuels

The United States and Europe should cut back on production of biofuels because they are hurting food supply at a time of rising prices, according to an adviser to UN Secretary-General Ban Ki-moon. Biofuels derived from crops have come under attack in recent weeks on fears they compete with food for farming land and help to push up food prices, worsening a global crisis that is affecting millions of poor.

"We need to cut back significantly on our biofuels programs," said Jeffrey Sachs, a prominent US academic who is a special adviser to Ban on anti-poverty goals. "(They) were

understandable at a time of much lower food prices and larger food stocks but do not make sense now in a global food scarcity condition," Sachs told a news conference.

High food and fuel prices have sparked protests and riots in poor countries across the world in the past few months. Many governments have introduced food subsidies or export restrictions to counter rising costs.

"In the United States as much as one third of maize crop this year will go to gas tank. This is a huge blow to the world food supply," Sachs said before talks in Brussels with EU lawmakers.

EU leaders pledged last year to increase the proportion of biofuels used in petrol- and diesel-consuming land transport to 10 percent by 2020 as part of measures to tackle climate change. Governments are now working on draft EU laws.

Faced with growing unease among EU states over food prices and the biofuels' green credentials, the European Commission has stuck to the target, but EU Environment Commissioner Stavros Dimas said last month it would be subject to strict conditions to prevent social harm.

75. Study Finds Greenhouse Gases Highest For 800,000 Years

Greenhouse gases are at higher levels in the atmosphere than at any time in at least 800,000 years, according to a study of Antarctic ice that extends evidence that mankind is disrupting the climate. Carbon dioxide and methane trapped in tiny bubbles of air in ancient ice down to 3,200 meters (10,500 ft) below the surface of Antarctica add 150,000 years of data to climate records stretching back 650,000 years from shallower ice drilling.

"We can firmly say that today's concentrations of carbon dioxide and methane are 28 and 124 percent higher respectively than at any time during the last 800,000 years," said Thomas Stocker, an author of the report at the University of Berne.

Before the Industrial Revolution, levels of greenhouse gases were guided mainly by long-term shifts in the earth's orbit around the sun that have plunged the planet into ice ages and back again eight times in the past 800,000 years.

The UN Climate Panel last year blamed human activities, led by burning of fossil fuels that release heat-trapping gases, for modern global warming that may disrupt water and food supplies with ever more droughts, floods and heat waves.

"The driving forces now are very much different from the driving forces in the past when there was only natural variation," Stocker said of the study in the journal *Nature* by scientists in Switzerland, France and Germany. The experts, working on the European Project for Ice Coring in Antarctica, drilled down almost to bedrock in Antarctica. They recovered layers of ice formed by compressed snow, which can be counted much like the rings on trees.

Stocker said Chinese and Australian scientists were examining possibilities for drilling in parts of Antarctica with even deeper ice, in some places 4,500 meters thick, that could yield atmospheric records dating back 1.5 million years.

The study also found big natural shifts in carbon dioxide levels. "We find very conspicuous natural oscillations of carbon dioxide 770,000 years ago that bear the fingerprint of abrupt climate change during ice ages," Stocker said.

And the Nature report also set a new record low for carbon dioxide at 172 parts per million (ppm) in the atmosphere about 667,000 years ago, about 10 ppm below the previous known low and giving an ancient natural range of 172 to about 300 ppm. The study suggested that the low might be a sign that the oceans once soaked up more carbon dioxide. Carbon dioxide levels are now at about 380 ppm.

Temperatures in an ice age are about 5-6 Celsius (9 to 11 Fahrenheit) colder than now, already a mild period in earth's history. Climate change could add a "best guess" of 1.8 to 4.0 Celsius this century, according to the UN panel.

The study also linked variations in methane to monsoons. "The variations of methane concentration point to a strengthening of the monsoon system in the tropics in the most recent 400,000 years. These monsoon cycles have become stronger in the second half of this long time period," Stocker said.

76. Study Pinpoints Changes From Climate Warming

Human-generated climate change made flowers bloom sooner and autumn leaves fall later, turned some polar bears into cannibals and some birds into early breeders, a vast new global study reported. Hundreds of previous studies have noted these specific changes and most suggested a link to so-called anthropogenic global warming, but a new analysis published in the journal Nature correlated these earlier studies with changes in temperature, the study's lead author said.

There was a close relationship between temperature shifts between 1970 and 2004 and changes in plants, animals and the physical world, such as the retreat of glaciers and the water level in desert lakes, the study found. "When you look at all of the glaciers and all of the snowpack and all of the birds laying eggs earlier and all of the plants having spring earlier across a continent, then we see we can detect anthropogenic signals," said Cynthia Rosenzweig of NASA's Goddard Institute for Space Studies.

They worked to rule out observed changes that could have been caused by other factors besides anthropogenic climate change.

Building on research done to support findings reported in 2007 by the UN's Intergovernmental Panel on Climate Change, Rosenzweig and her co-authors brought together nearly 30,000 sets of data about biological and physical changes around the world, and then matched that up with a detailed database of global temperature change. The link between human-caused global warming -- generated by industrial and vehicle emissions of carbon dioxide to produce a temperature-boosting greenhouse effect -- and observed biological and physical changes is very strong, she said. On a global scale, the correlation is more than 99 percent between the two factors; on a continental scale, she said, the correlation is very likely between 90 and 99 percent.

Going continent by continent, here are some observed changes in the natural world attributable to climate change, according to the study:

- NORTH AMERICA: Earlier plant flowering of 89 species from American holly to sassafras; intraspecific predation, cannibalism and declining population of polar bears; earlier breeding and arrival dates of birds including robins and Canada geese.
- EUROPE: Glacier melting in the Alps; changes in 19 countries of leaf-unfolding and flowering of such plants as hazel, lilac, apple, linden and birch; early pollen release in the Netherlands; long-term changes in fish communities in Upper Rhone River.
- ASIA: Greater growth of Siberian pines in Mongolia; earlier break-up and thinning of river and lake ice in Mongolia; change in freeze depth of permafrost in Russia; earlier flowering of ginkgo in Japan.
- SOUTH AMERICA: Glacier wastage in Peru; melting Patagonia ice fields contributing to sea-level rise.
- AFRICA: Decreasing aquatic ecosystem productivity of Lake Tanganyika.
- AUSTRALIA: Early arrival of migratory birds including flycatchers and fantails; declining water levels in Western Victoria.
- ANTARCTICA: 50 percent decline in population of emperor penguins on Antarctic Peninsula; retreating glaciers.

77. Japan, Denmark Urge Adoption of Fuel Efficiency Standard for Oceangoing Ships

Japan and Denmark are calling on the International Maritime Organization (IMO) to adopt a fuel-consumption standard for all oceangoing ships operated by member countries as part of an effort to reduce greenhouse gas emissions from ships, an official with the Japanese Ministry of Land, Infrastructure, and Transport said on May 20th. The joint proposal calls for calculating fuel consumption for transporting one ton of cargo one mile in various weather conditions, like fuel consumption measuring methods used for automobiles, according to Nagayuki Suzuki, a climate change specialist with the ministry's Maritime Affairs Bureau.

Japan informed the IMO Marine Environment Protection Committee of its proposal during a committee meeting held in March, Suzuki said. At the committee meeting, Japan said it would invite Denmark and other member countries to a workshop in late May to formalize the proposal with the goal of presenting it at an interim IMO meeting scheduled to start June 23rd.

Greenhouse gas emissions from oceangoing ships are not covered under the Kyoto Protocol because of complexities involving ship registrations, nationalities, calculations of emissions, and other factors. Even so, oceangoing ships account for roughly 3 percent of global carbon dioxide emissions.

Japan and other IMO member countries have been discussing the viability of an IMO ship fuel standard in light of surging sea transportation from China, India, and other newly industrialized countries. Sea transportation in these countries is growing as much as 6 percent a year, Suzuki said.

On the prospect that the Japanese proposal would be adopted as an IMO standard, Suzuki said, "As far as the methodology of measuring ships' fuel consumption, we did not hear any particularly strong opposition [at the IMO meeting] in March." One uncertainty is the process of enforcing any type of fuel standard, Suzuki said. For example, if the fuel consumption measure calls for banning the operation of vessels that do not meet the standard, then "developing countries certainly will object strongly," he said. Denmark wants such penalties attached to the standard, but Japan wants IMO first to adopt the standard and then discuss potential penalties in future years, Suzuki said.

78. G8+5 Leaders Urged To Halve Emissions By 2050

Leaders of the G8 groups of industrialized countries and top five emerging economies meeting in Japan in July must step up their commitments on climate change and commit to halving global greenhouse gas emissions by 2050. The call was made in a statement signed by science academies from 13 countries. So far only G8 countries have agreed to "seriously consider" such cuts and there is growing support among them to go beyond this commitment.

79. IEA: Cutting Global Emissions by 50% Requires Unprecedented Technological Transition

Total investment in technology and deployment needed to cut global carbon dioxide emissions 50 percent by mid-century could cost as much as \$45 trillion, or 1.1 percent of average annual global economic output through 2050, the International Energy Agency (IEA) said on June 6th. IEA Executive Director Nobuo Tanaka said that a 50 percent emissions reduction would yield tremendous energy security. "Oil demand by 2050 would be 27 percent below the level of 2005," he said.

While such a target is achievable, Tanaka said it would be a huge, expensive challenge. In Tokyo to introduce the latest edition of the IEA's report, Energy Technology Perspectives 2008--Scenarios and Strategies to 2050, Tanaka said cutting emissions in half by 2050 "would require immediate policy action and technological transition on an unprecedented scale."

The report emphasized that the price tag of about \$1.1 trillion per year--roughly the size of the economy of Italy --would not necessarily be a reduction in global gross domestic product. Instead, it reflects a re-direction of economic activity and employment, according to the report. "It will essentially require a new global energy revolution which would completely transform the way we produce and use energy," he said, adding that it would require a virtual decarbonization of the power sector.

Given growing demand for electricity, this would mean that, on average, 35 coal and 20 gas-fired power plants would have to be fitted with carbon dioxide capture-and-storage technology every year from 2010 to 2050, at a cost of \$1.5 billion each, he said. In addition, Tanaka said some 32 new nuclear plants would need to be built yearly and wind capacity would have to increase by approximately 17,500 turbines each year.

A needed eightfold reduction of the transport sector's carbon intensity would be the most difficult and costly step, because demand keeps growing rapidly, and existing technology is limited, the IEA report said.

The report cited several other issues to address, such as the NIMBY (not in my backyard) syndrome, the need to boost engineering and technical school graduates, and the need to resolve questions on availability of geological formations for captured carbon dioxide or geologically stable sites for nuclear reactors or waste storage.

The agency said that under today's current "unsustainable" energy use policies, global carbon dioxide emissions will increase 130 percent by 2050 and oil demand will rise 70 percent, five times Saudi Arabia's production today.

Under the "business-as-usual" scenario, the power generation sector alone would account for 44 percent of emissions by 2050, followed by industry, transport, the fuel transformation sector, and buildings, it said. The IEA also examined a scenario in which governments gradually manage to trim global emissions back to current levels by 2050 and another in which they slash them by 50 percent by mid-century.

But the IEA makes clear that--as the world confronts a daunting combination of surging energy demand, rising greenhouse gas emissions, and dwindling resources--it favors the third scenario: cutting emissions in half by 2050. But "emissions halving implies that all options up to a cost of \$200 [per ton of carbon dioxide saved] will be needed," the report said. "This is based on a set of optimistic assumptions for technology development. Under less optimistic assumptions, options that would cost up to \$500 [per ton of carbon dioxide] may be needed," it said.

80. Cut Per Capita CO₂ to India's Level, Top Scientist Urges

Rich nations need to cut per-capita greenhouse gas emissions to India's current levels by mid-century to avoid devastating climate change, according to Britain's former chief scientific adviser, David King. "If you (don't want) run-away climate change, you need to be at about 350 parts per million (ppm) of CO₂ ... We're currently at 387 ppm CO₂, going up at 2 per annum," said King, director at Oxford University's Smith School of Enterprise and Environment.

King said that maintaining atmospheric CO₂ levels at 450 ppm risked a 20 percent chance of global temperatures rising nearly 4 degrees Celsius.

He said Europe needed to reduce its annual per-capita emissions by 80 percent, or from 11 tons of CO₂e, to India's current level of 2.2 tons per person by 2050. The United States, emitting an average of 27 tons of CO₂e per person every year, also needs to fall to these levels if the world is to avoid a dramatic rise in temperatures, he said.

Failure to do so courted environmental disaster, he said, explaining that melting Arctic sea ice heated up the ocean in the far north much faster because ice reflects a large portion of the sun's radiation, while open ocean absorbs the sun's heat. A rise of several degrees Celsius could also mean the Amazon rainforest drying out, turning it into a big source of carbon dioxide emissions rather than a vast sink for the gas as it is now.

81. Global Emissions Increased in 2007, China Now Tops All Emitters

Driven by a booming cement production industry, China's national carbon dioxide emissions surged 8 percent in 2007, maintaining the dubious distinction for a second straight year of being the world's top emitter on a national basis, according to a report released June 13 by the Netherlands Environment Agency. However, the United States remains No. 1 in terms of per capita emissions, the Bilthoven-based agency said.

Global carbon dioxide emissions rose 3.1 percent for the year, the report said, with China accounting for about two-thirds of that increase. It estimated that China's emissions now exceed those of the United States by 14 percent. That is up from 2006, when China's emissions output surpassed U.S. emissions by 8 percent, the agency said.

Just 19 countries accounted for 71 percent of total global carbon dioxide emissions in 2007, the agency said. China topped the list, with a 24 percent share, followed by the United States at 21 percent, and the 15 EU original member states (EU-15) with 12 percent. India contributed 8 percent of the world's carbon dioxide emissions, and the Russian Federation contributed 6 percent.

U.S. residents remain the world's biggest polluters per capita, putting out 19.4 metric tons of carbon dioxide per person, followed by Russians (11.8 metric tons), Europeans (8.6), Chinese (5.1), and Indians (1.8).

82. Toyota, Honda Moving Forward With Hydrogen Fuel-Cell Vehicles

Toyota Motor Corp has announced that it has developed an advanced fuel-cell vehicle that can run for 830 km (516 miles) on a single tank of hydrogen and in temperatures as low as 30 degrees Celsius below freezing (-22 F). The zero-emission FCHV-adv will be leased to government agencies, among other possible users, in Japan starting later this year, it said.

The new version of the fuel-cell car, which runs on hydrogen and emits only water, increased fuel efficiency by 25 percent with an improved fuel cell unit and other changes to its brake system and elsewhere. Combined with a slightly bigger fuel tank and a doubling of the maximum storage pressure, the FCHV-adv extended the cruising range from the previous FCHV's 330 km (205 miles), Toyota said in a statement. It has a maximum speed of 155 km per hour (97 mph).

Toyota and domestic rival Honda Motor Co became the world's first two automakers to put a fuel-cell vehicle on the road in December 2002, and have since been in a tight race to prepare them for mass-commercialization.

Honda's latest FCX Clarity, a sporty-looking fuel-cell sedan, can run 620 km (385 miles) on a single fuelling as measured under Japan's fuel efficiency test method. It can go as fast as 160 km per hour (99 mph), uses a lithium-ion battery and can withstand temperatures from -30 to 95 degrees Celsius (-22F to 203F). Honda plans to begin leasing the car in the United States starting next month and in Japan later this year. It is targeting lease sales of about 200 FCX Clarity cars in the first three years in the two countries combined.

Toyota's FCHV-adv, which uses a nickel-metal hydride battery, will be showcased as a test-ride vehicle at the Group of Eight rich nations' summit in Toyako, northern Japan, next month. It will also provide more than 70 hybrid cars and hydrogen-fuelled buses for use by summit participants.

Japan's Mitsubishi Motors Corp said separately it would provide 10 of its i-MiEV pure electric minicars for the summit. The automaker plans to bring the rechargeable electric cars to market in Japan next year, while plans are also underway to begin fleet testing at some U.S. power companies as early as this autumn.

83. PG&E Investing Billions to Support Plug-In Cars - CEO

The chief executive of California utility Pacific Gas & Electric Co announced that his company is investing billions of dollars in developing the infrastructure necessary to support plug-in hybrid vehicle technology.

"Today, our electric grid cannot support massive quantities of plug-in hybrid vehicles very well, and there is much work we have to do to accomplish that," Peter Darbee said at a plug-in vehicles conference sponsored by the Brookings Institute and Google.org. "But I think much of that work can be done over a five-year time frame in California and a 10-year time frame throughout the remainder of the United States. In short, we need to transform the electric grid in the United States."

PG&E is a combined natural gas and electric utility operating in northern and central California with a market capitalization of US\$14.1 billion. According to company data, PG&E provided electric power to roughly 5.1 million distribution customers and natural gas to 4.3 million customers in 2007.

Darbee stressed the importance of incentive pricing and a "smart electric grid" that would allow and encourage customers to charge their vehicles during off-peak hours, increasing the stability of the system. PG&E has the technology ready to roll out 10 million "smart meters" to customers that will enable this process, Darbee said.

Looking to the future, Darbee said there is still much progress to be made. Vehicle to grid technology, which would allow cars to communicate with the utility in order to pick the most cost-effective time to charge, is still 10 to 20 years away, he said. This technology would also allow the power supply to be reversed, giving a vehicle the capability to provide power to a home.