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CAR LINES

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Happy Holidays to All and Best Wishes for a Safe, Healthy and Environmentally Sustainable 2007[1]

[1] Special Thanks to Gerda Kuschel and Bruce Madden

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EUROPE

1. EU Commission Now Supports Tougher Car Emissions Standards

After initial resistance, the European Commission now supports moves to tighten vehicle emissions limits further than those foreseen in current proposals (Euro 5), it has announced.

According to the Commission, reduced emissions from road transport are an important factor to improve air quality in urban areas, particularly because the numbers of diesel vehicles is increasing in many parts of the EU. Air quality limit values for NOx are often exceeded in densely populated areas close to major roads. The Euro 5 Regulation proposes to set tighter emission limits of particles and of NOx for new cars and vans sold in the EU market (e.g. 80% cut in the emission limit for particulate matter from diesel cars). Beyond euro 5, a large majority of Member States and the Environment Committee of the EP have requested to reduce limits even more and to adopt a Euro 6 stage together with Euro 5. Euro 6 would set significantly lower emission limits for NOx emissions from diesel cars and would enter into force 5 years after Euro 5, i.e. in 2014/15. The Commission endorses this new approach, which has been subject to the necessary impact assessments, and is actively working to reach an inter-institutional agreement.

As the Euro 6 stage constitutes a significant tightening of the emission limits, the services of the Enterprise and Industry DG held a public hearing with stakeholders to discuss the proposal and to present an additional impact assessment on Euro 6. For the modeling of the environmental and health impacts of a Euro 6 stage, an emission limit for diesel cars of 80 mg/km coming into force in 2014 to 2015 was assumed. The results of the modeling suggest the following key aspects:

- There will be an additional 24% reduction in overall NOx emissions from light duty vehicles in 2020 compared to the introduction of Euro 5 only.
- This reduction in emissions will contribute to light duty vehicles meeting 26% of the target for NOx reduction contained in the draft European Commission Thematic Strategy for Air Pollution.
- Reductions in emissions will continue to grow after 2020 as the older, more polluting vehicles retire from the vehicle fleet.
- The forecast indicates that the introduction of Euro 6 will have no significant impact on CO2 emissions or sales of diesel vehicles.
- The NOx emission reduction from Euro 6 will increase the health benefits by approximately 60 – 90% relative to Euro 5.

The following table shows additional costs of reducing emissions from diesel cars.

Table 1: Sales weighted average cost per diesel vehicle (2005 prices)

	Scenario A (Euro 6)	**Euro 5 Proposal**	**Euro 4**

PM NOx	5 mg/km 75 mg/km	5 mg/km 200 mg/km	25 mg/km 250 mg/km
Cost relative to Euro 4	**€590**	**€377**	**€0**
Cost relative to Euro 5 proposal	**€213**	**€0**	**-**

Source: Adapted from Euro 5 Impact Assessment (SEC (2005) 1745)

To reach NOx emission limits of 75 – 80 mg/km, it was initially concluded that selective catalytic reduction (SCR) technology, using ammonia as a reducing agent, was the aftertreatment option that would be used on all vehicles. In addition, a package of internal engine measures would be applied that would vary from engine to engine depending on its basic characteristics and the preferences of the manufacturer.

In the intervening period since the Euro 5 data were originally collated, subsequent information from stakeholders suggests that diesel technology has continued to develop at a fast pace. This suggests that engine technology has advanced in such a way that much lower 'engine out' NOx emissions will be possible with future diesel engines. For example, strong advances in both injection systems and combustion control techniques have been witnessed. Indeed some stakeholders consider that engine measures alone will be sufficient to meet the limit values of Scenario A for many types of vehicle.

Given the developments in engine technology, the constraints related to some of the aftertreatment technologies have reduced, offering manufacturers much greater choice as to how to achieve low NOx emission values. It is now considered unlikely that SCR will be required on all vehicles to meet the emission limits of Scenario A. On this issue, there has been much interest in the announcements made in the United States where a number of manufacturers plan to launch diesel vehicles in the next few years that meet the stringent Tier 2, Bin 5 standard (approximately corresponding to a 43 mg/km NOx emission limit). Indeed, it is understood that not all these vehicles will use a SCR system to meet the US limit values.

The aggregate effect of these developments is that since the data for Scenario A were collected, there now seems to be greater flexibility in the choice of technology options for meeting lower NOx limits for diesel cars. The implications of the developments on the cost of achieving the lower limit values are not clear, though it is difficult to see how the costs could increase above the level calculated in the Euro 5 Impact Assessment. Furthermore, the Euro 5 data collection exercise was focused on the 2009/2010 time horizon. With the introduction of the Euro 6 standard a number of years after the Euro 5 stage, it is likely that the scope for additional cost reduction through greater technological development will be further enhanced. Therefore it is probable that the costs for Scenario A provide an upper estimate of the costs for Euro 6 in a 2014/2015 time frame. Furthermore, studies[7] have shown that ex-ante estimates of compliance costs in the automotive sector are often overstated, and that ex-post costs can be much lower (e.g. by a factor of 2). Overall, the costs calculated for Scenario A of the Euro 5 Impact Assessment provide a fairly conservative basis for the Euro 6 impact assessment.

In terms of health effects, the analysis of the impact on air quality of the combined contribution to emission reduction of Euro 5 and Euro 6, undertaken with RAINS, is

shown in Table 2. This shows that further reducing emission limits at Euro 6 increases the health benefits by approximately 60-90% relative to Euro 5.

Table 2: Changes in Health Impacts Associated with Euro 5 and 6 in 2020

	Reduction Euro 5	Reduction Euro 5& 6	Increase in benefit	Unit	Pollutant
Acute Mortality (All ages)	72	112	57%	Premature deaths	O_3
Chronic Mortality (30yr +)	2,000	3,800	90%	Premature deaths	PM
Chronic Mortality (All ages)	20,600	35,900	74%	Life years lost	PM
Restricted Activity Days (RADs 15-64yr)	1,850,000	3,180,000	71%	Days	PM

Source: RAINS, Environment DG

2. Verheugen Backs "Realistic" EU Emissions Goal

The European Union's industry commissioner has urged the 25-nation bloc to set a "realistic unilateral" target for cutting carbon dioxide (CO2) emissions by 2020 and offer to go further if other nations join the drive. European Commission Vice-President Guenter Verheugen said in a letter the EU should also agree legally binding goals to increase renewable energy and bring cars for the first time into its emissions trading scheme.

But he warned in the letter to Commission President Jose Manuel Barroso against damaging Europe's drive to boost growth and jobs by setting too ambitious short-term targets that could damage economic competitiveness.

The proposals by the German commissioner, regarded as the manufacturing industry's strongest advocate in the EU executive, signal a brewing debate in the Brussels body about how "green" an energy policy review due in January should be.

"We need to propose a realistic unilateral target for 2020, which we would further strengthen if other countries also commit to substantial actions to fight climate change," Verheugen said.

Caps on greenhouse gases under the Kyoto Protocol only go through 2012, and the EU is leading a drive to get other big nations to commit to cuts in the period after that. But the approach of agreeing a single international target for cutting emissions had failed to provide an incentive for other big polluters such as the United States and China to play along in the battle against global warming, Verheugen argued.

Verheugen cautioned that what he called unrealistic targets could be hugely expensive and make European business less globally competitive. "The tentative empirical work undertaken by my services suggests that 2020 unilateral targets of more than 15 percent off 1990 levels could imply significant costs," he wrote. "Targets between 10 and 15 percent would already imply electricity price increases in Europe of some 10 percent and prices of CO2 of up to 30 euros per ton."

Verheugen did not explain how cars could be included in the complex emissions trading scheme (ETS), which now covers less than half of total EU emissions, mainly in electricity generation and heavily polluting industries. Under the scheme, limits are set on the amount of CO2 that factories can release, forcing companies to buy emissions permits if they exceed their cap.

"We need to extend the (emissions trading) system to bring in other sectors -- e.g. cars -- as well as other gases. There is no justification for excluding these from the ETS -- we must avoid the proliferation of stand-alone schemes or alternative outdated "command and control" approaches," he said.

His embrace of the idea may be aimed at forestalling the declared intention of Environment Minister Stavros Dimas to propose binding legislation to make the automobile industry respect emissions norms for cars, which have so far been voluntary and not fully achieved.

3. London Targets Gas-Guzzlers with Congestion Charge

Drivers of gas-guzzling cars could be charged 25 pounds a day to enter the central London congestion zone, under an emissions-based scheme put forward by Mayor Ken Livingstone. Under the proposals, just released for consultation, the most polluting cars -- those that produce more than 225g of CO2 per km -- would attract the charge while the most eco-friendly vehicles (less than 120g) would travel free.

Other vehicles would continue to pay the usual flat rate of 8 pounds.

"Londoners are becoming increasingly aware of the need to tackle climate change and reduce CO2 emissions," Livingstone said in a statement. "Most vehicles that will be charged 25 pounds, in Vehicle Excise Duty Band G, are high priced models. Those who buy them can afford to choose from pretty much the whole of the mainstream car market but have chosen to buy one of the most polluting vehicles."

At present drivers entering the congestion zone between 6:30 a.m. and 7:00 p.m. weekdays must pay the 8 pounds a day or face a penalty of 50 pounds.

Livingstone has said although only 1 in 20 Londoners drive the most polluting cars, about 1 in 5 cars in the central congestion zone were of this type.

Last month, Richmond Borough Council in southwest London said it was proposing to charge residents who drive gas-guzzling cars significantly more to park outside their homes, in a bid to tackle pollution. The local authority said it wanted to introduce a charging structure based on CO2 emissions. Owners of the most polluting cars could face bills 200 percent higher.

In August, a poll found that over two-thirds of Londoners backed Livingstone's plans to discourage the use of 4x4s, mockingly dubbed "Chelsea Tractors" after the wealthy London district where they are especially popular.

4. UK Transport Plan Backs Road Charge, Air Travel

A plan for Britain's transport system from 2015 will back national road pricing, streamlined planning decisions and air traffic expansion but rule out new high-speed rail lines, according to press reports. A report by former British Airways chief Rod Eddington is expected to be published around the time of the mini-budget on Dec. 6 after an inquiry lasting 15 months.

As a first step, improving links between London, Heathrow airport and the central English city of Birmingham are likely to be considered.

A report last month by former World Bank chief economist Nicholas Stern said that while actions now to curb carbon emissions would cost 1 percent of world economic output, delays could push the price up to 20 percent.

Giving a heavy hint on where he was going from the outset on planning, Eddington told a parliamentary committee a year ago: "We accept that sometimes the answer will be no, but it should not take four years and cost us 45 million pounds to get a no."

Differentiated road pricing -- charging different rates for vehicles using clogged roads at different times of day to reduce congestion -- is supported by the Confederation of British Industry as being positive for growth. The CBI argues that while the charge would be an up-front cost on business it could reap huge benefits from reduced journey times and therefore better-planned deliveries.

Industry also supports urban congestion charges such as that operating in central London, but says the schemes need to be refined and spread to other key cities.

5. EU Commission Begins Investigation of Swedish CO2 Tax Reductions

On November 8th, the European Commission launched a formal investigation into the legality of tax reductions granted by the Swedish government to companies forced to reduce carbon dioxide emissions under the European Union's CO2 emissions trading scheme (EU ETS). The EU executive body stated it was "concerned" that the Swedish tax cuts were a violation of EU state aid rules and could distort competition in the EU single market.

Under the Swedish laws, fuel consumed in the manufacturing process in industrial activities and fuel consumed for heat production in certain ultra-efficient combined heat and power plants (CHP) would be fully exempted from CO2 tax. That contrasts with fuel consumed in CHP plants in other installations covered by the EU ETS, which would continue to be subject to part of the CO2 tax.

"The [Swedish] government allegedly intends to eliminate double regulation of CO2 emissions by taxes and emission quotas arguing that double regulation will not lead to any further CO2 reduction but only increase the firms' costs creating a double burden," the commission said.

However, the commission countered that "the proposal would lead to a situation where fuel consumed in the manufacturing process in industrial activities and fuel consumed for heat production in certain ultra-efficient CHP plants would not be subject to any energy tax within the meaning of the [EU] energy tax directive."

The EU minimum energy tax rates are laid out in the EU Energy Tax Directive (EEC/2003/96). In Sweden, which has had a CO2 tax in place for more than a decade and has previously been investigated by the commission over how it is implemented, the levy is imposed in order to comply with those minimum rates.

The EU ETS, which began in 2005, put a cap on CO2 emissions from some types of installations, including power plant and , steel, iron ore, glass, cement, and other large power-consuming facilities. The facilities are given certain allowances for the amount of CO2 they can release under the ETS. If they do need to exceed their allowances, the companies must buy allowances from other companies.

The commission launched a similar case against Denmark in September.

6. France to Tax Coal-Fired Electricity, Raise Other Environmental Taxes

On November 13th, French Prime Minister Dominique de Villepin announced plans to raise taxes on coal-fired electricity and to push for EU-wide tariffs on imports from countries that do not take part in Kyoto Protocol efforts to reduce greenhouse gas emissions.

The prime minister's statement, together with a pledge by Interior Minister and leading presidential candidate Nicolas Sarkozy to overhaul environmental taxes, suggests that environmental policy will play a central role in the run-up to next year's legislative and presidential elections.

Villepin announced the tax initiatives during a high-level meeting of an inter-ministerial committee on sustainable development. He said the coal tax and planned 10 percent hikes to existing taxes on some forms of industrial pollution and waste would become effective on January 1st.

With much of the interministerial meeting focused on climate change policy, Villepin also announced plans to launch a major study of transport policy to assess the feasibility of taxing inner-city driving, truck transport through sensitive areas like the Alps, or total carbon dioxide emissions linked to merchandise transport.

He also proposed a pan-European "carbon tax" on goods imported from countries that refuse to commit to greenhouse gas emissions. This echoes a similar proposal put forward by Sarkozy earlier in the month.

The new tax on coal--until now exempt from any specific environmental taxation--was seen as the strongest measure announced during the interministerial meeting. France will assess a [Euros] 1.19 euro ($1.53) levy per megawatt-hour (MWh) of electricity generated by coal-fired power plants, operated principally by state-owned utility Electricite de France, Villepin said.

The second concrete environmental tax reform announced during the interministerial meeting concerns a 10 percent increase in industrial pollution and industrial waste management taxes collected under the general eco-tax regime (Taxe Generale sur les Activites Polluantes, TGAP).

Villepin estimated that the new coal tax and TGAP reforms would boost eco-tax revenues by at least [Euros] 50 million annually, all of which he said will be earmarked for new programs to fight climate change.

The government also announced a new carrot-and-stick approach for assessing TGAP in the future. Firms will see annual TGAP payments indexed to inflation from 2007, but those with environmental management certification--such as that offered by ISO 14001 or the European Union's EMAS system--will be exonerated from future indexing.

The interministerial meeting also approved inclusion of a number of other green tax proposals in a year-end finance bill, including:

- a 10 percent increase in the airport noise tax (Taxe sur les Nuisances Sonores Aeriennes, TNSA), with all proceeds earmarked for noise mitigation projects in areas adjacent to French airports;
- up to 50 percent property tax reductions on new construction that meets tighter environmental quality and energy-efficiency standards;
- up to 100 percent property tax reductions on agricultural land dedicated to organic, or chemical-free farming; and
- Reinforced environmental tax credits, including a new 50 percent tax break on the purchase of energy-efficient appliances and infrastructure.

The most provocative announcements from the interministerial meeting cover potential reforms to transport policy. Transport Minister Dominique Perben will launch a series of new studies on urban traffic in the coming weeks, aimed at determining the feasibility and potential effectiveness of using congestion tolls or other road-use fees to curb traffic and pollution in city centers.

Perben also will study the feasibility of implementing new road-use charges on the international trucking firms that move freight across Europe via French motorways, particularly in environmentally sensitive areas, Villepin said.

The transport ministry will also prepare a proposal for discussions at the EU level on a possible pan-European carbon dioxide emissions trading system for merchandise transport, Villepin said.

Meanwhile, on November 8th, Interior Minister Sarkozy, a leading candidate for the 2007 presidential elections, announced his own plans to overhaul environmental taxation. "Taxation is without a doubt the best tool for influencing daily behavior," Sarkozy said in a signed opinion piece in French daily newspaper Le Figaro. "We can at the minimum double environmental taxation over five years."

Sarkozy called for the creation of new "environmental tax credits" for personal and commercial investments in green technology and for the formation of a public-private Green Tax Commission to study and propose economically efficient environmental taxes.

Sarkozy said revenue from environmental taxation would be split evenly between lowering taxes in other sectors, notably on labor, and funding environmental protection projects. "Environmental taxation should not be seen as a means of reducing the budget

deficit," he said.

Sarkozy presented his plan one day after television presenter Nicolas Hulot unveiled a five-part manifesto for improving French environmental policy. French opinion polls consistently rank Hulot as the country's leading voice on environmental affairs, and speculation is rife that he may make an independent bid for the presidency.

While Sarkozy hailed Hulot's diagnosis, he rejected one of his principal suggestions concerning a carbon tax on fuel. Sarkozy said he would oppose new taxes designed specifically to curb consumer purchasing power. The global nature of the climate change problem calls for a more international approach, Sarkozy said. He suggested that the European Union should consider levying a carbon tax on products imported from countries that have not signed on to the greenhouse gas emission-reduction commitments in the Kyoto Protocol.

To protect the competitiveness of European firms, Sarkozy said the European Union should also consider new tax breaks for exporters to better reflect the cost of meeting their climate change obligations.

Candidates from France's major parties have all expressed support for Hulot's ideas. Several leading Socialist Party candidates have said they would implement Hulot's suggestion that the government create a vice prime minister post to oversee environmental affairs, with two offering the job to Hulot in exchange for his support in the upcoming election.

Sarkozy, for his part, has proposed creation of a new ministry charged with managing energy, environment, and transport policies now split between the ministries of ecology and sustainable development, infrastructure, and industry. The ministry would not only set and enforce policy, but would also be given the financial means to implement change, Sarkozy said.

7. European Commission Unveils Action Plan on Energy Efficiency

As a major step toward meeting the unprecedented energy challenges facing the EU, the European Commission presented its Energy Efficiency Action Plan. The Plan contains a package of priority measures covering a wide range of cost-effective energy efficiency initiatives. These include actions to make energy appliances, buildings, and transport and energy generation more efficient. Stringent new energy efficiency standards, promotion of energy services, specific financing mechanisms to support more energy efficient products are proposed. The Commission will furthermore set a Covenant of Mayors of the 20-30 most pioneering cities in Europe and will propose an international agreement on energy efficiency. Altogether, over 75 measures are set forth.

"Europeans need to save energy. Europe wastes at least 20% of the energy it uses. By saving energy, Europe will help address climate change, as well as its rising consumption, and its dependence on fossil fuels imported from outside the Union's borders." said Energy Commissioner Piebalgs. "Energy efficiency is crucial for Europe: If we take action now, the direct cost of our energy consumption could be reduced by more than €100 billion annually by 2020; around 780 millions tons of CO_2 will also be avoided yearly" he pointed out.

The Action Plan, which will be implemented over the next six years, is in response to the urgent call from Heads of State and Government at the Spring European Council this year for a realistic Energy Efficiency strategy. The Plan underlines the importance of minimum energy performance standards for a wide range of appliances and equipment (from household goods such as fridges and air conditioners to industrial pumps and fans), and for buildings and energy services. In combination with performance ratings and labeling schemes minimum performance standards represent a powerful tool for removing inefficient products from the market, informing consumers of the most efficient products and transforming the market to make it more energy efficient. Minimum performance requirements for new and renovated buildings will be developed. Very low energy consumption buildings (or passive houses) will also be promoted.

The Plan emphasizes the considerable potential for reducing losses in the generation, transmission and distribution of electricity. The Action Plan proposes targeted instruments to improve the efficiency of both new and existing generation capacity and to reduce transmission and distribution losses.

A comprehensive set of measures for improving energy efficiency in the area of transport is put forward. The Plan recognizes that energy savings can be achieved, in particular, by ensuring fuel efficiency of cars, developing markets for cleaner vehicles, ensuring proper tire pressure and by improving the efficiency of urban, rail, maritime and aviation transport systems. The Plan recognizes the importance of changing transportation behavior.

The Action Plan also calls for appropriate and predictable price signals, essential for improving energy efficiency and overall economic performance.

The Plan also contains a number of additional proposals to raise energy efficiency awareness, such as education and training. Finally, the Plan emphasizes the urgent need for energy efficiency issues to be addressed on a global level through international partnerships.

The Action Plan on Energy Efficiency, when fully implemented, can thus improve the Union's competitiveness, improve the living standards of its citizens, boost employment and increase exports of new, energy-efficient technology. On an individual level, small changes in our energy consumption patterns will mean saving money, improving the environment and doing our share for our common European goals.

8. Council Cold on Taxes for Energy Efficiency

Member states are close to finalizing their response to the EU action plan on energy efficiency proposed by the European commission (see above). Pointedly, the council's draft conclusions avoid any reference to the commission's desire to "facilitate a more targeted and coherent use of energy taxation".

Early drafts of the conclusions had spoken of "encouraging the commission to examine the potential of financial instruments and economic incentives" for promoting energy efficiency. All such references have since been removed from the text, as objections by some member states meant that the required unanimity was not going to be achieved.

Government officials also disagreed on how best to achieve the EU's objective of reducing carbon dioxide emissions from new cars to 120 grams per kilometer by 2012. As a result, a compromise was reportedly agreed calling for an "integrated approach including legislation and voluntary agreements".

In the action plan, the commission stated its intention to propose a "substantial expansion" of the 2002 buildings energy performance directive in 2009. The council agrees that such an expansion should be considered, but only after an assessment of the current implementation of the directive has been carried out. Many member states have struggled to implement key provisions in the directive.

The council identifies five key priorities for action from among the 70 initiatives specified in the plan. As well as improvements in building and vehicle efficiency, the conclusions will call for strengthened minimum efficiency requirements for energy-using products, an expansion of the energy labeling directive, and further development of energy efficient technologies.

9. France Urged to Take Action on Scooter Emissions

France should move to curb greenhouse gas emissions from motorcycles and scooters, which are growing far faster than those from the transport sector as a whole, according to an annual report published on October 25th by an inter-ministerial commission. The commission urged France to consider new registration and emission norms for scooters, which are seen as the least energy-efficient two-wheeled vehicles on the road. It should also seek to speed the pace of ongoing EU deliberations to create pan-European carbon dioxide emission measurement standards and pollution labeling requirements for two-wheeled vehicles, the commission said. The commission also called on France to increase long-term funding of research and development on low-emission public transport schemes. It also proposed that the finance ministry adjust taxes on urban taxis to take carbon emissions into account. Similarly, the commission suggests that France extend the duration of existing tax breaks aimed at encouraging acquisition of low-emission vehicles to match the expected lifespan of these vehicles.

10. French State of the Environment Report Describes Challenges

France has made progress in reducing pollution, but economic growth and consumption patterns continue to put pressure on natural resources, according to a report released on .October 17th by the French Environmental Institute (IFEN). IFEN's latest State of the Environment report--a snapshot of environmental trends and indicators published every four years--shows that French carbon dioxide emissions have been "decoupled" from economic growth and are now rising much slower than economic productivity.

IFEN attributes the slower carbon emission growth to ongoing bids to curb emissions from the transport and industrial sector, as well as France's ongoing reliance on nuclear power for most of its electricity.

The report forecasts that France will meet its Kyoto Protocol commitment to freeze emissions at 1990 levels over the 2008-2012 period, but warns that major progress must still be made in the residential and commercial real estate sector, where emissions are

still rising.

The report takes a similar approach on other sectors, pointing out improvements while warning of threats on the horizon.

Urban air quality is seen to have improved nationwide over the past decade, but concentrations of the most dangerous transport-based pollutants appear to be rising, IFEN said.

The strongest warning in the IFEN report concerns threats to biodiversity and natural resources posed by the rapid development of open space. IFEN shows that France is now losing 60,000 hectares of agricultural land and open space annually to "urban sprawl," principally around the country's major cities and along its Atlantic and Mediterranean coasts. Open space loss puts numerous animal and plant species at risk, while unchecked urban sprawl is expected to increase pollution and other environmental impacts nationwide.

11. U.K. Gas Station Program Aims to Capture Emissions

Some 85 percent of gasoline fumes released into the atmosphere by cars filling up at U.K. service stations will be recovered under a new program, the U.K. government announced on October 23rd. The Department for Environment, Food and Rural Affairs (DEFRA) said that under the Petrol Vapor Recovery stage II controls (PVRII), every gas station selling more than 3.5 million liters of petrol per year must fit new equipment to capture fumes by Jan. 1, 2010. According to DEFRA, "fumes add to the formation of summer smog, a combination of ground level ozone, which harms human health, vegetation, and buildings, and particulate matter which is associated with premature mortality." Announcing the new rules, Ben Bradshaw, minister for air quality, said in a statement, "The impact of the costs involved has been considered carefully. We want a common sense balance between the likely benefits for air quality and protecting the viability of businesses. That's why we are confining the measure to larger service stations." Implementation of the PVRII technology will reduce emissions of volatile organic compounds by 12.4 kilotons and of benzene emissions by 20.5 tons a year by 2010, according to the government.

12. EU-U.S. Climate Summit Emphasizes Energy Technology

Energy technology research and international standards on biofuels should be prioritized in the fight against climate change, delegates said October 25th at the first EU-U.S. High Level Dialogue on Climate Change, Clean Energy, and Sustainable Development in Helsinki, Finland.

Officials from both sides of the Atlantic emphasized their common interest in reducing greenhouse gas emissions, and said that although the United States is not participating in the Kyoto Protocol, it is playing a leading role in numerous initiatives that serve the same goal. U.S. initiatives to address climate change include the Carbon Sequestration Leadership Forum, the Methane to Markets Partnership, the Asia-Pacific Partnership on Clean Development and Climate, and the Earth Observation Summit, Paula Dobriansky, U.S. Under Secretary of State for Democracy and Global Affairs, told reporters after the meeting.

These initiatives should include programs to introduce international fuel quality and vehicle engine standards, said James Connaughton, Chairman of the White House Council on Environmental Quality, speaking at the same press conference as Dobriansky. Noting that Europe and the United States are both working on more advanced biofuels, including biodiesel and cellulosic ethanol, Connaughton said, "It is very important for us to come to agreement on basic standards for those fuel grades so that manufacturers can produce vehicles and engines that can use the fuel globally."

This would mean opportunities in developing countries as their economies expand, he added. "We want to research, find the successful strategies, and then rapidly standardize the approach so that markets can confidently sell the technologies," Connaughton said.

The call for standardization was the most notable concrete outcome of the summit, which also discussed clean coal, air pollution, biodiversity, and the United Nations Climate Change Conference in Nairobi, Kenya.

Jan-Erik Enestam, Environment Minister of Finland, which holds the rotating EU presidency through December and thus chaired the meeting, said the EU-U.S. dialogue was aimed at "strengthening and supplementing" existing frameworks in preparation for the Nairobi summit.

For the German government, which will take over the EU presidency in January, Matthias Machnig said climate and energy strategies must be integrated. The German EU presidency will concentrate on biofuels and renewables policy, and on energy technologies, he said.

In addition, Germany will work on a strategic energy efficiency plan for the G-8 group of leading industrialized countries, Machnig said. This will reflect the EU's energy efficiency plan, which was published on October 19th and sets out measures to reduce EU energy consumption by 20 percent by 2020.

13. Deal Reached On Car Emission Standards; Diesels Very Weak

Representatives of the European parliament and council of ministers reached agreement on the next two generations of limits on passenger car pollution. The law will set new Euro 5 standards for fine particles, hydrocarbons and nitrogen oxides (NOx) from 2009 for new models (2010 for all vehicles), and tougher Euro 6 standards for NOx only from 2014 for new models (2015 for all vehicles).

In the discussions, the council basically accepted parliament's proposed timetable in return for the council's preferred NOx standards.

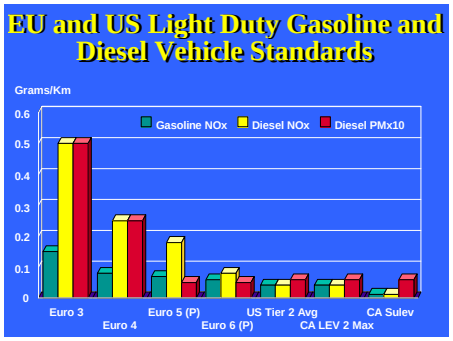
The two sides agreed on a Euro 5 NOx limit of 60 milligram per kilometer for petrol cars – 10mg lower than demanded by parliament's environment committee - and 180 mg/km for diesel cars.

MEPs also dropped demands for a "technology neutral" Euro 6 NOx limit of 70 mg/km for all passenger cars in favor of council's preferred values of 60 and 80 mg/km

respectively for petrol and diesel vehicles.

All Euro 5 standards will enter force in 2009, one year later than proposed by the European commission. Euro 6 NOx limits will apply from 2014, which is also a year later than demanded by some EU governments.

The two sides met in the middle on a timetable for making sport utility vehicles (SUVs) over 2.5 tons subject to car emission standards rather than those for heavy goods vehicles. The two sides agreed on 2012 - ministers had wanted an earlier switch and MEPs a later one.



As illustrated in the Figure, the EU NOx standards in 2015 are substantially more lenient than the US standards currently being phased in. This is even more surprising in light of the serious NO2 problem in European cities (see story below) and the public statements from several major European manufacturers that their diesel models will have no difficulty complying with the US limits.

Agreement was also reached on access to technical information by independent repair operators. Manufacturers will provide operators with repair information based on the industry-standard Oasis format, before moving to an ISO standard. Finally, member states will be able to offer financial incentives for the purchase of vehicles meeting the Euro 5 and 6 standards before the standards actually come in to force.

The full parliament approved the agreement at its plenary session on 13 December, defeating several amendments intended to strengthen it and the council will now have until 21 December at the latest to adopt the regulation before the winter break.

14. Commission Issues Summary Of NO_2 Meeting

Following the EU level workshop on the impact of direct emissions of NO_2 from road vehicles on NO_2 concentrations which took place in Brussels on 19 September 2006, the EU Commission has prepared Summary meeting notes. Key points included:

(1) Observations and projections of ambient NO_2 concentrations suggest that there will be widespread non-compliance with the existing limit values when they enter into force in 2010.

(2) While the concentrations of ambient NOx are on a downward trend, concentrations of NO2 have often been static or even rising. Atmospheric chemistry alone cannot account for this behavior. The short-term limit on NO_2 was not exceeded in the past but it now is.

(3) The development of ambient NO_2 concentrations as observed near roadsides can be explained by an increasing contribution of direct emissions of NO_2 specifically from diesel-powered vehicles, both light-duty and heavy-duty. Instead of the 5% share of NO_2 in the emitted NOx typically assumed in standard atmospheric pollution models, modern diesel cars can be as high as 30-80%.

This trend in ambient concentrations of NO_2 is expected to continue and to exacerbate any non-compliance with ambient limit values in 2010. The increasing concentration of background ozone near the surface, e.g. observed in Germany, should increase the NO_2/NO_x ratio to some extent depending on the meteorological conditions.

(4) The rising direct NO_2 emissions from diesel vehicles are caused by the use of exhaust aftertreatment equipment, including oxidation catalysts (mostly since the introduction of Euro 3 standards for light-duty vehicles) and retrofitted continuously regenerating particulate traps (CRT) on urban buses. This equipment has been introduced in order to address other types of health-related air pollution (CO, hydrocarbons and particulate matter) but it is now seen to create problems related both to the health impact from NO_2 and to the legal compliance of Member States in view of EU limit values.

(5) The introduction of low-sulfur fuel may also act to increase the efficiency of the oxidation catalyst, thereby exacerbating the NO_2 problem.

(6) NO_2 is mostly not seen as a pressing issue in the United States at the moment. The current US limit values on NO_2 are not following the WHO advice to the same extent as those in the EU. However, they are based on less recent evidence than those in the EU. Diesel cars are expected to enter the US market but they will have to meet Tier II Bin 5 limit values, which are much stricter in terms of NO_x than even the currently discussed Euro 6 standard[2]. Retrofitted CRT on urban buses may be more of an issue in the US. California plans to take steps to constrain the NO_2/NO_x ratio in its diesel retrofit program in two steps[3].

(7) There are different types of response that have been identified in view of the available evidence.

a. Some suggest that source-specific legislation is needed urgently, either (i) specifying a low level of NO_x emissions in combination with a cap on the share of NO_2 (in the order of 20% at most), or (ii) not specifying a cap on the share of NO_2 but setting an even lower limit value for NO_x emissions. This legislation needs to be connected to the real-world emissions rather than those under the current test cycle. Doubts have been expressed whether a future Euro 6 standard will be sufficient because it is likely to come too late even with a five-year time extension of the entry into force of the NO_2 ambient limit value.

b. Others argue that the car industry is in any case preparing for future stringent NO_x limit values (Euro 6 for light-duty vehicles and Euro VI for heavy-duty vehicles). The absolute level of NO_x emissions will thereby decrease substantially, making a separate regulation of NO_2 emissions unnecessary. A maximum five-year time extension of the entry into force of the NO_2 ambient limit value where this is needed, as in the Commission proposal on the air quality Directive, would provide sufficient time for the benefits of these new technologies to make themselves felt.

c. It was also suggested that a short-term (partial) solution might be to soften the requirements on CO for diesel cars, for example by raising the diesel standard to that of petrol vehicles, which would enable a less active

[2] Now agreed to by the Parliament and the Council
[3] See discussion later in this report.

oxidation catalyst. However this was disputed in view of the need of oxidation catalysts/NO_2 for the functioning of DPFs, where otherwise active regeneration would be needed with consequent rises in fuel consumption.

d. It was suggested that there needed to be a combination of (i) agreement on a limit on the NO_2 fraction in the exhaust gas (20-30%), (ii) agreement on the measurement method of NO_2, and (iii) a relaxation of CO and hydrocarbons as described above. With low-sulfur fuel available, this might enable the same result on NO_x while encountering more frequent post-injection events and hence, elevated fuel consumption. This option raised questions about the timing of any new limit value (related to the NO_2 share).

(8) There was a brief exchange of views on the health impacts of NO_2. The WHO recommendation was based on what was measured by the monitoring stations. Recent animal tests suggested that the toxicity of raw diesel exhaust was enhanced in the case of engines fitted with an oxidation catalyst and DPF.

(9) Issues for further work include:

- Establishing a measurement method to determine the NO_2 content in the exhaust gas of diesel vehicles (see e.g. presentation by Raymond Gense);
- The air quality impact of retrofitted CRT on urban buses needs to be considered carefully.

The chair concluded that the workshop had exhaustively covered the issue. Further work was needed to establish some of the issues in more detail. A single conclusion could not be reached on follow-up action by the Commission but all contributions were duly noted and would be taken into account in further work on the air quality legislation and vehicle emissions regulation.

15. Germany Offers Tax Break for Diesel Exhaust Filters

On November 29th, Germany's Federal Cabinet approved legislation to offer tax incentives to the owners of diesel automobiles if they install exhaust filters. The policy still needs parliamentary approval, but as drafted will take effect April 1, 2007. The rule would cancel up to [Euros] 330 ($440) in taxes on diesel vehicles that are fitted with soot filters between Jan. 1, 2006 and Dec. 31, 2009. Additionally, a new tax is to be levied on cars that are not equipped with the filters. This will amount to [Euros] 1.20 per 100 cubic centimeters of vehicle capacity. The tax would stay in effect through March 31, 2011. The government attempted to implement similar legislation in 2005 but the attempt failed when the federal government and the German states could not reach an agreement. A spokesman for the Federal Environment Ministry said that this time an agreement has been reached which should ensure enactment.

Filters must cut emissions to 5 milligrams per kilometer, the new EU legal standard for new cars.

16. Ruling Exempts Italian Bus Program From Aid Rule

On December 8th, Italian antitrust officials and the European Commission jointly ruled that a [Euros] 6.3 million ($8.3 million) Italian government program to pay the costs for fitting public buses with special particulate filters did not constitute illegal state aid. Previously, it was thought that the filters should be paid for by local governments and that aid from the national government would be considered illegal assistance. The decision also will affect the sale of new buses, since the initiative brings older vehicles up to standard, lessening the need to buy replacement buses. The decision, however, says that the negative aspects of the anticompetitive behavior are more than compensated for by the benefits of using the filters. New buses produced in the European Union already come equipped with the new particulate filters while older buses must be retrofitted to meet mandatory standards.

17. EU Car CO2 Emissions Paper Delayed

The European commission has delayed until mid-January closely watched proposals on how to continue reducing carbon emissions from new cars after 2008/9, when an existing voluntary agreement with manufacturers expires. The paper was to appear this week. The postponement until after a major energy policy announcement due on January 10th has prompted speculation of a major rethink, particularly following a high-profile intervention by enterprise commissioner Gunter Verheugen.

Citing failure of the voluntary agreement, environment commissioner Stavros Dimas is demanding legislation under which carmakers would be required to reach an average of 120 grams per kilometer CO2 by 2012.

Mr. Verheugen called for cars to be brought into the EU emission trading scheme instead and warned against a "proliferation of stand-alone schemes". Carmakers are pleading for an "integrated approach" that would put at least as much emphasis on stimulating demand for low-CO2 cars.

A spokeswoman for Mr. Dimas insisted that the reasons for the delay were more administrative than political. The commissioner "is confident that the file will go through in January", including legally binding targets.

18. European Carmakers Urge EU Not To Impose CO2 Limits

The European Automobile Manufacturers Association (ACEA) appealed to the European Union not to impose limits for carbon dioxide emissions on carmakers struggling to meet voluntary CO2 reduction goals. "It should not be, it cannot be the responsibility of the (automotive) industry alone," ACEA Secretary General Ivan Hodac told an industry conference, saying politicians had failed to do their part by shifting taxation to foster clean cars.

But Georgette Lalis, director of the European Commission's consumer goods directorate, said politicians would find it hard to simply disregard the target of reducing new cars' average CO2 emissions to 140 g/km driven by 2008 as agreed with carmakers. "A decision has not been taken by the Commission yet. It is most likely to happen in the beginning of January," she said during a panel discussion at the Handelsblatt conference. But "140 is the number" anchored in the public debate, she added.

Hodac said carmakers had made great strides to reduce CO2 emissions but faced resistance from consumers who did not want to pay more for fuel efficient cars and who did not have financial incentives to do so.

Officials said the longer-term solution was to cap CO2 output by encouraging the use of biofuel. Adding 10 percent biofuel to standard fuels could let the industry meet the goal of cutting CO2 emissions to 120 g/km by 2012, they said.

Brussels has been warning since August that European and Asian automakers must do more to meet voluntary targets to reduce CO2 emissions or face possible legislative action. Average CO2 emissions from new cars in the 15 "old" EU member states in 2004 were down 12.4 percent from 1995 levels, far off the target of a roughly 25 percent cut by 2008/09.

19. Irish Finance Minister Plans to Tax Gas-Guzzling Vehicles

Irish Finance Minister Brian Cowen has unveiled plans to tax vehicles according to how environmentally polluting they are as part of a package of "green" measures announced in his 2007 budget.

"In the case of Vehicle Registration Tax, I intend to change the current rating system to relate it more closely to environmental policy objectives, in this case reducing carbon dioxide emissions," Cowen said. "I intend that there should be some reward in the VRT system for choosing lower-emission vehicles, and that those choosing higher-emission vehicles should pay more." Under the proposals, mandatory car emission labeling would also be introduced.

Cowen set out a range of options and said the Department of Finance would carry out a public consultation on the proposals.

"Any changes will have effect from a target date of 1 January 2008," he said.

Cowen said the Minister for the Environment would also consult on proposals for changes to annual motor tax. "This would provide a further incentive through the motor tax system for the motoring public to drive cleaner cars and would impose some additional cost in respect of cars with higher carbon dioxide emission levels," he said.

Cowen's ruling Fianna Fail party has pushed energy towards the top of its agenda ahead of a general election next year as the country looks to reduce its dependence on increasingly expensive fuel imports. Ireland imports more than 70 percent of its total energy requirements, and, like many countries, is keen to find sources of energy that are less at risk from global instability.

At the same time, it needs to fulfill global commitments on reducing greenhouse gas emissions that contribute to global warming under the Kyoto agreements on climate change. Ireland has already said it plans to purchase up to 18 million tons of carbon allowances in respect of its Kyoto commitments in 2008 to 2012. "I provided an initial 20 million euros in last year's budget and just recently the Dail (parliament) approved the investment of this money in emission-reduction projects in the emerging economies in Eastern Europe," Cowen said.

"I am now indicating that a further 270 million euros will be provided to fund a program of purchases up to 2013."

20. French Government, Industry Sign Charter To Boost Use of Ethanol

On November 13th, France's leading oil industry firms, automobile manufacturers, and farm groups signed an agreement with the government that establishes concrete objectives for boosting the use of ethanol and reducing greenhouse gas emissions from the transport sector. The new "Charter for the Development of the Super-Ethanol Sector in France" lays out a roadmap for national rollout during 2007 of a new fuel called E-85, composed of 85 percent ethanol and 15 percent gasoline.

Signatories to the new charter pledged to boost use of ethanol and so-called flex-fuel vehicles, which are capable of running on any mixture of ethanol and gasoline.

Auto manufacturers agreed to offer at least one flex-fuel model from 2007 at prices comparable to those of traditional vehicles and to raise that going forward.

Gasoline distributors agreed to offer E-85 at a minimum of 500 to 600 service stations nationwide in 2007 and triple that by 2008.

The government will allow service station operators an "exceptional" 12-month amortization for tax purposes of all infrastructure costs associated with the transition to flex-fuel distribution, according to the charter.

In addition, the government promised to lower existing gas taxes to ensure that the price of E-85 stays below 0.80 euro-cents (US$1.02) per liter, which would make it about 20 percent cheaper than average diesel prices.

Other tax incentives include:

- an "exceptional" 12-month amortization for tax purposes for all firms acquiring flex-fuel vehicles;
- a "strong" reduction in the company car tax;
- a 50 percent reduction on vehicle registration costs; and
- plans to allow firms to recover up to 80 percent of all value-added tax paid on E-85 purchases, from 2007.

The government has also promised to lead by example, pledging that a minimum 15 percent of all central government vehicle purchases will be flex-fuel during 2007, and committing to boost this to 30 percent of all vehicles from 2008, according to the charter.

21. Business Leaders Urge EU To Take Strong Steps on Emissions

On November 27th, European business leaders urged the European Commission to develop "a strong and clear policy framework that creates long-term value for carbon emissions reductions." The call was contained in a letter from 25 presidents and chief executives of major corporations and presented to European Commission President José Manuel Barroso at a roundtable in London.

The letter outlined three key issues of concern to European Union business:

- that emissions reduction targets for the post-2012 period should be set as soon as possible so companies can find "the best path to achieving them";
- that EU policy should provide incentives for low-carbon technologies; and
- that the Commission should consider the impact of other policies on climate change and eliminate any inconsistencies.

Signatories to the letter included GE International, Air France, Shell UK, Deutsche Telekom, and JP Morgan Chase.

In their letter, the business leaders said that market-based policies such as the EU Emissions Trading Scheme "have already had an important impact on investments in emissions reductions." However, they added, "both member state and EU policy must be developed further to achieve the shift to a low-carbon economy within the necessary time scales."

22. French Report Highlights Impacts of Highways

France's highways generate a wide range of environmental impacts, including greenhouse gas emissions and high levels of nonrecyclable waste, according to a report released in early November by the French Environment Institute (IFEN). Manufacturing and transport of road-building materials are responsible for nearly 1 percent of France's annual greenhouse gas emissions, while vehicle traffic is responsible for 36.6 percent of total carbon dioxide emissions, according to the IFEN report, No. 114 in its monthly "Environmental Data" series. Road construction and maintenance produce nearly 300 million tons of waste annually, about a third of which ends up in landfills, IFEN said. The highway network also produces about 1 million tons of dangerous waste each year, most of which is contaminated wood and soil, but also including 12,700 tons of used oil and 1,700 tons of used batteries, IFEN said. The highway network, which covers about 0.14 percent of France's high-biodiversity zones, often cuts through critical habitat, reducing biological exchange between species and fragmenting key ecosystems, IFEN said.

23. UK Transport Plan Gives Green Light To Road Tolls

Britain must make motorists pay for using its crammed roads to cut congestion, reduce pollution and stop the country grinding to a halt, a government-sponsored report on transport after 2015 said. The report also said Britain should expand its sea and air ports but ensure the cost of using all transport fully included its impact on the environment to help tackle global warming.

The report's author, former British Airways chief Rod Eddington, said properly targeted and priced road tolls could save 28 billion pounds a year by 2025 and all but torpedo the case for major new road building. "A national road pricing scheme of this type could reduce congestion by some 50 percent below what it otherwise would be in 2025 and reduce the economic case for additional strategic road infrastructure by some 80 percent," he wrote.

Without it, some 30 billion pounds would have to be spent on new roads after 2015, with

uncertain returns and huge environmental damage.

Eddington said he agreed with former World Bank chief economist Nicholas Stern who said in October one of the best ways of promoting environmentally friendly economic growth was to ensure that carbon emissions carried a price.

Eddington noted that 61 billion journeys were made each year on Britain's creaking transport system, and that the resulting congestion was costing business and households a fortune. He said that without action road traffic would surge 31 percent and congestion would jump 30 percent by 2025.

Britain is at the cutting edge of high-tech traffic monitoring and management schemes, and the central London congestion charge -- which uses cameras -- has cut traffic by 22 percent since it came into effect nearly three years ago.

Eddington did not propose the use of any particular technology to monitor vehicle movements, but noted likely civil rights complaints and said the public would have to be convinced of the case for such schemes.

He called for targeted investments to ease road and rail bottlenecks, boost public transport and add to the improvements in traffic flow from the congestion charging -- including building more cycle tracks.

But he said the case for a major expansion of the country's high speed rail network was not proven. "New high-speed rail networks in the UK would not significantly change the level of economic connectivity between most parts of the UK," Eddington wrote. "Rail's energy consumption and carbon emissions increase with speed and this would erode rail's environmental advantage," he added.

Eddington said the country's cumbersome infrastructure planning system also needed to be reformed to speed up decision-making while maintaining necessary safeguards.

His report, commissioned jointly by the Treasury and the Department for Transport, is one of a series that will feed into a thorough review of the country's energy needs and spending priorities due to be published next year.

24. Industrial Nation Consortium Signs Deal for Fusion Power Plant in France

On November 21st, the European Union, the United States, and five other countries formalized a $12.8 billion agreement to build a nuclear fusion power plant that would provide unlimited, pollution-free energy. The countries behind the International Thermonuclear Experimental Reactor (ITER) project, which will be based in France, hope that from results derived from a demonstration power station there could be electricity produced for commercial and consumer use within 30 years. Japan, China, South Korea, Russia, and India are also participating in the project.

Despite the great expectations, the ITER has its critics. Environmental organizations insist the money would be much better spent pursuing renewable energy technology such as wind, solar, and hydrogen, saying the practical benefits would be realized much sooner than 30 years.

The EU has pledged to provide 45 percent of the total cost. The six other participating countries each will provide about 9 percent of the cost.

Fusion energy is created when light atomic nuclei are fused together at temperatures greater than those of the interior of the sun and stars and far above the melting point of any solid container. According to scientific theory, fusion energy could provide significant amounts of electricity and also generate hydrogen that could power fuel cell vehicles of the future.

25. No Winter for Europe Yet

As the official start of winter fast approaches, Europe is sweating. An unusually warm autumn is forcing ski resorts to market hiking holidays, and bears to seek out places cold enough to hibernate.

Germany is reportedly experiencing its warmest autumn in 500 years. Germany's average temperature from September to November this year was 12 degrees Celsius (54 degrees Fahrenheit), a full 3.2 Celsius degrees higher than the median temperature from 1961 to 1990. Scientists are basing the claim on temperature records -- collected as far back as 1659 -- and information derived from other sources like monks' journals in old monasteries. "Weather historians have assembled all the available information for each given month," according to Jürg Luterbacher, a climate researcher with the University of Bern.

More importantly, Germany's not alone. "An exceptionally warm autumn in a region proves very little," Luterbacher told the online magazine Nature. "But the data are consistent for the whole of Europe -- from Iceland to Greece."

Just as the warm weather is depriving ski towns of their winter revenues, it's depriving animals of their winter slumber. From Siberia to Estonia, bears are reportedly struggling to hibernate because their normal hideaways this year are uncomfortably warm, damp and slushy.

A. Britain's Autumn Was Warmest on Record

Britain has experienced its warmest autumn on record, with average temperature across the United Kingdom beating the peak set in 2001, Britain's meteorological office said. "If you look at 2006 as a whole and look at the record-breaking autumn, the record-breaking July and September, the warmest ever May-to-September period -- all of those things support the notion this is climate change beginning to take effect," said a Met Office spokesman.

The average temperature across Britain between September and November was 11.3 degrees Celsius (52.3F), a 0.8 degree increase on 2001 and the highest since national records began in 1914.

In Wales it was the hottest autumn since 1959, while in central England it was the warmest since records began in 1659.

Central England's autumn average was 12.6 C, well above the previous record of 11.8 measured in 1731.

September this year was the warmest since 1949 while July was also the hottest on record as Britain sweltered in a summer heat wave. Such heat waves occur in Britain approximately every 20 years but Met Office scientists say that rising carbon dioxide levels mean that by 2100 they are likely to occur almost every year, and even several times each summer.

B. Alps Warmest in 1,300 Years as 'Winter' Sets in

It is warmer in Europe's Alpine region now than at any time in the past 1,300 years, the head of a wide-ranging climatic survey has concluded. From Ottawa to Moscow, temperatures generally have been way above average at the start of winter in the northern hemisphere, with flowers blooming on snow-starved slopes of Alpine ski resorts and bears struggling to hibernate.

"We are now experiencing the warmest period (for this season) in the past 1,300 years," said Reinhard Boehm, chief climatologist at Austria's Central Institute for Meteorology and Geo-Dynamics in Vienna. He cited a study by a group of European climatic institutes that reconstructed more than a millennium of weather patterns in a region ranging from France's Rhone Valley in the west to Hungary in the east, and from Germany's Nuremberg area in the north to Italy's Tuscany in the south.

Temperatures generally did not diverge from a naturally frigid winter level except for one thaw between the 10th and 12th centuries, and Alpine glaciers reached their greatest size around 1850, Boehm told Austrian press agency APA.

Many scientists say a single warm winter is most likely part of the natural variations of an unpredictable climate. Still, years of mild temperatures fit predictions of global warming, widely blamed on human use of fossil fuels. Like many places, Austria had its mildest autumn since records began and many ski resorts have delayed the season's kick-off. Snow cannons sit still on green slopes that would usually be ski runs, shrinking the billion-dollar winter business.

NORTH AMERICA

26. Change in U.S. Congress Seen Raising Environmental Prospects

With the Democratic party now in control of both houses of the U.S. Congress, passage of legislation to control greenhouse gas emissions moves from being almost unthinkable to being a possibility, according to some analysts. The senators who will chair committees with jurisdiction over climate change in the 110th Congress--Jeff Bingaman (D-N.M.) at Energy and Natural Resources and Barbara Boxer (D-Calif.) at Environment and Public Works--are supporters of legislation to reduce emissions of carbon dioxide and other greenhouse gases.

"As the new Chair of the EPW Committee, I am already planning for vigorous oversight and legislation to make sure that the U.S. Senate is once again an environmental leader in protecting the health of our families and our children and addressing pressing

concerns like global warming," Boxer said in a statement on November 9th. In addition, incoming Senate Commerce Committee Chairman Daniel Inouye (D-Hawaii) is a co-sponsor of legislation (S. 3543) to require an increase in corporate average fuel economy (CAFE) requirements on automobiles and light trucks.

The outlook in the House or Representatives, however, is less clear.

For example, Rep. John Dingell (D-Mich.), the incoming chairman of the House Energy and Commerce Committee, would not confirm support for a mandatory greenhouse gas reduction program in a November 8th conference call with reporters. "We'll have a look at it ... can support responsible legislation in this area, but not something that is going to shove the entire burden for cleanup on the United States," Dingell said.

Nevertheless, the change in House leadership will bring renewed attention to climate change legislation, including various Democratic proposals that would place a mandatory cap on U.S. greenhouse gas emissions.

Rep. Henry Waxman (D-Calif.), the incoming chairman of the House Government Reform Committee, is likely to press for his proposal to freeze total U.S. greenhouse gas emissions at 2009 levels beginning in 2010, followed by 2 percent annual reductions through 2020. Waxman introduced the measure (H.R. 5642) in June and it has since garnered 110 co-sponsors.

The Democratic victory focuses attention on Senate legislation that would bring mandatory limits on U.S. greenhouse gas emissions--with separate proposals pending or likely to be introduced in the next Congress by Bingaman, Boxer, and Senators. Dianne Feinstein (D-Calif.), John McCain (R-Ariz.), and Joseph Lieberman, the Connecticut lawmaker who was re-elected as an independent.

McCain and Lieberman are the authors of legislation to require reductions in greenhouse gas emissions to 2000 levels by 2010. The measure received 38 votes in 2005 when it was offered as an amendment to comprehensive energy legislation (H.R. 6).

Boxer is a co-sponsor of legislation (S. 3698) introduced by outgoing Sen. James Jeffords (I-Vt.) to gradually cut emissions of carbon dioxide and other greenhouse gases to reach a total reduction of 80 percent from 1990 levels by 2050.

Feinstein announced March 20 that she is drafting legislation to establish a mandatory cap-and-trade system requiring utilities, oil and gas producers, and the transportation sector to gradually reduce greenhouse gas emissions by 7.25 percent by 2020.

Sen. Tom Carper (D-Del.) is the author of legislation (S. 843) that would reduce carbon dioxide emissions to 2006 levels in 2010 and 2001 levels in 2015 using emissions trading. A Senate Democratic aide said the Carper bill is "on the table."

Feinstein also in 2005 introduced legislation to increase automobile fuel economy. The bill was co-sponsored by Inouye, whose committee would consider such legislation in the new Congress.

Dingell, who has sided with the auto industry and Republicans to oppose big increases in vehicle fuel economy, suggested on November 8th, however, that his House

committee will not be approving any major changes to the current CAFE program anytime soon. "We will see what it is that needs to be done," Dingell said in response to questions. Fuel economy standards are "a long lead time item" and need to be looked at in terms of their impact on the economy, he added.

27. Progress Slow on Updating Diesel Software to Reduce NOx Emissions

Diesel engine manufacturers signed consent decrees in 1998 establishing a voluntary program to update diesel engine software to reduce nitrogen oxide emissions, but progress has been slow in implementing it. According to a September Environmental Protection Agency memorandum, 8.9 percent of the 1.1 million affected diesel vehicles had the updated software installed as of June 2006.

California estimated in 2005 that updating diesel software, or "chip reflashing," in all the state's eligible trucks would reduce nitrogen oxide emissions in that state by 30 to 40 tons per day, and would help the state comply with the EPA air quality standard for ozone. Northeastern States for Coordinated Air Use Management (NESCAUM) estimated in February that region wide chip reflashing would reduce nitrogen oxide emissions by 41.1 tons per day in eight Northeastern states.

However, on October 15th, a California superior court struck down a state rule that sought to require vehicle owners to perform chip reflash. Frustrated by the slow progress of chip reflashing, California in 2005 adopted a mandatory chip reflash program. The Engine Manufacturers Association sued California in state court alleging that the state had no authority to go beyond separate agreements the diesel engine manufacturers reached with California in 1998 that included a voluntary chip reflash program.

The consent decrees that established voluntary chip reflash resulted from the nationwide sale of more than 1 million heavy-duty diesel vehicles built in the 1990s with engines that federal and state regulators alleged violated nitrogen oxide emission standards. In 1998, EPA Administrator Carol Browner said the manufacturers had rigged engines with computerized "defeat devices" that enabled the engines to pass EPA tests in the laboratory while increasing emissions of nitrogen oxide on the open road.

To resolve the allegations, seven engine makers agreed in 1998 to pay the Environmental Protection Agency $83.4 million in civil fines and to spend millions more on corrective actions, including the voluntary chip reflash program. Under the provisions of the consent decrees, the manufacturers are required to provide chip reflash software, also called "low-NOx rebuild kits," to their dealers and others who request it. The software modifies the injection timing adjustment that caused the excess nitrogen oxide emissions.

The manufacturers' agreement with California had similar requirements as the federal consent decrees. It also required them to pay a $37 million penalty.

Eric Skelton, senior policy analyst at NESCAUM, said that EPA and state regulators assumed chip reflash would "get done in a matter of a few years." "Now its eight years down the road and very few have been done," Skelton said.

Skelton wrote a model rule in February for use by Northeastern states that would require

chip reflashing. The Ozone Transport Commission, an organization of Northeastern and Middle Atlantic states, endorsed the model rule in June. Massachusetts is moving forward with adopting the model rule, Skelton said on November 3rd.

Skelton said, however, that NESCAUM is interested in exploring further voluntary measures that states could undertake with the diesel engine industry to encourage more owners to get chip reflash done on their vehicles. Toward that end, Skelton said, NESCAUM is meeting with representatives from the Engine Manufacturers Association to explore possible incentives the industry could provide to encourage vehicle owners to have reflash done. Incentives could include discounts on other service performed on the vehicles, Skelton said.

The Engine Manufacturers Association said in an October 15th statement in response to the California court decision, "Engine manufacturers will continue to install NOx reflash kits as per the original agreements."

Chip reflash is supposed to be done when truck engines are rebuilt, typically every 300,000 miles, Skelton said. However, some truck engines are rebuilt only every 1 million miles, he said, and often chip reflash is left out when a rebuild gets done. Skelton attributed the lag in chip reflashing to a reluctance of truck owners to take the vehicles out of service, even for a short while, to have the reflashing done. Owners also may not see any benefit to their businesses from chip reflash, Skelton said.

In addition, Skelton said, some truck owners may harbor lingering suspicions that updating the software would reduce performance and fuel economy. However, Skelton pointed out that four of the seven manufacturers covered by the consent decrees have told EPA that the impact of chip reflashing on fuel economy is negligible.

Skelton also said chip reflashing should not pose an undue burden on truck owners. "It's simply a software change in most cases," he said. "It involves hooking up the truck's engine control module and downloading the software."

28. Problems with Heavy-Duty Engines Increase with 2004 Standards

As manufacturers of heavy-duty truck engines strive to meet government-regulated emission standards by implementing new emission technologies, customers are increasingly experiencing problems with their engines, according to the J.D. Power and Associates 2006 Heavy-Duty Truck Engine/Transmission Study.

The study, now in its 10th year, measures customer satisfaction with the engines in two-year-old heavy-duty trucks (Class 8) by examining four vital engine factors: engine quality (30%); engine performance (26%); engine cost of ownership (22%); and engine warranty (22%). The study examines engines supplied in 2004 model-year trucks, the second model year impacted by the Consent Decree that raised diesel engine emission standards.

To meet emission regulations, manufacturers are continuously redesigning engines and employing new technologies, such as redirecting exhaust gas back into the engine to burn off more pollutants. Consequently, the average number of reported engine problems has increased to 74 PP100 (engine problems per 100 vehicles)—up from 46

PP100 in 2005.

“In the 2005 study, there was a greater mix of manufacturers using old- and new-technology engines, so we’re just now starting to see the overall impact of the emission regulations,” said Brian Etchells, senior research manager in the commercial vehicle group at J.D. Power and Associates. “Whenever a new technology is employed, it takes a while to work the bugs out. As time goes on and engines are better equipped and designed to follow the emission standards, the number of problems should gradually decline.”

For the sixth year, a Caterpillar engine ranks highest in the vocational segment. Vocational trucks are defined as those with body types used in rugged job applications, such as dump trucks, concrete mixers, and garbage/refuse recycling trucks. The Caterpillar C-12 ranks highest among vocational heavy-duty truck engine models, performing particularly well in three of the four factors that determine overall satisfaction: engine quality, performance and cost of ownership. The Caterpillar C-15 follows the C-12 in the rankings.

The study also finds that among the four drivers of engine satisfaction, customers are least satisfied with the cost of ownership, particularly in the areas of routine engine maintenance costs and fuel efficiency. Reported fuel consumption for heavy-duty engines has declined to 5.72 mpg in 2006—down from 5.91 mpg in 2005 and 6.04 mpg in 2004.

The 2006 Heavy-Duty Truck Engine/Transmission Study is based on the responses of 2,529 primary maintainers of two-year-old heavy-duty trucks (Class 8).

29. German Carmakers Combine for U.S. Clean Diesel Push

Germany's carmakers are looking to join forces to push clean diesels in the U.S. market with the Bluetec technology developed by Mercedes-Benz and diesel injection system specialist Bosch. Starting in 2008, Volkswagen, its premium unit Audi, BMW and Mercedes aim to launch and market Bluetec in the world's largest car market, where diesel has a market share of just 5 percent versus 50 percent in Western Europe.

Spokespersons for Volkswagen and Mercedes parent DaimlerChrysler confirmed a report in German industry newspaper Automobilwoche.

Aside from a quicker market penetration, the alliance is hoping to gain cost savings in purchasing the specific modules that mainly stem from Bosch, the world's largest automotive parts supplier.

30. Industry Sees Federal Curb on Greenhouse Gas Emissions as Inevitable

Nearly all of the 31 multinational corporations that participated in a recent survey believe federal limits on greenhouse gas emissions "are imminent," with 67 percent predicting regulations will take effect between 2010 and 2015, according to a report released October 18th by the Pew Center on Global Climate Change. Those results, drawn from a 100-question survey, were included in a broad Pew Center report meant to advise firms on how to prepare for future greenhouse gas regulations and to help them determine

whether it is in their corporate interest to begin voluntarily cutting emissions now.

Increasingly, companies that have already made such commitments--including Alcoa, Duke Energy, DuPont, and the Whirlpool Corp.--are considering whether such efforts can boost profits through improved efficiency of their products and larger market share, according to the Pew Center report, Getting Ahead of the Curve: Corporate Strategies That Address Climate Change.

Speaking at a news conference announcing the report, officials from the firms said they are no longer focused solely on managing the financial risks of climate change in their operations but are also finding new business opportunities in cutting greenhouse gas emissions.

The Pew Center report was released as the Conference Board, a business research organization, released a survey which concluded that 75 percent of U.S. firms are now measuring their carbon "footprint," the total greenhouse gas emissions not only from their plants but also the emissions from the products they make.

The Conference Board said about 15 percent of the firms surveyed now engage in voluntary emissions trading in the absence of U.S. regulations limiting greenhouse gas emissions. The board's report, 'Carbon Footprint' Gaining Business Attention, was drawn from a survey of 92 firms from various industries.

The Pew Center report also profiles how different companies attack the challenge of cutting their greenhouse gas emissions. Some firms, for instance, focus on significant cuts in the "direct" emissions that come from their power plants, transportation networks, or manufacturing plants.

However, the Whirlpool Corp. does not plan any "dramatic changes to its operations" to meet its targeted reductions, according to the report. Instead, it is focusing on rapidly increasing the efficiency of its appliances. Whirlpool in 2003 pledged to cut its greenhouse gas emissions 3 percent below 1998 levels by 2008. Whirlpool argues that such a strategy extends its reach to shrinking the emissions produced by consumers, but it also pays dividends to the company in that any emphasis on more efficient appliances should also build brand loyalty and market share, the report said.

More efficient washers can cost up to $500 more than traditional washers, but they can pay for themselves in energy savings over about five years, the report said.

Total carbon dioxide emissions from Whirlpool's manufacturing and other operations totaled 0.8 million tons, while "indirect" emissions (including those emitted when its appliances have been purchased and are operated by consumers) total 146.5 million tons, according to the report.

Representatives from various companies at the news conference said there are other reasons to begin cutting greenhouse gas emissions, even in the absence of U.S. regulations. Those firms that take early action to cut emissions could be credited with their reductions under any future regulation, and companies that can show they have already made such cuts are more likely to have a voice in how those regulations are developed, they said.

That is a key concern for Shell Oil, said Randy Armstrong, the company's health, safety, and environmental manager. Emissions from Shell's operations, combined with the emissions from the combustion of the fossil fuels it produces and sells, total 763 million tons each year, or 3.6 percent of the global total from all sources, according to company figures. Given the potential effects of any future regulations on its operations, Shell "would really like a seat at the table" when federal regulations are debated, Armstrong said.

31. Shell President Supports Greenhouse Gas Reduction Program

Climate change is a reality and energy policies should be developed to address the problem, Shell Oil Co. President John Hofmeister said October 23rd. "From a Shell point of view, the debate is over," Hofmeister said in a speech to the National Press Club. "We're not going to debate the science." He said the world's third-largest oil company is willing to accept the preponderance of scientific evidence on the subject and will support emissions reductions, at least in principle.

Shell joins another major oil company, BP Plc., in expressing willingness to accept greenhouse gas emissions reductions, at least in principle. Shell and BP are distancing themselves from the more hard-line stance of ExxonMobil Corp., which was accused in September by the Royal Society of London of promoting misleading information about the science of climate change and of funding organizations that do the same.

Hofmeister said some type of national cap-and-trade program would be acceptable to Shell, and the program probably should be extended on a global basis because so many companies have international operations. He also said he could accept some type of carbon tax, but only if it were applied "on a level playing field" across the entire U.S. economy and did not penalize specific industries.

Hofmeister and other company executives are concerned with plans developing in several states to address climate change. "We can't have 50 state policies on greenhouse gas emissions," Hofmeister said. "Shell believes we need a national approach."

Hofmeister said calls for "energy independence" are "naive," but he said a goal of "energy security" is more realistic. With the United States importing almost 60 percent of its oil, or about 10 million barrels a day, there is no way to eliminate dependence on foreign sources, Hofmeister said. Three decades ago, the United States was importing only about a third of its oil supply.

Hofmeister called for a diversified energy program that includes greater access to onshore and offshore oil and natural resources, development of oil shale in the western states and Canada, clean-coal technologies such as gasification and sequestration, more liquefied natural gas imports, increased alternative fuels, and greater energy efficiency.

Hofmeister suggested the long-term outlook remains bleak and "supplies will tighten again." World demand is projected to grow to 120 million barrels per day by 2020, compared to today's 85 million barrels per day, he said.

Hofmeister expressed support for renewable fuels, but said it could take "10 or 20 years" before the infrastructure will be in place and vehicle turnover will make products like E-85, a fuel that is 85 percent ethanol and 15 percent gasoline, more widely used. E-85 gets 25 percent fewer miles per gallon than gasoline and will not be priced any cheaper than conventional gasoline, he said. Oil companies have been criticized by automakers for not providing enough E-85 pumps at service stations.

32. Californian Greenhouse Emissions up 14% 1990-2004

California's polluting greenhouse gas emissions rose more than 14 percent between 1990 and 2004, according to a new report issued by the California Energy Commission.

California Gov. Arnold Schwarzenegger in late September signed the Global Warming Solutions Act of 2006, which mandates caps on emissions to reduce climate-changing greenhouse gas emissions by 25 percent by 2020. It also calls for emissions to be at 2000 levels by 2010.

Fossil fuels accounted for 81 percent of greenhouse gas emissions during the 15-year period studied.

Cars, trucks and jets and other parts of the transportation sector were the leading carbon dioxide (CO2) emitters at 40.7 percent, followed by electricity generation at 22.2 percent, industrial emissions at 20.5 percent, agriculture and forestry at 8.3 percent, and other sources also at 8.3 percent.

From 1990 to 2003 the state had 83 percent growth in gross state product, showing that economic growth doesn't have to mean a comparable increase in greenhouse gas emissions.

California's per-capita CO2 emissions in 2001 were the fourth-lowest among the 50 US states.

If it were a country, California would have been the 16th-largest greenhouse gas emitter in the world in 2002. Texas would be the ninth-largest.

California's population is now about 36 million, the most in the United States. In 1990, California's population was about 30 million. Texas is the second-biggest state, with a population estimated now at 23 million, up from 17 million in 1990.

33. US Seeks to Cut Emissions from Gasoline Deliveries

US regulators have proposed rules to reduce toxic emissions that escape when gasoline is loaded into delivery trucks and sent to service stations. The proposed regulations would block emission of about 46,000 tons of hazardous gasoline vapors each year, including cancer-causing benzene, the Environmental Protection Agency said.

The rules would cover small facilities, including terminals and pipelines, which store gasoline and transfer it to trucks for transport to retail outlets. They also would curb emissions when gasoline is put into storage tanks at stations in urban areas.

Most facilities already comply with the proposed rules, but about 3,000 to 5,000 will need more controls, the EPA said.

The extra controls would cost between US$60 million and US$65 million for the large bulk facilities, but the agency said that money will be recouped and ultimately result in annual savings of about US$6 million.

"The value of the recovered gasoline and gasoline not allowed to evaporate will more than pay for the annual cost of the capital expenditures and the operation and maintenance of the equipment," the EPA said.

The agency will take public comment on the proposed standards for 30 days and plans to finalize them by the end of the year.

At gasoline distribution terminals and smaller bulk plants, gasoline is stored and loaded into trucks for delivery to service stations and convenience stores. Pumping stations also pull gasoline along a pipeline, sometimes temporarily storing it until it is re-injected into the pipeline for distribution to gasoline terminals.

34. Canada Unveils Clean Air Act, Promises GHG Emission Targets

On October 19th, Canadian Environment Minister Rona Ambrose introduced into the House of Commons a proposed Clean Air Act that she said would significantly reduce greenhouse gas emissions and improve overall air quality. The proposed legislation, together with a notice of intent to issue regulations on specific types of emissions, constitutes a commitment to set targets for reducing industrial emissions that are at least as stringent as those in other countries that are considered leaders in environmental protection, Ambrose told reporters.

The act, Bill C-30, and the accompanying Notice of Intent, provide few details of the planned emissions targets. Ambrose indicated only that the government will consult with industry and provincial and territorial governments on setting "intensity-based" targets and that the government is committed to an absolute reduction in greenhouse gas emissions of 45-65 percent from 2003 levels by 2050.

Under the Kyoto Protocol, Canada is committed to a 6 percent reduction in greenhouse gas emissions from 1990 levels by the period 2008-2012. A report from Natural Resources Canada on October 3rd projected that Canadian greenhouse gas emissions will continue to increase through 2010 to a level 47 percent above the Kyoto target level.

Ambrose rejected suggestions that the proposed legislation provides a lengthy period of inaction before Canadian industry must start to make actual emissions reductions. The long-term targets set in the Clean Air Act confirm that industry must prepare to make reductions in the medium and long term, and major Canadian companies are already discussing how to make those reductions, she said.

She said the government has set a target for having renewable gasoline supply 5 percent of fuel needs by 2010, and has established a tax credit for transit pass purchases.

In a background document, Environment Canada said that as part of the legislative push regulations will be developed and implemented over the next three years containing targets and timelines to reduce emissions of air pollutants. The regulations will lead to significant long-term reductions in emissions from the industrial, transportation, and consumer products sectors and will set new standards for energy efficiency for a wide range of everyday products and appliances, the department said.

New regulations will reduce emissions of volatile organic compounds from a range of consumer and commercial products, in line with stringent requirements already in place in the United States, it said. In the short term, regulatory changes would limit volatile organic compounds in architectural, industrial, and maintenance coatings as well as consumer products and automobile coatings, it said.

The Clean Air Act would support the expanded use of equivalency agreements, which cede regulatory authority to provinces and territories where they have equivalent-or-stricter rules in place.

It would give the federal government enhanced powers to monitor compliance and would require all environmental fines levied for non-compliance to be assigned to a fund that would be used to clean up environmental damage, it said.

Industry and environmental groups generally welcomed the proposed Clean Air Act, although they criticized certain aspects.

Chemical producers, for example, praised the legislation as "more realistic and workable" than the previous government's Green Plan proposals. A key advantage of the proposed new act is that it integrates rules on clean air and greenhouse gases, which is better suited to the reality at the manufacturing plant level, said Gordon Lloyd, vice president of technical affairs with the Canadian Chemical Producers' Association, in a statement.

"A second positive feature of the proposals is that it deals with the reality that capital investments have to be made in relation to the business cycle, and that it is critical to determine how best to maximize both environmental and economic performance," he said. "Finally, we are encouraged by the aim to have a cooperative approach with the provinces because we need a simple and workable regulatory approach and compliance regime."

Environmental groups, meanwhile, said the proposed legislation contains some positive elements but fails to set effective targets and timelines to regulate air pollution. "The move to establish national air pollution standards is a positive step, but Canadians can't wait another five years for these standards to take effect," Aaron Freeman, policy director with Environmental Defense, said October 19th in a statement.

Ken Ogilvie, executive director of Pollution Probe, said he was particularly disappointed by the lack of a firm commitment to regulate fuel efficiency levels to those of leading countries by 2010.

The groups jointly criticized the legislation's failure to propose interim goals toward its promise to reduce greenhouse gas emissions by 45-65 percent from 2003 levels by 2050. They urged the government to amend the proposed legislation to include

mandatory, tough targets for reducing priority air contaminants, raising fuel efficiency standards, and eliminating mercury.

Specific regulatory actions outlined in the Notice of Intent to Develop and Implement Regulations and Other Measures to Reduce Air Emissions include:

- Transportation: Development regulations for smog- and acid rain-forming emissions from on-road and off-road vehicles, engines, and fuels that align with U.S. Environmental Protection Agency standards; review of opportunities to coordinate with EPA on the regulations; implementation of fuel consumption standards for motor vehicles under the Motor Vehicle Fuel Consumption Standards Act, taking effect for the 2011 model year; and action to reduce emissions from other transportation modes, including rail, marine, and aviation.
- Industrial emissions: Regulations to reduce emissions from key sectors including fossil fuel-fired electricity generation, upstream oil and gas, downstream petroleum, base metal smelters, iron and steel, cement, forest products, and chemicals production.
- Consumer and commercial products: Continued development of regulations governing these products, including those that may not contain pollutants but whose use or existence may cause air emissions; and strengthening of energy efficiency standards and labeling requirements.
- Indoor air quality: Identification of issues that are deemed to be national in scope and that require government action; and implementation of necessary measures, including identification and regulation of products that could degrade indoor air quality.

The notice also outlines a framework for developing regulated reductions in emissions from key industrial sectors. Consultations are to start immediately, before the legislation is passed.

35. Ontario Promotes 'E-bikes' to Reduce Emissions

On October 4th, Ontario launched a pilot project to permit the use of electronic motor-driven bicycles on the province's roads in an effort to reduce greenhouse gas emissions. The pilot project will ensure that "e-bikes," which can be pedaled like a bicycle or powered with an electric motor to a maximum speed of 32 kilometers per hour, can safely share the road with other traffic and pedestrians, Transportation Minister Donna Cansfield said. "E-bikes are an easy-to-use transportation choice that reduces emissions and helps cut traffic congestion," she said. The three-year pilot project would permit e-bikes on all roads where conventional bicycles are currently allowed, but riders must be at least 16 years of age and must wear a bicycle helmet while riding, the Ministry of Transportation said in a background document. The ministry did not estimate the volume of emissions that could be offset by allowing the widespread use of e-bikes.

36. New Brunswick Moves to Procure Cleaner Vehicles

On November 8th, the government of Canada's New Brunswick province launched a "green" vehicle policy intended to reduce greenhouse gas emissions and make the government's vehicle fleet more fuel efficient. Fuel efficiency requirements for purchases

of new vehicles are part of the government's commitment to promoting environmental sustainability, Environment Minister Roland Hache said in a statement. "By setting an example for the government fleet to become a model user of fuel efficient vehicles, we position New Brunswick as a jurisdictional leader," Hache said. The policy calls for at least 20 percent of new light trucks purchased to have flex-fuel capability to use ethanol-blend fuels. It calls for new vehicles for cabinet ministers and deputy ministers to be within 10 percent of the rating for the most fuel-efficient full-size car available, and provides extra funds to purchase hybrid electric vehicles.

37. British Columbia Program to Reduce Vehicle Use

On October 27th, British Columbia Premier Gordon Campbell unveiled a C$40 million (US$35 million), four-year initiative to reduce vehicle use and associated emissions of greenhouse gases and other pollutants. The LocalMotion Fund will provide 50/50 cost-shared funding for capital projects undertaken by municipal governments to build bicycle paths, walkways, greenways, and improved access for the disabled, Campbell said in a statement. The provincial government also will require, effective immediately, all new vehicles it leases or purchases to be hybrids, he said. "Governments at all levels have a responsibility to lead by example in addition to providing incentives for British Columbians themselves to take action to reduce greenhouse gas emissions and energy consumption through technologies like hybrid cars," he said.

38. California To Enforce NO_2 Limits For Diesel Retrofits

The California Air Resources Board (ARB) announced that all verified diesel emission control strategies used in California diesel retrofit programs must meet NO2 emission limits effective January 1, 2007. Devices that exceed the NO2 limits will no longer be considered verified after that date.

The first version of the California verification procedure for diesel emission control strategies included a post-control NO2 limit (defined as 20% of the total baseline NOx emission) which was later suspended. In March 2006, the ARB introduced modified NO2 requirements, with a two tier implementation schedule. Effective January 1, 2007, verified diesel emission control systems must not increase NO2 emissions by more than 30% of the baseline NOx, and by no more than 20% from January 1, 2009.

Systems that already have been installed will remain in service as a valid compliance option, but no new devices that do not meet the NO2 requirements can be installed from January 1st. The ARB issued a two month grace period (until February 28, 2007) for the installation of devices which lose their verification status, but had their sales contracts executed at o9r before October 26th, 2006.

Emission control devices that meet the 20% NO2 increase limit ahead of the 2009 deadline will receive a "Plus" designation, e.g., a "Level 3 Plus" system would provide an 85% PM emission reduction while meeting the 2009 NO2 limit.

39. US Modifies NAAQS Process, Undercuts Sound Science

The US government has “streamlined” the way it reviews and sets air pollution standards,

officials said, but environmental and health advocates warned the change may increase the influence of political appointees at the expense of scientists. The move comes as the Environmental Protection Agency (EPA) is weighing whether to remove lead from its list of air pollutants and in the face of strong criticism after it set weak PM standards against the advice of scientists both inside and outside the Agency.

Every five years, the EPA reviews its listing of six major air pollutants including ozone and particulate matter. For about 30 years, the Clean Air Act has required an independent committee of agency scientists and outside experts to review the listing. The committee then submitted its recommendations to the agency for review.

The EPA will now replace the review with a more narrowly focused policy assessment. It says this process will connect the agency's scientific assessment and the judgments the agency's administrator must make in air pollutant regulation decisions.

"EPA is committed to a timely and transparent process that uses the most up-to-date science available," EPA Deputy Administrator Marcus Peacock said on a teleconference. "Everyone has found the current process is inefficient and current delays are unacceptable." The new process will "separate out those scientific judgments that scientists and staff scientists ... would make, from those judgments that policy makers would make," said Peacock. He said the new process would make scientific and policy assessments more transparent.

But environmentalists and health advocates said the new process will give more power to political appointees, who had previously weighed the science only at the end of the process. "One of the (EPA's) purposes of changing this process has been to involve the political decisions far earlier than they ever have been before," Janice Nolen, director of national policy and advocacy at the American Lung Association, said in an interview. "Consequently it's really going to make it harder to know what the science is versus what the politics are."

EPA also said it will weigh the removal of lead from the list of pollutants (see below). The agency said its review on ozone, which is ongoing, will not be affected by the process change.

40. US Mulls Removing Lead from List of Pollutants

US environmental regulators are considering removing lead, a heavy metal linked to learning problems in children, from a list of regulated pollutants because past rules have greatly reduced levels of the toxin. An Environmental Protection Agency staff paper said the agency would evaluate the status of lead as an air pollutant and "assess whether the revocation of the standard is an appropriate option for the Administrator to consider."

The EPA said that from 1980 to 2005 the national annual lead concentrations have dropped more than 90 percent largely because it was banned as a gasoline additive starting in the 1970s.

Now one of the leading remaining emitters of lead pollution is the battery industry. In a letter last July to the EPA, industry group the Battery Council International urged the agency to "delete lead from the criteria pollutants."

A US lawmaker derided the EPA for considering the revocation of the lead listing. In a letter to EPA Administrator Stephen Johnson, US Representative Henry Waxman, a California Democrat, said: "I am writing to urge you to renounce this dangerous proposal immediately. At a time when the public health impacts of environmental pollution are becoming better understood and our reason for concern grows, this announcement by EPA is particularly misdirected."

EPA expects to release potential policy options on lead for the agency's administrator to consider next summer.

41. Soot From Construction Equipment Is Blamed For Illnesses And Deaths.

The effects of air pollution from construction equipment in California are "staggering," according to a report by the Union of Concerned Scientists (UCS). The environmental group concluded that at least 1,100 premature deaths and half a million work and school absences in 2005 were caused by people breathing emissions from older tractors, bulldozers and other diesel equipment — at an estimated public health cost of $9.1 billion.

The Los Angeles air basin fared the worst among 15 statewide, with 731 estimated premature deaths, both in the city and in suburban areas such as Santa Clarita, Temecula and Murietta, where there has been large-scale construction to accommodate fast-growing populations. Heavily populated and fast-growing parts of the San Francisco Bay Area, San Diego and the San Joaquin and northern Sacramento valleys also experienced high health costs from construction equipment, the UCS report found.

A second study, by Brigham Young University professor Arden Pope and a team of doctors, found a sharply elevated risk of heart attacks for people with clogged arteries after just a day or two of exposure to diesel soot pollution. The study was published in Cardiology, the nation's leading peer-reviewed journal of heart science. One coauthor said the results should prompt heart doctors to advise those with coronary disease to stay indoors as much as possible on particularly sooty days, or even to change jobs or move.

The fine particulate matter that is spewed from diesel engines and tailpipes lodges "like tiny razor blades" deep in human lungs, said Kevin Hamilton, a Fresno-based respiratory therapist who reviewed the findings.

Calling the timing coincidental, the California Air Resources Board simultaneously released a draft of new regulations for older engines. The proposal would require all construction, mining and other industrial off-road equipment to be replaced or retrofitted between 2009 and 2020 as part of an effort to reduce diesel particulate emissions by 85% and nitrogen oxide, a key ingredient in smog, by 70%, said Erik White, chief of the board's heavy-duty diesel branch. Public workshops on the plan will be held this month, and the board is expected to vote next spring.

White said estimated compliance costs could top $3 billion over 11 years but maintained that the $60 billion-a-year construction industry "is certainly capable of absorbing the impacts." He added, however, that both cost and a lack of readily available retrofitting

devices — combined with the need to include smog-reduction as well as soot-control devices — meant cleanup would occur gradually.

42. Environment Canada Finalizes Motorcycle Emission Standards

On November 15th, Environment Canada published final regulatory amendments to further align Canada's standards for smog-creating emissions from on-road motorcycles with those in the United States. The regulatory changes also expand the scope of emissions standards to include previously unregulated small-displacement motorcycles such as mopeds and scooters.

The amendments to the On-Road Vehicle and Engine Emission Regulations, issued under the Canadian Environmental Protection Act, set new standards that maintain the alignment of Canada's regulatory approach with that adopted by the U.S. Environmental Protection Agency, the department said in a regulatory impact analysis statement published with the finalized amendments in the November 15th issue of the Canada Gazette, Part II.

The amendments also promote alignment with U.S. standards by permitting the averaging of motorcycle emissions on a corporate fleet average basis, and by providing small-volume manufacturers with greater flexibility in meeting emissions standards, it said.

Environment Minister Rona Ambrose said that the regulatory amendments are expected to reduce motorcycle emissions of nitrogen oxides by 59 percent and hydrocarbons by 45 percent by 2020. The focus of the new regulations is on limiting emissions of smog-forming pollutants, but some of the technologies that are expected to be used to meet the standards will also produce collateral improvements in fuel efficiency and, in turn, minor reductions in greenhouse gas emissions, she said.

The effective date of provisions affecting motorcycles with engine displacement of less than 50 cubic centimeters--including mopeds and scooters--was extended to December 1, 2006, from the original proposal of July 1, 2006, to reflect the delay in publication of the finalized regulations until mid-November, it said.

43. US Toughens Fuel Economy Estimates for New Cars

The US government has toughened its method for calculating how far new cars and trucks go on a gallon of gasoline, a change that is expected to drive down estimates and give consumers a more accurate assessment of fuel savings. The new approach by the Environmental Protection Agency -- the first revision in 21 years -- should bring vehicle mileage estimates closer to actual fuel use, regulators said. The change applies even to gas/electric hybrids and other fuel sipping cars that have become more popular with US consumers this year as fuel prices went up.

Miles per gallon estimates for most vehicles in city driving are expected to fall between 12 percent and 30 percent, while highway estimates will dip on average by 8 percent. Some vehicles could see a 25 percent decline. Model year 2008 vehicles, which could be available for sale in January, will be the first to display new estimates on window stickers, the EPA said.

Additionally, environmental officials will require fuel economy labels on heavier sport utility vehicles and vans beginning with the 2011 model year.

EPA has relied on data from laboratory tests to determine city and highway fuel economy estimates. Auto companies conduct separate tests based on EPA guidelines. The agency will now factor in real world driving conditions. The changes will include high speeds, aggressive acceleration, air conditioning and driving in cold weather -- all factors that can increase fuel consumption.

Hybrids, with a battery as a second power source, sophisticated systems, and a smaller engine in some cases, can be more sensitive to cold weather and air conditioning use. Although hybrid mileage estimates are expected to fall by up to 30 percent in city driving and 20 percent for highway use, they will remain among the most fuel-efficient vehicles on the road, the EPA said.

The EPA update is separate from the minimum fuel economy standards the Transportation Department requires for passenger cars and light trucks, which include pickups, sport utilities and minivans.

44. Expert Says Auto Industry Should Speed Fuel Economy Improvements

While plug-in hybrids and hydrogen fuel cells are likely one day to help cut US gasoline consumption, major fuel savings can be achieved now if automakers put existing technologies to work. So says Jason Mark, clean vehicles director for the Union of Concerned Scientists, who toured the Los Angeles Auto Show pointing to conventional gasoline-fueled cars and trucks that employ some of the fuel-savings ideas.

While automakers use some of the ideas on some of their models, they don't use all of the ideas on all of their models, which Mark said could be done without difficulty and at minimal cost. "The technology is here. It's a matter of putting all the pieces of the puzzle together," Mark said.

Existing fuel-saving technologies used on many cars and trucks already include six-speed automatic transmissions, cylinder deactivation and simply better aerodynamic designs. The cost, he said, would be $500 to $1,200 per vehicle, which Mark claims would be recouped over the life of a car in fuel savings. And it would, within a decade, cut US oil consumption by 2.3 million barrels per day, Mark said.

By 2016, the average fuel use by all new US cars and trucks would rise to 35 miles per gallon from today's 25 mpg, Mark claims, by using existing gas-saving methods on conventional gasoline-driven vehicles.

Mark said the fuel savings can be achieved on all vehicles, and he's not saying America needs to cut out heavy trucks and sport utility vehicles (SUVs). "It's not about getting people out of their SUVs and into subcompacts. It's about building better SUVs and subcompacts," Mark said.

A 2007 Lincoln Navigator weighs almost three tons and is longer than 17 feet, but even it can save fuel by employing more of the technologies, Mark said. The Navigator already

does use the six-speed automatic transmission that adds a mile per gallon to its fuel economy, he said. Among the methods Mark wants to see more widely used are also are continuous variable transmissions which can provide a countless number of gears for better fuel efficiency, increasing the number of valves per cylinder to four from three, and variable valve timing.

45. GM Pledges to Make Plug-In Hybrid Electric Vehicle

General Motors Corp. became the first automaker to commit to make a rechargeable hybrid vehicle, a move reportedly intended to distance the world's largest automaker from its harmful reputation for producing gas-guzzling trucks. Plug-in hybrid vehicles have the potential to sharply increase fuel efficiency by using advanced batteries to power them over short distances, according to proponents.

GM Chief Executive Rick Wagoner, speaking at the opening of the Los Angeles Auto Show, called development of the plug-in hybrid technology a "top priority" for the automaker. "The technological hurdles are real, but we believe they are also surmountable," he told reporters at the Greater Los Angeles Auto Show. Specifically, Wagoner said GM had begun work on a plug-in hybrid version of the Saturn Vue sports utility vehicle as part of an expanded range of vehicles powered by alternatives to traditional gasoline engines.

"We see energy and environmental leadership as a critical element of GM's ongoing turnaround plan, a key part of our future business strategy," he said.

Wagoner said he was uncertain about when a plug-in hybrid would be commercially available.

For GM, which has been stung by criticism alleging that it had conspired to kill the electric car program in California earlier this decade, Wagoner's appearance in Los Angeles marked an attempt to generate renewed goodwill at a time of declining US sales, industry sources reportedly said.

GM said its plug-in vehicle could provide double the fuel-efficiency of any SUV now on the road.

GM also said starting in 2008 it would begin selling a version of the Vue hybrid using a "two-mode" electric power system it has developed jointly with DaimlerChrysler AG and BMW AG.

Wagoner said GM would have further electric vehicle announcements at the Detroit Auto Show in early January.

Hybrid vehicles, like Toyota Motor Corp's market-leading Prius, are powered by both an electric motor and a gas engine. Some auto analysts have said Toyota's lead in the hybrid market has created a kind of green "halo effect" that has helped it sell other kinds of vehicles, an especially key concern in California, the most populous and richest US state.

GM's hybrid announcements were intended in part to underscore how the automaker is

investing some of the $9 billion it has saved through a wrenching program of job cuts and plant closures, executives said.

Wagoner said GM recognizes that to change consumer attitudes about its brands, it has to address environmental concerns. "These things take time. You build brands and images over a period of time," he said after his speech. "It's going to take a while but it was a great opportunity for us today to make a strong statement."

Toyota spokesman Irv Miller said the Japanese automaker was "going in the same direction" as GM, but would not build a plug-in until it was satisfied that such a car could meet all the demands of its customers. "We're pleased to see GM recognize (hybrids) as something more than a bridging technology," Miller said.

Ford Motor Co's North American sales chief Cisco Codina said his company was also working on plug-in hybrids as one of a range of gas alternatives. "Our thinking right now is that we cannot discount any technology," he told reporters. "We're putting our money where our mouth is. And I think to some degree ... there's some catching up to do by some other manufacturers."

46. U.S. Senators Seek Commitment From Bush to Pass Climate Legislation

On November 15th, three key Senate Democrats called on U.S. President George W. Bush to "work with the new Congress to pass meaningful climate change legislation in 2007." "The recent elections have signaled a need to change direction in many areas, including global warming," Senators Barbara Boxer, Jeff Bingaman, and Joseph Lieberman said in a letter to Bush. "If we are to leave our children a world that resembles the earth we inherited, we must act now to address" greenhouse gas emissions.

Boxer is the incoming chairwoman of the Senate Environment and Public Works Committee. Bingaman is the incoming chairman of the Energy and Natural Resources Committee, and Lieberman, who was re-elected as an Independent, is the incoming chairman of the Homeland Security and Governmental Affairs Committee.

"As United States Senators, we have all authored or co-sponsored legislation to combat global warming," the letter said. "Although our approaches differ slightly, we--along with the overwhelming majority of the scientific community--agree that human caused global warming is real and that we must pass legislation to address this threat. We are committed to achieving this result."

White House Council on Environmental Quality spokeswoman Michele St. Martin released a statement saying, "The President has clearly stated he plans to work with Congress in a bipartisan manner on issues, and that includes climate change. The President already has in place an aggressive climate change strategy that is realizing results." St. Martin said greenhouse gas emissions increased only 0.6 percent between 2004 and 2005, compared to an average annual 1 percent increase for the previous 15 years. In addition, she said, the production of greenhouse gases has declined 2.8 percent relative to economic output between 2004 and 2005.

The Senate environment committee has been chaired by Sen. James Inhofe, a strong opponent of mandatory greenhouse gas controls. Inhofe has said that human-induced

climate change is a hoax. Inhofe released a statement in response to the Boxer-Bingaman-Lieberman letter, saying, "The United States Senate has made absolutely clear by consistently voting down carbon-cap legislation, most recently the 38-60 defeat of McCain-Lieberman, that the United States Senate will not support economically-wrecking legislation." The Senate in June 2005 defeated a measure by Lieberman and Sen. John McCain to require reductions in greenhouse gas emissions to 2000 levels by 2010.

The Senate during debate on the energy bill voted 53-44 to pass an amendment offered by Bingaman that put the Senate on record that Congress should enact mandatory, market-based greenhouse gas limits. Referring to this amendment, the November 15th letter said, “We have good reason to believe that the number of Senators in support of such legislation is now even larger than that vote demonstrated."

47. Canadian Study Sees Transportation Causing 25% of Greenhouse Gases

Transportation accounted for more than 25 percent of Canada's greenhouse gas emissions in 2004 and for 28 percent of growth in GHG emissions between 1990 and 2004, Statistics Canada said in the 2006 edition of its Human Activity and the Environment report on November 9th. At the same time, the report noted that transportation's contribution to emissions of some smog-forming pollutants is declining.

The rise in GHG emissions is driven both by the growing use of heavy-duty trucks to move goods and the shift toward the use of light vehicles such as vans and sport utility vehicles to transport people, it said. "A contributing factor to increasing truck traffic on roads is the concept of 'just-in-time' delivery of freight, whereby companies require delivery that is tightly synchronized with manufacturing processes," it said. "Just-in-time delivery helps companies compete by reducing the expense of carrying large inventories. However, it means that trucks are making more trips."

Between 1990 and 2004, GHG emissions from the transportation sector increased by 30 percent or 45 million metric tons, largely due to Canada's growing dependence on road vehicles to transport goods and people, it said. About 86 percent of the growth in transportation emissions was due to road vehicles, particularly trucks, it said.

"Between 2000 and 2005, the number of light trucks rose 26 percent. Meanwhile, the fleet of cars and station wagons fell 1 percent," the report said. "In 2005, the average fuel efficiency for gasoline-powered cars in the fleet of private vehicles in Canada was 9.1 liters for every 100 kilometers. For pickups, however, it was 14 liters, and for vans, 11.5 liters."

Statistics Canada noted that the transportation sector's contribution to other major air pollutants is declining, in part due to the introduction of catalytic converters and cleaner burning fuels. Emissions of nitrogen oxides from transportation were 19 percent lower in 2004 than in 2000, while emissions of carbon monoxide and volatile organic compounds were each 37 percent lower, it said.

"Reductions in these emissions are welcome, because they are all of concern for their potential impact on the environment and human health," it said. "For example, nitrogen oxides and volatile organic compounds are precursors to the formation of ground level

ozone, a key component of smog. Nitrogen oxides are also a major contributor to acid rain."

48. US Report Shows Slight Increase In Greenhouse Gas Emissions for 2005

The United States produced 7,147 million metric tons of carbon dioxide equivalents in 2005, an increase of 0.6 percent from 2004, according to a new report released on November 14th by the U.S. Energy Information Administration (EIA). The report, Emissions of Greenhouse Gases in the United States 2005, said 84 percent of those emissions were made up of carbon dioxide from the use of coal, oil, and natural gas.

Methane accounted for 8.6 percent of the greenhouse gas emissions, followed by nitrous oxide (5.1 percent) and engineered gases (2.2 percent) such as hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride.

The overall 0.6 percent increase in greenhouse gas emissions is less than the 2 percent increase that EIA--which is part of the Department of Energy--reported in 2004. Average annual emissions growth has been about 1 percent since 1990.

"U.S. emissions trends are driven largely by trends in fossil energy consumption ... with year-to-year deviations from trend growth caused by weather-related phenomena, fluctuations in business cycles, changes in the fuel mix for electric power generation, and developments in domestic and international energy markets," the report said.

Although overall greenhouse emissions continued to increase in 2005, the level of greenhouse gas intensity--the measure of emissions compared with U.S. economic output--decreased 2.5 percent from 2004. The Bush administration highlighted those results as evidence that its focus on voluntary emissions reductions, improved energy efficiency, and better technologies--as opposed to regulatory controls on greenhouse gases--is paying dividends.

The EIA report said the burning of fossil fuels for transportation accounted for approximately 33 percent of all U.S. carbon dioxide emissions in 2005, an increase of about 1 percent from 2004. Carbon dioxide emissions from U.S. electricity providers continued to account for the largest share, 40 percent, of total carbon dioxide emissions. The report said emissions from that sector totaled 2,375 metric tons in 2005, an increase of 2.8 percent.

Emissions of all U.S. greenhouse gases are nearly 17 percent higher than they were in 1990, the base year established under the Kyoto Protocol for emission reductions by the world's industrialized countries.

49. MIT Finds Climate Change Americans' #1 Environmental Concern

According to a recent MIT survey, Americans now rank climate change as the country's most pressing environmental problem—a dramatic shift from three years ago, when they ranked climate change sixth out of 10 environmental concerns. Almost three-quarters of the respondents felt the government should do more to deal with global warming, and individuals were willing to spend their own money to help.

The survey results were released Oct. 31 at the seventh annual Carbon Sequestration Forum, an international meeting held at MIT that focuses on methods of capturing and storing emissions of carbon dioxide—a major contributor to climate change.

The findings are a result of two surveys, the first administered in September 2003 and the follow-up in September 2006. Each survey included about 20 questions focusing on the environment, global warming, and a variety of climate-change-mitigation technologies. More than 1,200 people answered each survey (with no overlap between the two groups of respondents).

Comparing results from the two surveys provides insights into how public awareness, concern, and understanding have changed—or not changed—during the past three years. The environment continues to rank in the middle of the list of "most important issues facing the U.S. today." However, among 10 environmental problems, global warming (or climate change) now tops the list: Almost half the respondents put global warming in first or second place. In 2003, the destruction of ecosystems, water pollution, and toxic waste were far higher priorities.

There is also an increased sense that global warming is an established problem. In the 2006 survey, 28 percent of the respondents agreed that it is a serious problem and immediate action is necessary—up from 17 percent in 2003. All together, almost 60 percent of the 2006 respondents agreed that there's enough evidence to warrant some level of action.

The other big change is a substantial increase in people's willingness to spend their own money to do something about it. In 2003, people were willing to pay on average $14 more per month on their electricity bill to "solve" global warming. In 2006 they agreed to pay $21 more per month—a 50 percent increase in their willingness to pay.

50. Supreme Court Hears First Global Warming Case

On November 29th, the US Supreme Court considered its first global warming case, in a matter that pits environmental groups against the US agency meant to shield Americans from pollution. The case, known as Massachusetts v. EPA, was brought by a dozen states and 13 environmental organizations against the Environmental Protection Agency. The plaintiffs argue that the greenhouse gas emissions from cars, trucks and factories should be regulated by the US government.

The EPA, along with 10 states, four motor vehicle trade associations and two coalitions of utility companies and other industries, maintain the agency lacks the authority to limit emissions of greenhouse gases such as carbon dioxide. Even if EPA did have this authority, the science on global warming is so uncertain that no regulation should be made, the government's lawyer argued before the court.

At the heart of the case is a dispute over whether greenhouse gases fit the federal Clean Air Act's definition of a pollutant. The plaintiffs argue that if they do, the EPA then has the power to regulate them.

But Gregory Garre, the US deputy solicitor general who argued the government's case, said the EPA has never determined that carbon dioxide, one of the greenhouse gases

emitted by motor vehicles, endangers Americans by causing global warming. "There is substantial scientific uncertainty surrounding global climate change," Garre repeatedly told the justices.

James Milkey, a Massachusetts assistant attorney general who argued the plaintiffs' case, said the dangers from global climate change were particularly keenly felt in his state. Global warming has been blamed for rising seas, which could affect 200 miles (322 km) of Massachusetts coastline, Milkey said.

"Is this harm imminent?" Justice Antonin Scalia asked. "When is the predicted cataclysm?" "It's not so much a cataclysm, it's more like ongoing harm," Milkey replied.

At issue is whether the US government has the power to cap these emissions. Industry groups argue that it doesn't, and that carbon dioxide is a naturally occurring gas that does not fit the US Clean Air Act's definition of a pollutant.

Scalia prompted laughter when he questioned whether carbon dioxide was an air pollutant or a stratosphere pollutant. "Respectfully, your honor, it is not the stratosphere. It's the troposphere," said Milkey, referring to atmospheric layers that can be affected by pollution. "Troposphere, whatever," Scalia said as the normally silent gallery erupted in chuckles. "I told you before I'm not a scientist. That's why I don't want to have to deal with global warming."

The Supreme Court is expected to rule on this case by the middle of next year.

ASIA-PACIFIC

51. ADB, Chinese University Collaborate on 'Climate Hub'

On October 27th, the Asian Development Bank announced the establishment of a new facility in China designed to help governments throughout the region address climate change. ADB said in a statement it had signed an agreement with the Beijing-based Tsinghua University to set up a climate change "knowledge hub." The hub will research and disseminate "new concepts" on climate change, including new approaches to greenhouse gas reduction, energy efficiency, and the development of renewable energy resources, to countries throughout Asia via web portals, workshops, and training courses. The center will work with other academic institutions, the private sector, and civic groups, the statement said. ADB spokesman Graham Dwyer said that the university and ADB would finalize a work plan in the next few months, and that the facility was likely to produce "concrete results or outputs" by the middle of 2007. The hub is the fourth to be established under an ADB grant program aimed at improving developing countries' access to leading-edge environmental technology and know-how. Other facilities include a clean energy hub at India's Energy and Resources Institute and a waste reduction hub at Thailand's Asian Institute of Technology.

52. ADB Launches Ho Chi Minh City Pollution Study with HEI

On October 10th the Asian Development Bank launched a 30-month study into the impacts of air pollution in the Vietnamese commercial capital, Ho Chi Minh City. The $900,000 study, to be conducted with the support of the local government and the

Health Effects Institute, will examine the effects of air pollution on children and families to determine whether the effects of substandard air quality are more pronounced in poor communities. The Ho Chi Minh City government said in a statement that the study, the first of its kind, could have a "significant impact on public health and implications for public policy and air pollution mitigation" in Vietnam and throughout the region.

53. U.N. Finds Asia-Pacific Nations Failing to Meet Key Environmental Goals

Many Asia-Pacific nations are falling short of the environmental targets set out in the United Nations' Millennium Development Goals (MDGs), according a U.N. report released on October 16th. The study, conducted by the U.N. Development Program, the U.N. Economic and Social Commission for Asia and the Pacific, and the Asian Development Bank, found that some countries are actually regressing in the drive to achieve goals for protecting forests, reducing greenhouse gas emissions, and improving water supply in urban areas.

According to the report, the largest countries in the region, China and India, have become "early achievers" in terms of establishing protected zones and maintaining forest cover, but they are losing ground in the quest to cut carbon dioxide emissions.

The report also states that China's water and sanitation infrastructure, particularly in rural areas, remains "dismal" and ranks the country among the lowest in the region in terms of access to safe water and sanitation services. India's efforts to provide clean water and sanitation services to its growing population have also met with mixed results.

The study cites deforestation as another area of concern, particularly in Indonesia, Laos, and Bangladesh, where rampant consumption of wood for fuel has left only 6 percent of the country with tree cover.

Although chlorofluorocarbons are being phased out in countries like Thailand and Vietnam, consumption is steadily rising in places such as India, Micronesia, and Pakistan, the report states.

Overall, while the report defines the progress of Asian nations in attaining the MDGs as "impressive," especially when compared to Sub-Saharan Africa and parts of Latin America, it says the region's performance has been lackluster in several important areas, including reducing infant mortality and providing basic sanitation services to major cities.

The report urges Asia-Pacific governments to channel more funding toward health services and for developed countries to address shortfalls in the MDG effort through targeted aid programs.

54. Philippine Supreme Court Dismisses CNG Petition

The Philippine Supreme Court has dismissed a petition by environmental advocates seeking to compel the government to order mandatory use of compressed natural gas (CNG) as fuel to limit air pollution. In a 14-page resolution prepared by Associate Justice Leonardo Quisumbing and made public on October 30th, the high court said it saw no merit in the petition since there has yet to be a law requiring the Transportation Department and the Land Transportation Franchising and Regulatory Board to order

motorists to use alternative fuels as a means to limit air pollution.

"As serious as the statistics are on air pollution, with the present fuels deemed toxic as they are to the environment, as fatal as these pollutants are to the health of the citizens, and urgently requiring resort to drastic measures to reduce air pollutants emitted by motor vehicles, we must admit in particular that petitioners are unable to pinpoint the law that imposes an indubitable legal duty on respondents that will justify grant of the writ compelling the use of CNG for public utility vehicles," the resolution said.

The court said it was aware of the worsening air pollution in the country, but argued that the legislature should first come up with a "specific statutory remedy" to address the petition, which was filed by motorists and environmentalists led by Hilarion Henares, an adviser to former president Fidel Ramos.

The court said not even the Constitution or the Clean Air Act of 1999 clearly stipulates that public utility vehicles use CNG. A presidential order in 2004 implementing the country's Natural Gas Vehicle Program only calls for the "grant of preferential and exclusive" privileges to those who would partake in the program, but does not compel public transport vehicles to shift to CNG.

55. Tougher Tests for Diesel Vehicles in Singapore

On October 26th, Singapore's National Environment Agency (NEA) announced the introduction of a stricter emissions testing system for diesel vehicles as part of a "concerted bid to further improve air quality and protect public health." The NEA said in a statement that effective January 1, 2007, the existing "free acceleration smoke test" for new diesel vehicles would be replaced with the "chassis dynamometer smoke test," which can exercise a diesel vehicle with a simulated load and allow authorities to test emissions under actual driving conditions. The agency admitted the change was likely to result in higher inspection fees but said the new test was needed to weed out smoke-spewing vehicles. The new requirement comes shortly after the NEA introduced Euro IV emission standards and mandated the use of ultra-low sulfur fuel for diesel vehicles.

56. Toyota, Isuzu Announce Tie-up, Focus on Emissions

Toyota Motor Corp. has announced it would buy a 5.9 percent stake in Japanese truck maker Isuzu Motors Ltd. in a deal worth about US$352 million as part of a broad tie-up to jointly develop low-emission diesel and other engines.

Auto makers around the world are racing to come up with advanced technology to meet ever tighter standards for emissions and fuel economy, with many forming operational alliances to sharpen their competitive edge. The latest move marks Toyota's second capital link-up with a Japanese auto maker in 13 months after it took 8.7 percent of Fuji Heavy Industries Ltd., the maker of Subaru cars, in October last year.

Both Fuji Heavy and Isuzu, a 69-year-old truck maker valued at US$4.0 billion, were formerly affiliated with US auto giant General Motors Corp., which had dissolved those ties to raise much-needed cash.

Toyota, the world's second-biggest auto maker after GM, will buy 60 million shares in

Isuzu from Mitsubishi Corp. and 40 million from Itochu Corp.

The tie-up will focus on development and production of small diesel engines, joint development of emission-reducing technology for diesel engines and other power train-related technologies, they said in a statement.

While Toyota leads the industry in most environmentally friendly technology -- notably in gasoline-electric hybrids -- it is a laggard in diesels, which are gaining traction around the world as a proven technology for reducing fuel consumption. Isuzu, meanwhile, is known for its edge in diesels, supplying small engines to GM and Renault SA, and until recently also to Honda Motor Co.

57. India Pushing For 10 Percent Ethanol Blended Petrol from June 2007

India plans to introduce the mandatory blending of 10 percent ethanol into gasoline across the entire country from June 2007, Petroleum Secretary M.S. Srinivasan has announced. He said the use of 5 percent ethanol mixed petrol, currently used in three states, is expected to be spread to rest of the country by Nov. 15.

"We have already tied up 50 percent of the 560 million tons of ethanol needed for 5 per cent mixing at 21.50 rupees a liter," Srinivasan told reporters. India will need 1.12 billion liters of ethanol a year for the move to 10 percent blended petrol.

"We expect substantial availability of ethanol for 10 per cent blending as new capacities are being created and we are expecting a bumper crop (of sugarcane)," he said.

India's farm minister, Sharad Pawar, said that sugar production in the cane crushing season that began in October was likely to reach 22.7 million tons, up from 19 million tons in the year ago period. Faced with the surge in production, a ban on sugar exports may be lifted within the next two weeks, Pawar said.

India also plans to replace around 5 percent of its current 40 million tons of annual diesel consumption with jatropha biodiesel within about five years, as it tries to limit oil imports that account for 70 percent of its needs.

58. Climate Change Forecast to Hit South China Economic Engine

China's Pearl River Delta, a giant manufacturing hub which helped earn the country the nickname "the workshop of the world", will be hard hit by climate change in the coming years, and leaders need to do more to plan for it, a Hong Kong think tank has announced. As polar ice caps melt, the sea level along the coast of Guangdong province is forecast to rise at least 30 cm (12 inches) in the coming 25 years, inundating parts of the low lying delta, Civic Exchange said in a report.

Coastal and river defenses in the region will be inadequate, roads and railways will be damaged by higher temperatures and flooding, and fresh water supplies -- already stretched -- will come under threat, it said. The implications are "potentially enormous", said co-author Alexandra Tracy.

The Pearl River Delta, adjacent to Hong Kong, is home to tens of thousands of factories

producing everything from textiles to cars, and is a key link in supply chains that extend around the world. "Any large problem for the Pearl River Delta has much wider implications," Tracy told a news conference.

Insurance costs and taxes are likely to rise and there will be interruptions to power supply and transport as the effects of global warming are felt, the report said.

"Climate change risk has not been adequately addressed by the authorities or businesses in Hong Kong, Macao and the PRD," said Christine Loh, a former Hong Kong lawmaker and CEO of Civic Exchange. "The region urgently needs more in-depth research on how we can adapt to the unavoidable aspects of climate change, as well as how we can reduce our greenhouse gas emissions," she said.

59. China's Owners Deride Guangzhou Electric Bike Ban

A ban on battery-powered bicycles in the southern China city of Guangzhou has left tens of thousands of owners grounded without compensation and angered vendors who face lost business. The ban, effective a day after police announced it last week but allowing a "15-day education period", was aimed at preventing electric-powered bikes from becoming "the main mode of transport", Xinhua reported.

"If such bikes are permitted, this will certainly rapidly increase the burden on roads," Xinhua quoted police as saying.

Guangzhou, a booming Pearl River Delta city of about 10 million often choked with traffic jams, was China's fifth-fastest growing car market in the first half of 2006, state media has reported. The city has about 870,000 cars, Xinhua reported last week, growing at about 150,000 every year.

Police also cited safety concerns and the inability to effectively enforce traffic regulations on electric-bike riders. "These riders have never received any special riding training or tests, so their driving skills are very difficult to guarantee."

Police added that compensation would not be given to bike owners as they had been urged "through the media" not to buy bikes and in any case, the Guangzhou government had "never permitted" them.

At least 100,000 residents ride electric bikes every day in Guangzhou, which at 1,000-3,000 Yuan (US$125-US$380) are a cheap and increasingly popular form of transport in Chinese cities. But several local governments have banned the bikes which require no license and are exempt from registration fees. Beijing has confined electric bikes to its outer suburbs, although riders regularly flout the regulation.

Over 100 electric bike manufacturers, vendors and riders held a rally in a Guangzhou hotel to protest the ban, the Yangcheng Evening News, a Guangzhou daily, reported. "Allow the orderly and healthy development of electric bicycles and don't simply kill them off!" the paper quoted protesters as saying.

The group issued a joint communiqué, saying the authorities "had not fully consulted the will of the people".

Construction Ministry Vice Minister Qiu Baoxing earlier this year slammed city planners for pandering to private car owners and ignoring the needs of ordinary pedal cyclists, saying China should remain the "kingdom of bicycles". Qiu lamented that some Chinese cities were cutting back on bicycle lanes in order to make more room for cars, even as some Western cities were building more lanes for cyclists.

60. Beijing Air Quality Reaches Hazardous Level

Air pollution in Beijing, under pressure to provide clear skies before the 2008 Olympics, reached the worst level on a government air quality index recently. Beijing's air pollution was rated "hazardous" -- the highest category in the China Environmental Monitoring Center's index -- for the 24-hour period, Xinhua said. For a second consecutive day, Beijing was blanketed in heavy fog, which reduced visibility to a few hundred meters, and had delayed at least 80 flights, the official Xinhua news agency reported.

The capital's worsening pollution comes as China's environmental watchdog reported that national industrial emissions continued to soar in the first nine months of 2006.

Beijing has pledged to cut air pollution in the lead-up to the Olympics but faces an uphill battle as its increasingly wealthy population rushes to buy cars. From July to September, one out of every three days were classified as polluted in Beijing and 15 other major cities and had affected the "physical" and "psychological health" of some 15 million people, the State Environmental Protection Agency said on its Web site.

The semi-official China News Service said the fog had hit an area of 218,000 square km (84,170 square miles), spanning seven provinces in the country's north and east. Dozens of flights had been delayed, mostly those to and from cities in the coastal province of Shandong, where there had also been some flight cancellations.

Visibility in parts of the provinces of Liaoning, Shandong and Jiangsu had been a mere 200 meters, delaying more than 40 flights in Liaoning's capital city Shenyang, Xinhua said.

61. Japan to Review GHG Targets As Latest Data Show Rising Emissions

Japan will consider toughening its greenhouse gas emission targets for each economic sector by early 2008, an official from the Ministry of Economy, Trade and Industry said on October 26th. Sunao Orii, an official of the ministry's Environment and Economics Division, said the ministry's policy panel on greenhouse gases, the Global Environment Subcommittee, held its first meeting on October 25th and affirmed the need for Japan to review its current reduction targets for the industrial, passenger transport, freight, commercial real estate, and household sectors.

At the meeting, METI and Environment Ministry officials reported emissions of each major sector at the end of fiscal year 2005.

Orii said council members pointed out that household and real estate sector energy consumption needs to be reduced, but the official declined to comment on what measures may be introduced.

According to data released on October 17th, Japan's greenhouse gas emissions in fiscal year 2005 increased 0.6 percent over FY 2004 to reach 1.364 billion metric tons of carbon-dioxide-equivalent. The emissions level was 8.1 percent above 1990 levels. Under the Kyoto Protocol, Japan is required to reduce its greenhouse gas emissions to 6 percent below 1990 levels by the period 2008-2012.

Masayasu Yamamoto, coordinating officer of the Environment Ministry's Global Warming Policy Division, said that a key factor behind the fiscal 2005 increase was a long cold spell that started in December 2005, which raised energy consumption for heating.

- Commercial buildings accounted for 19 percent of aggregate emissions, rising 3.1 percent from FY 2004 to 42.2 percent over 1990 levels, according to the report.
- Households accounted for 15 percent of the total, up 4.5 percent from FY 2004 to 37.4 percent above the benchmark year.
- The industrial sector accounted for 38 percent of emissions, up 0.2 percent over FY 2004 but 3.2 percent below 1990 levels.
- Transportation accounted for 21 percent of total emissions, down 1.8 percent from FY 2004 but up 18.1 percent over 1990 levels.

Yamamoto said the ministry's data may differ from other government departments due to accounting differences.

The Environment Ministry and the Ministry of Economy, Trade and Industry will hold special meetings to develop a national program to further reduce emissions, Yamamoto said. He added, however, "It looks extremely grim that we can achieve a 6 percent reduction by the target year."

62. HOHHOT to be a new production base of new energy vehicles

China CITIC Group, the French Dassault Group, and Inner Mongolia Autonomous Region will establish a joint R&D center of electric vehicles in Beijing and Hohhot will be a production base for the electric and hybrid vehicles. The news was reflected in a cooperation agreement signed by China and France. It is understood that the CITIC Group, French Dassault Group and the Inner Mongolia Autonomous Region will respectively invest 13.33, 10 and 10 million euros in establishing the base and producing electric and hybrid vehicles developed by Beijing's R&D center. The primary goals are the special vehicles for 2008 Olympics and electric vehicles for Inner Mongolia's taxi market.

63. Beijing to Reject High Polluting Vehicles During the 11th Five-Year" Plan

According to the newly made "Program of Protecting Environment and Constructing During the "Eleventh Five-Year' Plan", Beijing will strengthen the management of the in-use vehicles, strictly enforce the rejection system for all kinds of vehicles, and encourage rejections and upgrades in advance. Before 2008, Beijing will adopt measures to accelerate rejecting and upgrading of the heavy-duty vehicles; encourage the newly produced and upgraded vehicles to use hybrid engine and electric engines which have low emissions and comply with the stricter emission standards; and strengthen the

management of all the vehicles in Beijing to ensure that all the vehicles driven on the roads are compliant with the vehicle emission standard.

During the "Eleventh Five-Year" Plan, Beijing will also strictly control the vehicle emission exhaust, and further promote the vehicle emission standard for new vehicles. By 2007 the light-duty diesel vehicles will implement the National IV emission standard, and by 2008 the light-duty gasoline vehicles, light-duty gas vehicles and the heavy-duty diesel vehicles will implement the National IV emission standard. Meanwhile, Beijing will also strictly control the fuel quality and make even stricter local fuel standards. Before 2008, Beijing will release and implement the fuel standards which are consistent with National IV vehicle emission standards, strengthen supervising and managing the on-sold fuel additives, and adopt financial measures to encourage selling and using the low sulfur and high quality fuels.

64. CAI Asia Fails MMT Test; Walsh Resigns

CAI Asia has been working on a Clean Fuels Roadmap for Asia for the past three years and anticipated releasing its final report just before the recent BAQ conference in Indonesia. But it hit a major roadblock along the way, MMT. Following a May workshop at which the final draft was discussed and opened for comment, Afton, the producer of lead and MMT additives for gasoline submitted lengthy comments criticizing the brief references to MMT in the draft. The draft noted that the use of MMT results in the release of manganese from the tailpipe and raises concerns regarding plugging with advanced catalysts. Following release of the draft, the Brescia Declaration was released in which prominent medical experts called for a complete ban on the use of Manganese in gasoline. After extensive discussion and debate between one of the reports authors, Michael Walsh, and the CAI Secretariat, CAI under pressure decided to publish the Afton comments in a detailed summary of all comments on the draft paper without any presentation of the counter views prepared by Mr. Walsh. In response to this decision, believing that CAI had failed in its mission to provide objective, scientifically based information to its clients, the governments and citizens of Asia, Mr. Walsh resigned immediately from the Executive Council of CAI. Shortly afterward, CAI partially reversed its position and withdrew the original posting and replaced it with one which included Mr. Walsh's comments as an Appendix.

CAI further noted that in its view the scope of the initial report did not provide for a specific analysis of fuel additive issues, it is now apparent from responses received that greater attention to this topic would be of significant use to policy makers in the region. On this basis, CAI proposed that a supplemental analysis of existing information related to the use of octane enhancing additives be conducted and incorporated into the final version of the report. This will cover major octane enhancing additives such as ethanol, MTBE, MMT, and other metal based additives such as Ferrocene. The supplemental analysis will review available information on (i) health impacts, (ii) emission impacts, and (iii) economic considerations. An advisory panel will be convened to assist with the development of an appropriate Terms of Reference for the supplemental analysis and engage with the study's authors in reviewing the scientific literature and relevant industry and policy views and their implications.

CAI has committed to complete this supplemental analysis as well as the original Clean Fuels report by March 31, 2007.

65. Air Pollution In Delhi Blamed On Diesel Cars

More diesel-run cars on the roads have increased air pollution in India's capital, an environmental group has warned, urging the government to take immediate action to halt harmful emissions.

Air pollution was already evident in New Delhi with a heavy haze blotting out the sun in recent days, said the Center for Science and Environment. "This low-hanging shroud impairs visibility and chokes lungs," said the CSE's Anumita Roychoudhury.

Air quality in New Delhi, once rated among the world's most polluted cities, made a marked improvement after the government in 2000 ordered all public buses to modify diesel engines to run on less-noxious compressed natural gas. Similar regulations for motorized rickshaws and taxis also sharply cut back emissions of black smoke.

New research by the CSE showed a sharp rise in air pollution was directly linked to the increase in diesel cars on New Delhi's roads, said Roychoudhury. New Delhi already has 4.5 million cars on the roads with an additional 200,000 vehicles hitting the city's congested streets each year. Research indicated the number of diesel cars added annually has skyrocketed.

Delhi's winters, although mild, have in the past few years been associated with a spike in respiratory and cardiac emergency cases, which environmental scientists say, is linked to the city's poor air quality. "As the cold sets in, wind speeds are low and the air, which is heavy with particulate matter, loses its natural ability to circulate," says Sumit Sharma of The Energy and Resources Institute, a New Delhi-based environmental agency. "This polluted air hangs over the city resulting in an increase in respiratory and cardiac emergency cases."

66. Use of Pre Mixed Oil Expanding in India

In December1998, the Government of India mandated the supply of 2-stroke lubricating oil only by pre-mixing it with the fuel and banned the sale of loose oil in the National Capital Territory of Delhi. In a new notification issued on the 17th of November 2006, the Ministry of Environment and Forests (MoEF) has extended this mandate to sixteen other major cities across the country including Mumbai, Kolkata, Chennai, Bangalore, Pune, Hyederabad etc. This mandate will take effect from January 1, 2007.

The minimum 'Smoke Index' requirement of 85 as per JASO FC class was a part of another notification issued by the MoEF in August 1998 and was already applicable to the whole country.

With this notification, these sixteen cities will now get controlled quality and quantity of low smoke 2-stroke oil which has been shown to have a significant effect on emission of visible smoke and PM emissions from two-stroke powered two and three-wheelers.

67. Air Pollution Hurts India's Rice Crop

Air pollution caused by the burning of fossil fuels has contributed to a slowdown in rice harvest growth in India in the past two decades, scientists said. The researchers said the findings suggest reducing so-called atmospheric brown clouds, formed from soot and other tiny airborne particles belched into the air when fossil fuels are burned, would help improve rice harvests to feed India's 1 billion people. India has an acute problem with this type of pollution, which previous research showed can cut rainfall and lower temperatures.

Writing in the Proceedings of the National Academy of Sciences, the researchers said harm from this air pollution has combined with broader global warming effects from greenhouse gases such as carbon dioxide to squeeze India's rice harvest.

"If we let air pollution levels get worse, these effects are going to get larger," University of California-Berkeley scientist Maximilian Auffhammer, one of the researchers, said in a telephone interview. "If we don't do anything about this, things are not going to get better."

India is one of the world's major producers of rice. Broad agricultural improvements boosted India's rice harvests in the 1960s and 1970s, making it self-sufficient in its staple food. The annual growth rate peaked at 2.7 percent in the mid-1980s. Growth has eroded since then, prompting worry about potential food shortages in the densely populated and poor country.

India's rice harvest would have been more than 14 percent better from 1985 to 1998 without the negative combined effects from the burning of fossil fuels and broader climate warming, the researchers said.

"I don't think it forecasts immediate doom and mass starvation or anything like that," Auffhammer said. But he warned India's rice self-sufficiency could be threatened even as some experts forecast that its population will top China's by the middle of the century.

There have been other explanations offered for the slowing rice harvest growth, including falling rice prices, deteriorating irrigation infrastructure and soil degradation.

Auffhammer and University of California-San Diego scientists V. Ramanathan and Jeffrey Vincent examined historical data on India's rice harvests and gauged the combined effects of atmospheric brown clouds and greenhouse gases on growing conditions. The combined effects of the two types of pollution were decidedly negative. The research indicated that the cooling effect of the brown clouds actually helped rice harvests by partially offsetting the warming effects of greenhouse gases, but not nearly

as much as the drying effect from these clouds hurt the harvests.

Some climate scientists have worried that reducing brown clouds and their cooling effect could harm crops by intensifying the warming caused by greenhouse gases. But this study indicated any negative impacts of intensified warming would be outweighed by positive effects of greater rainfall.

68. Official Says China Pollution Crisis Undermining Growth

China faces an environmental crisis that threatens to wipe out much of the gains of three decades of economic growth, according to one of China's most outspoken environment officials. "China is dangerously near a crisis. The country's enormous environmental debt will have to be paid one way or another," Pan Yue, deputy head of China's State Environmental Protection Administration, said in a letter to the South China Morning Post.

"(We must) begin paying this debt now ... rather than allowing it to accumulate and, ultimately, threaten to bankrupt us all," he added.

Beijing has admitted to some of the environmental degradation caused by three decades of pursuing rapid economic growth at almost any cost, but the picture it painted was still incomplete and China needed action, not rhetoric, Pan said.

Realistic estimates put environmental damage at 8 to 13 percent of China's national income each year, meaning the cost of pollution off-set almost all of China's economic gains since the late 1970s, he said. The costs of pollution are being borne by ordinary Chinese. "Scarcely anyone bothers to consider the environmental costs to -- or rights of -- the country's poor and powerless," Pan said. A quarter of the population drink substandard water, a third of urbanites breathes badly polluted air and China has a major water pollution incident every two days on average, he added.

Pan urged the government to introduce legal mechanisms to make polluters pay and reward those who protect the environment. He also called on Beijing to help unify the environmental watchdogs scattered across different sectors, and establish a system to monitor officials' performance in environmental as well as economic fields.

69. Olympics - Beijing 2008 Progress on Track, Pollution a Worry - IOC

Preparations for the Beijing 2008 Olympics are well on schedule but pollution is still a concern, according to the International Olympic Committee. Following a report by the Beijing Games organizers and the IOC chief inspector Hein Verbruggen, the IOC said work was still needed to improve air quality in the Chinese capital.

"Yes it is a specific concern," IOC Olympic Games Executive Director Gilbert Felli said, citing recent complaints by athletes who competed in Beijing, and other officials. "The important thing for us is to understand exactly what it is...and to understand what it will be at the time of the Games," he said.

Earlier Verbruggen told reporters environmental pollution was an issue that needed to be addressed. "Environment is certainly an issue but they (Chinese organizers) are looking

into it," said Verbruggen. "A lot of things are being done. We still remain confident." He said the sheer size of the country and the rapid economic growth was adding to the problem.

Verbruggen added Beijing had committed itself to more than 350 steps to improve the environment, backed by a budget of $12.3 billion, and so far was working on every single one of them. "There were 350 commitments made and we cannot find one they do not live up to," he said.

In their progress report to the IOC Executive Board in Kuwait, Beijing Games organizers said they had specific measures which will come into force in order to improve air quality ahead of the Olympics. They said thousands of taxis and buses with "excessive emissions" would be replaced and the large Shougang steel plant in Beijing would cut steel and coke production by 50 percent by 2007.

"They (Chinese organizers) also talked about relocation and renovation of polluting industries and a plan for an intensified air quality at Games time and that is what they are studying with the University," said IOC Director of Communications Giselle Davies.

70. Recent Developments in The China Vehicle Industry

A. Sizzling Market Growth

China's vehicle market has regained strong growth momentum this year after a slow pace the past two years, beating estimates of most industry analysts. In the first three quarters of this year, sales of domestically-made vehicles grew by a quarter to 5.17 million units with car sales rocketing by more than 30 per cent. Full-year sales are expected to total 7 million units, enabling the country to dwarf Japan as the world's second biggest vehicle market.

Sales in 2005 and 2004 rose by 13.5 per cent and 15.5 per cent respectively. Both of the growth rates in 2003 and 2002 were above 30 per cent.

B. Phil Murtaugh Returns

In June, SAIC hired Phil Murtaugh, former chairman and chief executive officer of GM China Group, as its executive vice-president. Murtaugh, 51, takes the helm of SAIC's international operations. The company expects Murtaugh, who has more-than-30-years experience in the automotive industry, to help it branch out in the overseas market. Murtaugh quit his post at GM China Group in April last year.

C. SAIC Launches It's Own Brand

On October 24th, SAIC, the biggest Chinese carmaker, launched its first brand car - the Roewe 750 - since 1993. The Roewe, developed by SAIC's technical centers in Shanghai and England, is based on the Rover 75 technology bought from collapsed British carmaker MG Rover.

As the partner of both Volkswagen and General Motors, the company plans to spend more than 10 billion Yuan (US$1.26 billion) developing 30 models under its own

nameplate from now to 2010. It aims to sell 200,000 of its own brand annually by 2010. SAIC is targeting China's medium-and-upper-end market with the Roewe. SAIC stopped producing its two marques - Shanghai and Phoenix - in 1993.

D. VW Sales Revived

German carmaker Volkswagen regained sales growth in China this year after consecutive tumbles over the past two years. The company sold 524,558 cars from January to September this year, up 28.7 per cent from last year. The strong sales keep Volkswagen as the biggest player in China's passenger car market. Volkswagen controlled 17.5 per cent of the market. The group has been leading in the Chinese car market since the middle of the 1980s when it started to produce cars at a venture with SAIC.

71. Beijing Auto Show Has Record Turnout

The Beijing auto exhibition 2006 closed with a record turnout of almost 600,000 visitors in 10 days, the organizers said. Nearly 550,000 people visited the main venue at the China International Exhibition Center, while another 50,000 visited the auto parts show at the National Agricultural Exhibition Center.

The event, which has been held biennially since 1990, also drew 6,376 journalists, including 1,135 from outside China.

The rising importance of the Beijing auto show was reflected by the unprecedented presence of major international carmakers. Foreign carmakers brought two-thirds of the 572 cars to the show. Ten models, including Toyota's Corolla and Maybach's ultra-luxury 62S, made their global debuts in Beijing.

After years of dynamic growth, China is the world's second largest auto market after the United States. Both its production and sales of automobiles are expected to surpass seven million this year, according to the latest estimate of the China Association of Automobile Manufacturers.

This year's Beijing auto show also saw an impressive turnout of home-grown brands, a reflection of their growing strength in the fast expanding auto market. According to the organizers, Chinese brands accounted for one third of the vehicles on show, the most in the history of the event.

FAW, which produced China's first truck and car in the 1950s, brought 29 vehicles, including 19 of its joint venture brand partners such as Volkswagen and Toyota, and 10 of its own. The most eye-catching is a new Red Flag (Hongqi) model dubbed HQ3. Using a 4.3 liter engine, it takes only 7.3 seconds for HQ3 to accelerate to 100 kilometers per hour. The car is also equipped with a sophisticated infrared night vision system that can detect obstacles from 250 meters away.

Dongfeng Motor, another major Chinese manufacturer, came with 15 models, half of them Dongfeng's own brands. They include a full range of cars, multi-purpose vehicles, small utility vehicles, racing cars and hybrid sedans.

Geely, a minor Chinese carmaker which recently entered into agreement with the Manganese Bronze Holdings Plc. of the United Kingdom to produce London's iconic black cabs, is displaying over a dozen new models. Also on show is Geely's first concept car, and another from its subsidiary, Shanghai Maple Automobile.

Other Chinese carmakers, the Shanghai Automotive Industry Corp., Great Wall, Chery and others all brought their Chinese brand models. Chinese brands account for about a quarter of China's auto sales. While consolidating their share in low-end products, they are moving into more lucrative markets dominated by foreign carmakers.

72. GM To Build Hybrid Cars In China

General Motors announced a plan to build environmentally-friendly hybrid cars in China by 2008, while it paraded its latest hydrogen-powered vehicle before Chinese officials. The hybrid would go into mass production at the Shanghai GM plant, a joint venture with Shanghai Automotive Industry Corp, the company said in a press release.

The announcement was made as GM was parading a series of energy-saving cars, including the Saturn Vue hybrid and the Chevrolet Sequel hydrogen-powered fuel cell vehicle.

GM head Rick Wagoner joined Shanghai Mayor Han Zheng in the first-ever drive in Asia of the Sequel, GM's hydrogen-powered vehicle that was rolled out for test drives in the United States last month.

"We believe fuel cell vehicles offer the best long-term solution for meeting the world's growing demand for automobiles in an economically and environmentally sustainable manner," Wagoner said. "From a China and Asia Pacific perspective, development of world-class fuel cells and the associated infrastructure are key initiatives that need the support of industry, government and the academic community."

Hydrogen-powered cars are seen by many as vehicles of the future as they do not use gasoline and their only by-product is water vapor. However the production and storage of hydrogen and the building of a hydrogen infrastructure of refueling stations could take decades and billions of dollars to build. In the meantime, the hybrid vehicle, a car that uses both a combustion engine and electric motors for propulsion, is seen as an interim solution to the full development of a clean car.

Toyota Motor, the world's second biggest automaker after GM and a pioneer of environmentally friendly cars, began production in China of its popular Prius hybrid at the end of last year.

73. China Wants to Slow Growth in Carbon Emissions

China wants to slow its growth in carbon emissions, a top energy policy maker said, as the world's number two producer of greenhouse gases threatens to overtake the United States. China's breakneck economic growth largely comes from burning high-carbon coal.

"Because we're a coal dominant country, we have to take responsibility for lowering

greenhouse emissions," Zhang Guobao, vice-chairman of the energy-policy setting National Development and Reform Commission, told an energy conference in Australia. But Beijing would need to trim economic growth and hit energy efficiency targets to achieve a reduction, Zhang said.

"China plans to reduce its energy consumption per unit of GDP by 20 percent by 2010," he said. "And for the next five years, assuming an average economic growth of 7.5 percent per year, China's carbon emissions will be reduced by 10 percent," he added.

The rare mention of a global warming target by a senior Chinese official comes barely a month after the International Energy Agency (IEA) warned that China's carbon emissions could overtake those of the United States before 2010.

China has much scope to improve its energy efficiency given that its energy consumption per unit of output far exceeds the United States and Japan, said Zhang, but its rapid economic growth means its gross carbon emissions could rise regardless.

Beijing has been heavily promoting its energy efficiency goals, but this is generally considered to be largely because of domestic pollution problems and energy security concerns as dependence on oil imports creeps towards 50 percent. Global warming is rarely mentioned as a priority by China's top leaders and carbon dioxide emissions are not targeted in the blue-print five-year plan for growth to 2010, despite lobbying from both inside and outside the government.

But Beijing has pledged to change its energy supply structure, including investments in cleaner coal, nuclear power and renewables. Officials aim to boost the portion of its energy that comes from renewable sources to 16 percent of total supply from the current 7 percent by 2020.

74. Environment Situation In China At Critical Point

"More and more environmental problems are beginning to pop up," Zhou Shengxian, director of the State Environmental Protection Administration (SEPA), told the annual meeting of the China Council for International Co-operation on Environment and Development (CCICED) recently. "In some places, environmental problems have affected people's health and social stability; and damaged our international image."

More than half of the country's rivers are severely polluted, and about a third of the territory affected by acid rain, Zhou noted.

To meet energy consumption targets, Lu Zhongwu, an academic at the Chinese Academy of Engineering, advised a careful scan of GDP growth goals set by local governments.

The central government has set a target of reducing energy consumption per unit of GDP by 20 per cent and cut major pollutants by 10 per cent by 2010. Many local governments have set double-digit growth targets, much higher than the country's projected 7.5 per cent in the 11th Five-Year Plan (2006-10).

CCICED said SEPA does not have sufficient administrative authority in policy planning,

implementation and co-ordination with related agencies; and urged the government to upgrade the watchdog to cabinet level.

75. Expert Says China Takes Steps To Cut CO2 Emissions

China has taken active steps to cut carbon dioxide (CO2) emissions, according to a climate change expert, Xu Huaqing, director of the Energy Research Institute at the National Development and Reform Commission (NDRC).

A recent report from the International Energy Agency (IEA) said by 2009 China would surpass the United States to be the top emitter of CO2. The previous forecast predicted this would happen in 2020.

"It is not surprising given China's growing dependence on coal consumption, driven by rapid economic growth over the past years," Xu said.

The IEA conclusion was based on two assumptions that by 2009 CO2 emissions from burning fossil fuels in the US would hold steady and that China's energy consumption structure would not change dramatically before then.

China is expected to consume the equivalent of 2.5 billion tons of coal in 2009, which will release about 5.8 billion tons of CO2; this will be equivalent to the amount the United States released in 2004, Xu said.

With a population five times that of the United States, China has a per-capita CO2 emission that is much lower than those of developed countries. But with its CO2 emissions continuing to increase, China will face great pressure from the international community to make a commitment to reduce emissions.

"Who will become No 1 and when is not the biggest concern here," said Zhang Jianyu, a visiting scholar at Tsinghua University. "But what's rather alarming is that neither country has set a firm cap on their emissions. Both countries are large emitters and must do something."

Although the country has not set a firm cap and a clear target on CO2 emissions, it has put in place a series of measures to help mitigate worldwide climate change. From 1990 to 2005, China's energy consumption per 10,000 Yuan (US$1,250) of gross domestic product (GDP) went down from 2.68 tons of coal equivalent to 1.43 tons. An accumulated 800 million tons of coal equivalent were reduced by economic structure adjustment and energy efficiency promotion. Based on the emissions ratio of 2.3 tons of CO2 released from 1 ton of standard coal in 1994, it means China cut 1.8 billion tons of CO2 emissions.

Last year, the use of renewable energy, including hydroelectricity, in China was equal to 166 million tons of coal equivalent, accounting for 7.5 per cent of China's total energy consumption. That equals 380 million tons of CO2 emissions saved, Xu said.

China has also taken an active role in the Clean Development Mechanism under the Kyoto Protocol to reduce CO2 emissions with the co-operation of industrialized countries.

76. Nissan Unveils Plans For Hybrids, Other Green Cars

Nissan Motor Co. has outlined plans to launch its own hybrid, ethanol and other "green" cars as it seeks to dash its image as an environmental laggard behind Toyota Motor Corp. and Honda Motor Co. As part of a broad initiative called Nissan Green Program 2010 aimed at cutting carbon dioxide and exhaust emissions, Japan's second-biggest auto maker said it would offer a hybrid vehicle using internally developed technology as early as the business year starting in April 2010, first for the domestic and US markets.

The Tokyo-based auto maker has no hybrid car on the market yet. Its first will be the Altima sedan to be launched in the United States next spring using technology licensed from Toyota. Chief Executive Officer Carlos Ghosn has been famously lukewarm on current hybrid technology, arguing it was too expensive for consumers while reaping little or no profit for car makers.

Nissan said its own hybrid cars would balance cost and value so that they would be profitable from the start. Its licensing deal with Toyota applies only to the Altima model, and future models will likely be built using in-house technology, Nissan said.

Nissan said it would also develop the world's first car that can run 100 km (62 miles) on three liters of gasoline by improving the conventional internal-combustion engine, aiming for a 2010 launch in Japan.

"All these investments are a must to ensure sustained growth in the medium and longer term," Chief Operating Officer Toshiyuki Shiga told reporters at Nissan's headquarters. "This isn't a sudden shift in strategy. We were just a bit behind in communicating what technology we possessed," he said.

Having cut back spending on research and development heavily in the late 1990s as it skirted bankruptcy, Nissan had lost its long-held cachet as the technology leader in Japan as domestic rivals Toyota and Honda rolled out the world's first gasoline-electric hybrids and hydrogen-fuelled cars during the past 10 years.

With drivers around the world growing more conscious of fuel economy and the damage their cars pose to the environment, top auto makers are stepping up their development of alternative vehicle technology while polishing their image as good corporate citizens.

In other areas, Nissan said it would develop clean diesel engines led by alliance partner Renault SA that would meet strict emissions standards to be introduced in the United States and Japan in several years. The partners will also launch a new 2-litre diesel engine in the first half of 2007, starting in Europe.

But Nissan said the most effective way in cushioning the environmental damage was by advancing the technology on internal combustion engines, which power most of today's cars. To that end, Nissan said it planned to sell 1 million vehicles equipped with continuously variable transmissions (CVT) by the end of the 2007/08 business year, or around 24 percent of its global sales volume. In the 12 months to March 2006, it sold 450,000 CVT-equipped cars. CVTs are more expensive than automatic transmissions but emit up to 10 percent less carbon dioxide, a greenhouse gas.

Nissan said it would simultaneously accelerate development of electric vehicle technology, including gasoline-electric hybrids, plug-in hybrids, pure electric vehicles and hydrogen-powered fuel-cell vehicles. Nissan will introduce an electric car, first in Japan and a next-generation fuel-cell vehicle in the United States and Japan, both soon after 2010, it said. Nissan also said it was developing a new lithium-ion battery that would be manufactured and sold through a separate company that it plans to set up in the near future. "We want to create a standard for batteries to be used in hybrids, electric and other vehicles," Shiga said, declining to divulge details of the company.

For ethanol-keen Brazil, Nissan promised a 100 percent ethanol fuelled vehicle by 2009, while also announcing plans for an Armada FFV, or flexible fuel vehicle that can run on any blend of ethanol and gasoline using up to 85 percent ethanol, in the United States next year. An E85 Titan FFV pickup truck has been on sale since 2004.

In other efforts, Nissan said it would cut CO2 emissions from its global manufacturing plants by 7 percent in 2010 compared with 2005 levels.

77. Japan to Require Automakers To Raise Fuel Efficiency 20 Percent by 2015

Japan is considering rules that would require automakers to improve average vehicle fuel efficiency by 20 percent from 2004 levels by 2015, Japanese government officials have announced. The rules, which would cover all new passenger and small commercial vehicles, are expected to be issued early next year by the Ministry of Economy, Trade, and Industry (METI) and the Ministry of Land, Infrastructure, and Transport (MLIT), the officials said.

Environment Ministry officials said the initiative is part of a broader push to reduce greenhouse gas emissions and to help Japan meet its targets under the Kyoto climate change protocol.

The rules will be drafted to make use of METI's "top-runner" program, which sets standards according to the best performance in the industry and then takes steps to share within the industry the technologies that make meeting these standards possible. The proposed rules contemplate 15 to 20 different vehicle weight classes and fines for companies that fail to meet requirements.

Japan's current "virtual corporate average fuel economy" standards, which were introduced in 1999, require automakers and dealers of imported automobiles to improve average fuel efficiency of gasoline-powered vehicles by 23 percent from 1995 levels by 2010. Most manufacturers have already achieved these targets.

Authorities are also planning to revise auto emission inspection methods to better reflect actual driving conditions.

78. Australia To Push For 'New Kyoto ' In Asia

After repeatedly blocking domestic carbon trading, Australia said it would now push for Asia-wide emissions trading to combat global warming as part of a planned "new-Kyoto" pact. The turn-around by Australia, which refuses to sign the Kyoto Protocol to reduce greenhouse gases, comes as an opinion poll showed most Australians believe the

government should sign Kyoto.

Environment Minister Ian Campbell said Australia wanted to forge a "New Kyoto" out of a six-nation alliance of the world's biggest greenhouse gases emitters the United States, China, India, Japan, Australia and South Korea.

Professor Warwick McKibbin, a central bank board member, said a global carbon trade framework would never occur unless Australia and other developed nations took the lead. "You need to start at the national level and move out from there," McKibbin told the Australian Financial Review.

79. Japan Moves to Require Stores to Monitor Trucks

Japanese supermarkets and large retail stores would be required to ensure that trucks that deliver their goods meet emission standards under regulations proposed on December 5th by the Ministry of Environment and the Ministry of Land, Infrastructure and Transport. Japanese municipalities have imposed tougher emission standards on commercial vehicles but have had only mixed success in enforcing them because many trucks that serve the municipalities are registered elsewhere. The proposed legislation, however, could make stores responsible for ensuring that the trucks from which they take delivery meet local standards. Officials at the two ministries said the changes would come in the form of an amendment to existing emissions rules that target nitrogen oxide and particulate matter emissions. The proposed amendment would empower municipalities to require stores to keep logs of where delivery vehicles are registered and whether they meet emission standards.

80. Foreign Carmakers to Push Diesels, Hybrids in Korea

Foreign carmakers will launch about 60 new models on the Korean market next year and they have their eye on the increasing number of Koreans who can afford pricey models. Aside from the big three automakers - Mercedes-Benz, BMW and Toyota Lexus - more foreign players are preparing for a full-court press to increase their sales.

The global trend of producing more hybrid cars will be continued here as 12 of the 60 new models will be classified as eco-friendly. Ten of the 12 models are diesel-powered cars and the remaining two are hybrid cars, the Korean Automobile Importers and Distributors Association (KAIDA) said. Seven automakers - Peugeot, Mercedes-Benz, DaimlerChrysler, Jaguar, Land Rover, Cadillac and Ford - are preparing to launch diesel vehicles and Toyota will unveil two hybrid versions of its Lexus - the LS600h and GS450h.

Hanbul Motors, the importer of Peugeot and Citroen, plans to introduce the 307 HDi in January and 407 Coupe HDi in April. Land Rover Korea and Jaguar Korea will release the Discovery 3 diesel in February and XJ diesel in March, respectively.

Mercedes-Benz and GM Korea will launch the E220CDI and Cadillac BLS diesel during the first quarter of 2007.

Foreign vehicles with an engine capacity of 3 liter or more account for about half of the total imported cars, while more than one in 10 imported cars were models with engine

capacities exceeding 4 liter.

81. Asia's CO_2 Emissions from Transport to Triple

Soaring car sales will drive a tripling of carbon dioxide emissions in Asia from transport over the next 25 years, according to a new study released by the Asian Development Bank. The number of cars and SUVs in the People's Republic of China could grow to as much as 15 times present levels over the next 30 years to more than 190 million vehicles, said the report, "Energy Efficiency and Climate Change: Considerations for On-Road Transport in Asia". In India, the growth could be as much as 13 times, the report said, adding that carbon dioxide emissions from road transport could be expected to rise by 3.4 times for China and 5.8 times for India over the same period.

Air pollution and congestion from transport would also rise to levels that seriously hamper the movement of people and goods, said the report released to coincide with a regional meeting on air quality in the Indonesian city of Yogyakarta. UN figures show China is already the world's second largest emitter of greenhouse gases such as carbon dioxide after the United States. India is the fourth largest and Japan is fifth.

The report said the widespread use of motorcycles in many countries in emerging Asia was likely to change as rising incomes and expanding urban populations led to an explosion in car sales.

But it was this very combination of accelerating incomes, urban growth and expanding vehicle ownership which, if left unchecked, risked limiting the prosperity of Asian economies and cities, the report said. It said a change in vision was needed for the transport sector that took into account local air pollution, congestion, energy efficiency and climate change implications.

82. 500 Hong Kong Firms Sign Clean Air Charter

As many as 500 companies in Hong Kong and the government signed a Clean Air Charter at the Business Clear Air Conference, vowing to work for environmental protection. Officiating at the charter's signing ceremony, Chief Executive Donald Tsang signed on behalf of the government, which is the largest employer in the SAR. If duly followed, the charter will bring significant improvement to Hong Kong's air quality, he said, adding the Council for Sustainable Development would soon conduct a study on measures to tackle the air problem.

The Clean Air Charter requires signatories to identify relevant standards of emission, review their own performance relative to those standards, and make solid plans to meet them on a voluntary basis. It also demands continuous monitors for large and medium emitters and regular disclosure of their total emissions, energy and fuel use.

While stressing the need to tackle air pollution, Tsang said it was necessary to make a balance. "We are serious about doing the best we can," Tsang said. "In addition, we will continue to institute policies, review air quality objectives, and introduce legislation on pollution control."

Special measures like cutting air-conditioning by half at home and office, encouraging

car pooling, using only public transport, flexible working hours to smooth out peak traffic and reducing the number of vehicles on streets would be taken to tackle the problem.

"The Council for Sustainable Development will soon conduct an exercise to engage the public and forge some consensus on whether such measures should be adopted in Hong Kong on days when the air pollution index is expected to be high," the CE said.

Denying that Hong Kong's investment environment was affected because of poor air quality, the chief executive said the number of overseas companies with regional operations in Hong Kong had grown by 50 per cent since 1997.

"The Action Blue Sky campaign that I launched this summer has an important mission. It is to draw the attention of people from all walks of life to the air pollution problem, and to make them aware that the solution requires action and participation from themselves," he said.

Some people have urged the government to adopt immediately the World Health Organization's latest air quality guidelines. But "the WHO recognizes, and I quote, 'that when formulating policy targets, governments should consider their own circumstances carefully before adopting the guidelines directly as legally based standards'," he said. "It is in this spirit that we recently announced our plan to commission a comprehensive 18-month study on Hong Kong's air quality objectives in early 2007 in the light of what the WHO has recommended," he said. The study will be overseen by a representative and authoritative steering committee. The public will be engaged to devise a practicable long-term air quality management strategy.

83. Asia Pacific Leaders Pledge to Address Global Warming

Heads of state at the November 18-19 Asia Pacific Economic Cooperation (APEC) summit took up the issue of climate change for the first time, issuing a declaration which highlighted "the challenges of meeting rapidly growing energy demands while minimizing environmental effects." The declaration urged member economies "to develop new and renewable energy sources and technologies to ensure cleaner use of fossil fuels [and] to boost energy efficiency and conservation."

The leaders also instructed senior officials to report to the next APEC summit in 2007 on potential ways in which the grouping could respond to energy-related challenges "through pursuing policies and technologies that promote the development of cleaner energy and the improvement of energy efficiency, thereby enabling economies to meet increasing needs with a lower environmental impact and to address climate change issues."

APEC member countries are Australia, Brunei, Canada, Chile, China, Hong Kong, Indonesia, Japan, South Korea, Malaysia, Mexico, Papua New Guinea, Peru, the Philippines, Russia, Singapore, Taiwan, Thailand, the United States, and Vietnam.

SOUTH AMERICA

84. São Paulo to Test Fuel Cell Buses

On November 14th, Brazil's Mines and Energy Ministry and São Paulo state's Transport Secretariat announced a US$16 million project to put five hydrogen fuel cell buses into operation by 2009 as a first step to phase out diesel. "These buses will be the first hydrogen-fuel-cell vehicles to operate in Latin America," Marcio Schettino, a development manager at the state transport secretariat, told the press. The project, jointly funded by the Global Environment Facility ($12.3 million) and the federal government ($3.7 million), will develop a 90-passenger, air-conditioned bus powered by a hydrogen cell and a battery bank. Hydrogen for the on-board tanks that supply the fuel cells will come from a planned production center, Schettino said. The buses, with a range of 300 kilometers, will circulate experimentally in a 33-kilometer route linking five São Paulo industrial suburbs. The first bus will enter service in 2007. This project will be used to evaluate fuel cell technology, efficiency, and operating costs. São Paulo was chosen for testing because it has the world's biggest urban bus fleet--some 30,000 vehicles--and the country's worst urban air pollution, Schettino said.

GENERAL

85. Montreal Protocol Meeting Concludes With Modest Agreement

Parties to the Montreal Protocol on Substances that Deplete the Ozone Layer agreed on November 3rd to extend exemptions to the United States and other developed countries for the use of limited amounts of methyl bromide, a fumigant that is otherwise banned under the treaty. However, delegates failed to reach agreement on other topics discussed at the 18th Meeting of the Parties to the treaty (MOP-18).

Parties to the treaty agreed to grant the United States "critical use" exemptions for 5,300 metric tons of methyl bromide for 2008, just under the 6,415 metric tons the United States had requested. The protocol's Technical and Economic Assessment Panel in September recommended that the United States be granted exemptions of only 4,339 metric tons.

Other issues discussed at the conference include the transfer of ozone-friendly technology to developing countries, exemptions for CFCs (chlorofluorocarbons) in asthma inhalers, and how to handle noncompliance cases.

Marco Gonzalez, executive secretary of the U.N.'s Ozone Secretariat, noted that developed countries had phased out 98 percent of ozone depleting substances (ODS) since the protocol was adopted in 1987, and that developing countries had managed to get rid of more than half of their total stock. "But now governments of the world are discussing how this success will continue in the next few years," he said. Gonzalez said attention would have to focus on the enforcement of ozone protection measures in individual countries. This in turn would involve looking at national level institutions, laws and regulations, he said.

Regarding technology transfers, Tom Land, a U.S. environmental regulator who co-chaired much of the meeting, said much had already taken place.

Several delegates, however, said that transfers had not been smooth or effective.

Malaysian delegate Nadzry Yahaya, the other primary co-chair, said developing countries needed cost-effective alternatives to replace substances that harm the ozone layer. According to Nadzry, developing countries do not yet have an economically viable alternative to the use of CFCs in asthma inhalers. He noted that Bangladesh had told the meeting that its medical industry was not able to start manufacturing ozone-friendly inhalers, even though Japan asserted that the technology "is there."

"The process of transferring [technology] is not actually clear," Nadzry said. "There's a gap."

Nadzry acknowledged that there was some talk about getting developing countries to phase out CFCs well before their 2015 deadline. For this to happen, he said, better technology transfer was essential. "If you want to push faster, access to alternative technologies must be faster."

Another challenge facing the 190 countries that belong to the protocol is how to deal with violations. During the five-day meeting, several delegates cautioned against using excessive punitive measures against countries violating the global agreement.

Indian Prime Minister Manmohan Singh said the use of trade sanctions was "not advisable" in multilateral environmental agreements. "We need to be more creative and less adversarial in our approach to compliance," he said.

Land said there were scores of noncompliance cases awaiting decisions by parties to the protocol on how to treat offenders. But he said the number of violations documented this year was lower than last year.

He said the protocol also faced the unique problem of how to deal with a country that knew in advance that it was likely to violate the global agreement. "It's completely unprecedented."

Parties also decided to hold a two-day dialogue on key challenges ahead of next year's celebrations to mark the agreement's 20th anniversary. The Ozone Secretariat has been asked to post a background document on the subject on its website by April 30, 2007.

The next Meeting of Parties is due to be held in Montreal, Canada, Sept. 17-21, 2007.

86. Atmospheric Carbon Dioxide Levels Highest On Record

In 2005, globally averaged concentrations of carbon dioxide (CO_2) in the atmosphere reached their highest levels ever recorded. The World Meteorological Organization’s (WMO) 2005 Greenhouse Gas Bulletin says quantities of CO_2 were measured at 379.1 parts per million (ppm), up 0.53 per cent from 377.1 ppm in 2004.

After water vapor, carbon dioxide, methane (CH_4) and nitrous oxide (N_2O) are the three most prevalent greenhouse gases in the Earth’s atmosphere respectively. Greenhouse gases are some of the major drivers behind global warming and climate change.

Concentrations of N_2O also reached record highs in 2005, up 0.19 per cent from 318.6 parts per billion (ppb) to 319.2 ppb while methane remained stable at 1783 ppb.

The 35.4% rise in carbon dioxide since the late 1700s has largely been generated by emissions from the combustion of fossil fuels.

Around one third of N2O discharged into the air is a result of human activities such as fuel combustion, biomass burning, fertilizer use and some industrial processes.

Human activity such as fossil fuel exploitation, rice agriculture, biomass burning, landfills and ruminant farm animals account for some 60% of atmospheric CH4, with natural processes including those produced by wetlands and termites responsible for the remaining 40%.

Accurate atmospheric observations from some 44 WMO Members are archived and distributed by the World Data Center for Greenhouse Gases (WDCGG), located at the Japan Meteorological Agency.

WMO prepares the Greenhouse Gases Bulletin in cooperation with WDCGG and the Global Atmosphere Watch Scientific Advisory Group for Greenhouse Gases with the assistance of the National Oceanic and Atmospheric Administration's Earth System Research Laboratory.

87. IATA Chief Hails Virgin Atlantic Proposal as Model for Aviation Industry

The director general of the International Air Transport Association, Giovanni Bisignani, has praised a proposal by Virgin Atlantic Chairman Sir Richard Branson to help the aviation industry cut carbon dioxide emissions by 25 percent.

On September 27th, Virgin Atlantic's chief called on the international aviation industry to reduce greenhouse gas emissions through a reorganization of air traffic control in Europe and construction of new aircraft bays closer to runways, which would cut fuel use on the ground. The effort also would cut the airline industry's share of greenhouse gas emissions, currently about 2 percent, to 1.5 percent in the coming decades, Branson said at the time.

In addition, the proposal calls for unifying Europe's 35 separate air traffic control agencies to provide more efficient routings and thus reduce fuel use and emissions.

Bisignani said he discussed this part of Branson's proposal in talks with British Transport Secretary Douglas Alexander on October 26th. He added that bringing European air traffic control agencies together was part of the so-called Single Sky plan, which supports the rapid development and implementation of cross-border air traffic management in Europe.

According to Bisignani, IATA 18 months ago launched a drive to shorten air routes to reduce fuel consumption. Just last year, it managed to renegotiate 300 air routes. But this was also an uphill battle due to the lack of government support, he said.

Bisignani also defended the airlines' environmental track record, saying that fuel efficiency has improved 20 percent over the past few decades. He added that the industry's 2 percent share of greenhouse gas emissions was small next to its 8 percent

share of global economic activity. By comparison, automobiles contribute 18 percent of global emissions, he said.

Modern airplanes consume on average 3.5 liters per 100 passenger-kilometers, and next-generation planes such as the Boeing 787 and the Airbus A380 are expected to achieve efficiencies better than 3.0 liters per 100 passenger-km.

"Not even hybrid cars can match this energy efficiency," he said.

Bisignani added that IATA aims to substitute 10 percent of conventional fuels with alternative fuels within the next 10 years. He said the best option appeared to be liquefied gas.

"Other types come from biomass and need such large [expenditures] that they become difficult to manage from an economic perspective," he said.

The IATA chief said the organization expected the 2007 Assembly of the U.N. International Civil Aviation Organization to adopt an emissions regulatory framework. "They are the experts on the issue," he said.

88. U.N. ECE Adopts Global Regulation for Testing Heavy-Duty Engines

Representatives of major industrialized nations agreed on November 17th on a "global technical regulation" for testing truck and bus emissions. The agreement standardizes test cycles and emissions measurement methods for heavy-duty engines, based on research on heavy commercial vehicle use in Australia, the European Union, Japan, and the United States. However, it does not set emission limit values

The global technical regulation (GTR) was agreed at a meeting of the U.N. World Forum for Harmonization of Vehicle Regulations in Geneva and will be transposed into EU law.

A European Commission spokeswoman said that the GTR will replace existing EU standards and will be "technically more up to date." She added that adoption of the standard in the EU is part of a policy to reduce unnecessary duplication of international technical standards by separate EU rules. The European Commission recently launched a "better regulation" initiative designed to cut down on burdensome new laws.

Commission Vice President Günter Verheugen said in a statement that the GTR would help European industry because companies would now be able to "rely on one single test valid throughout the world."

Under the GTR, heavy vehicles will be tested according to two representative test cycles, covering hot- and cold-start transient testing (testing the engine through a series of speed and torque points), and hot-start, steady-state testing.

The GTR will enter into force in the EU after eight months.

89. UN Talks Agree Kyoto Climate Review in 2008

Environment ministers at UN climate talks agreed to a review in 2008 of the UN's Kyoto

Protocol that could pave the way to expand the scheme for fighting global warming beyond 2012. Kenyan Environment Minister Kivutha Kibwana banged down his gavel on the final day of a Nov. 6-17 meeting of 165 nations after hearing no objections to a compromise plan between rich and poor nations.

Thirty-five industrial states bound by Kyoto's caps on greenhouse gases hope that a review of Kyoto might help widen the pact to outsiders after Kyoto's first period runs out in 2012.

Following are details of agreements reached at the UN conference:

A. Renewing Kyoto

Delegates from 165 nations reaffirmed their goal of agreeing an extension of Kyoto "as early as possible" to ensure a smooth transition to a new set of rules starting in 2013 to give investors time to adapt. It set no deadline for an agreement.

B. Aid to Africa

UN Secretary-General Kofi Annan launched a plan by six UN agencies to help poor nations, especially in Africa, win new funds from a Kyoto mechanism for promoting clean energies such as wind, hydro or solar power.

Most of the investment so far under the Clean Development Mechanism (CDM) has gone to China, India and Brazil, with Africa lagging far behind. He appealed to donors for funds.

The UN development and environment agencies will advise on how to "climate proof" poor nations -- not build roads, for instance, by coasts where rising seas could wash them away.

C. Adaptation, Africa

The talks agreed on principles for running an Adaptation Fund financed by a levy on CDM projects that is meant to help poor nations, especially in Africa, to adapt to climate changes.

Details such as priority areas, eligibility for cash and how to manage the fund, worth US$3 million but set to grow to perhaps US$700 million by 2012, were unresolved. Any group wanting to manage the fund has to apply by Feb. 2007.

D. Five-Year Climate Plan

Delegates set details of a five-year program to look at the impact of climate change, the vulnerability of the world and ways to adapt to changes such as floods, heat waves, or droughts. Experts will make recommendations by end-2008.

E. Deforestation

Negotiators agreed further study of proposals to help nation’s slow deforestation, which accounts for about 20 per cent of emissions of greenhouse gases caused by human

activities. Many tropical nations want some form of credits, perhaps even via the CDM, for preserving forests. A report is due next year.

F. Unresolved Issues:

1. Kyoto Review

Rich and poor counties disagreed on how to carry out a scheduled review of the Kyoto Protocol in Nairobi. Many rich nations want a wide-ranging review in coming years but developing states fear they will be lured into making expensive commitments to cut greenhouse gas emissions.

2. Carbon Capture

The talks seemed likely to put off a decision on whether to grant carbon credits under the CDM for projects that simply bury greenhouse gases, for instance from coal-fired coal plants.

3. Russia

Russia favors setting up a new mechanism under which countries outside Kyoto could make voluntary commitments to cut emissions of greenhouse gases.

90. Ford, Honda, Toyota Cited as Leaders In Reducing Plastics

Ford, Honda, and Toyota are leaders in the automotive industry in terms of working to use materials in their cars that are less toxic or environmentally harmful, according to an analysis published by the Ecology Center. The Ecology Center's second annual Automotive Plastics Report Card grades the eight leading car manufacturers on plastics policies.

The center focused on plastics because, it said, an average vehicle uses 250 pounds of plastic to make seat cushions, armrests, steering wheels, dashboards, and other auto parts. The increasing use of plastics is a concern, the center said, because many "dangerous chemical additives" are put into plastics that off-gas or leach from the materials, contaminating the air and dust inside vehicles, which occupants breathe and touch.

Chemicals of concern to the Ecology Center include phthalates, which some laboratory animal studies have linked to reproductive and other problems; polyvinyl chloride (PVC), which may create dioxins when incinerated; and polybrominated diphenyl ethers (PBDEs), flame retardants that include some chemicals that are highly persistent in the environment and have harmed laboratory animals.

"Plastics need to be designed using bio-based, recyclable materials that are healthy and safe for workers, vehicle occupants and the environment," the report card said.

It discussed and graded the eight car manufacturers responsible for 94 percent of total U.S. vehicle sales--Toyota, Ford, Honda, DaimlerChrysler, General Motors, Hyundai, Nissan, and Volkswagen--on 19 criteria such as use of bio-based materials, use of

recyclable plastics, efforts to reduce PBDEs and PVC, and efforts to improve in-vehicle air quality.

Some companies are making progress, the Ecology Center said. For example, it said:

- Honda and Ford are using a new biofabric made from corn in upcoming vehicles;
- Honda reduced the chlorine content of auto shredder residue to 1 percent or lower in all new models in 2005; and
- Ford increased the number of parts made of recycled content by 5 percent between 2004 and 2005.

Despite progress, car manufacturers need to take more actions to use safer, cleaner plastics, the Ecology Center's report said.