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EUROPE

1. Diesel Filter Tax Breaks Get A Green Light From The EU

EU governments wanting to give tax breaks for diesel cars fitted with fine particle (PM) filters have received the OK from the European Commission. A Commission working document suggests 5 milligrams per kilometer (mg/km) of PM as an EU-wide threshold emission rate for such fiscal incentives.

The Commission's suggestion is 80% stricter than the "Euro IV" EU legal norm of 25 mg/km for passenger cars that took effect on 1 January this year. It provides an indication - but no more than that - of how strict the next round of EU emission standards on PM might be. The Commission has still to propose Euro V standards, to apply from 2010.

More immediately, it should usher in national tax breaks for filter-equipped cars that could see particle emissions under 5 mg/kg achieved across much of Europe well before 2010. The German, Austrian and Dutch governments have already tabled plans for such fiscal incentives. France and Sweden have also expressed an interest.

The working paper indicates that the Commission's suggestion of an emission threshold was not strictly necessary for such fiscal incentives to be introduced. However, by proposing 5 mg/kg as a Europe-wide standard it has clearly indicated that national incentives in line with this are likely to win approval.

German environment minister Jürgen Trittin, who has repeatedly urged car makers to use filters, welcomed the Commission's "green light", saying that until the next round Euro V standards kick in, fiscal incentives will be needed.

To allow for variables such as deterioration over time, says the Commission, to qualify for the 5 mg/km tax break manufacturers will in fact have to aim for an engineering target of 2.5 mg/km. The paper does not address emissions of nitrogen oxides (NOx), the second priority issue for Euro V standards.

2. EU Car Sector Successful But Not 'Green' Enough

While praising the global strengths of the EU car industry, the Commission's 2004 competitiveness report warns about the delay in developing green technologies already mastered by Japanese makers. Published on an annual basis, the Commission's Competitiveness report covers only a limited number of topics. The 2004 edition is the eighth of its kind and contains a chapter focusing on the EU car sector.

The competitiveness of the EU car industry is defined as the ability to gain or defend market share on the international market by relying on price and/or the quality of goods produced. The report acknowledges the wide range of factors that influence this ability including production costs, technological and organizational innovation, regulatory

framework, macroeconomic conditions, etc. It concludes that it is impossible to draw a definitive conclusion about the future of the sector.

With 42% of global production (17 million units) coming from the EU in 2002, the region has the largest single market for passenger cars in the world and is well positioned to leverage economies of scale and scope, notes the Commission's report. Although large-scale production is still "a major instrument in achieving cost-efficiency", this now only applies to the basic platform of vehicles instead of the entire car. High innovation and R&D capacity has allowed production to evolve from "gigantic production sites" into modular, more flexible production techniques.

Customers are loyal to European brands, shielding the EU from excessive international competition. As a result, "Europe holds a dominant market share in most automotive product categories" and is well-positioned in emerging markets such as China.

Qualified labor is abundant with new member states providing a pool of affordable and well-trained personnel. However, labor productivity still lags behind that of the US and Japan. Employees are generally more costly and less flexible in the EU than in other regions, slowly eroding Europe's competitive position. Growth in the EU is slow compared to other major world regions and is further hindered by a relative fragmentation of the EU's single market, especially relative to differing vehicle taxation in the member states.

One major challenge lies in the advantage Japanese car makers have gained in developing environmentally friendly technologies, "most prominently the development of new technology/fuel combinations, including fuel cells". As a consequence, the report notes, "R&D objectives in the automotive industry should be directed towards developing environmentally friendly vehicles", in particular finding the "adequate technology/fuel solutions" to ensure long-term security of supply. "Among others, one should aim at developing fuel cells as standardized products within the next twenty or so years," the report says.

The report recommends putting in place the appropriate regulation to anticipate technology trends, such as tax policies to provide customers with the incentives to buy advanced technologies and further align the member states' vehicle tax system.

Ministers meeting at the EU Competitiveness Council on 25 November welcomed the conclusions of a separate report, saying that future regulatory proposals in the EU's automotive sectors "should undergo comprehensive impact assessments taking into account the cumulative burden of the existing regulatory framework for the automotive industry". They supported the Commission setting up a high level group on the automotive industry, which would address issues of importance to the sector's competitiveness.

3. Diesel Share Of New Cars In Europe Continues Climb; Now Over 50%

The share of diesel powered cars has reached an all-time high amongst the new registrations in Western Europe. This is confirmed by the current market data from Bosch. In October 2004, 51.9 percent of all newly registered passenger cars were equipped with a diesel engine. "The share of diesel has thus made a hefty hike by 5.3

percentage points in comparison to October of 2003", said Wolfgang Chur, Member of the Board of Management of Robert Bosch GmbH.

According to Bosch, the diesel share in Germany has also reached a new record with 47.9 percent. In October of 2003, it was at 41.5 percent, thus 6.4 percentage points less. The highest shares for newly registered cars with diesel engine are recorded in Austria, Belgium and France with more than 70 percent. Especially in the UK and Italy, diesel power increased by 7.5 percentage points: in the United Kingdom, the numbers came to 37.1 percent – with only 29.6 percent in October of 2003 – and in Italy, the numbers increased from 52.9 percent to 60.4 percent.

"The growing number of diesel engines is reflected throughout all classes of vehicles", underlines Chur. Continuous growth rates are shown in the Bosch statistics for the upper middle-class with a diesel share of 62.5 percent and in the middle-class with a 61.4 percent share. The highest growth rates are registered for high-end cars, where the diesel share increased by 9 percentage points to 44.4 percent, and in the compact class with a 7.1 percentage point increase to 33.2 percent. Diesel engines are fitted to all vehicle classes, to the Smart with an 0.8-liter-three-cylinder engine as well as to the Volkswagen Touareg and Pheaton with their high-torque five-liter-ten-cylinder engines. Diesel engines are also more and more fitted to sports cabriolets and coupes. Diesel is furthermore getting a foothold in the US market: a growing number of light duty vehicles (SUVs, vans and pickups) are sold with diesel engines, however, this still in moderate volumes.

"The success story of the diesel is going to continue. One third less fuel consumption in comparison with the gasoline engine and correspondingly fewer carbon dioxide emissions are convincing arguments. And the great driving pleasure with today's diesel engines with state-of-the-art high-pressure fuel injection systems fascinates more and more drivers all over the world", states Chur.

4. Cleaner, Greener Taxi Fleet Planned For London

London's air will become cleaner under new regulations for London's black cabs announced by the Mayor of London on December 20th). London's 20,000 black taxis have to meet strict emissions standards by 2007, under the Mayor's Taxi Emissions Strategy.

Taxis are responsible for 24 per cent of fine particle and 12 per cent of nitrogen oxide of road transport emissions in central London. These pollutants can cause heart and lung diseases and can trigger respiratory problems among the vulnerable, including the growing number of Londoners who suffer from asthma. In central London these pollutants are present at levels that damage the health of many Londoners.

The cost of converting black cabs to reach the new standards will be met by a flat rate fare of 20 pence per journey from April 2005, over and above the usual cost of living rise. This fare rise will be reviewed after three years.

Mayor of London Ken Livingstone said: 'London has the worst air quality in the UK and air pollution is estimated to cause 1,600 premature deaths every year in London. For just 20p a journey we will see major health benefits for all Londoners. Taxi drivers are

exposed to more pollution because they spend long hours on the road each day and tend to operate in the most polluted areas, such as central London and Heathrow, and the cab trade will also therefore be a major beneficiary of this policy.

'This is one of a number of measures I am putting in place to improve air quality in London. The central London congestion charge is already having an impact, with emissions in the zone cut by 12 per cent. I am also committed to making London a Low Emission Zone, which will see the removal of the most polluting Trucks, buses and coaches from the streets.'

Ed Thompson, TfL Taxi and Private Hire Director, said: 'London already has the best taxi service in the world, and before long it'll have the cleanest.'

The Mayor's Taxi Emissions Strategy is part of the Mayor's plan to make London a Low Emission Zone, which will come into force by 2007 and is one of the Mayor's manifesto commitments.

The timescale for taxis to comply with the Mayor's Taxi Emissions Strategy is:

- From July 1 2006 all taxis that are of a pre-Euro emissions standard will be required to meet Euro 3 standards.
- As of January 1 2007 all taxis that are of a Euro 1 emissions standard will be required to meet Euro 3 standards.
- As of January 1 2008 all taxis that are of a Euro 2 emissions standard will be required to meet Euro 3 standards.

Since October 2002 any new taxi licensed in London for the first time has had to be Euro 3 standard.

There are currently approximately 2,400 Pre-Euro cabs in London; 8,700 Euro 1 cabs; 5,400 Euro 2 and 3,600 Euro 3 cabs.

There are a number of options available to taxi owners and operators whose vehicles do not meet the Euro 3 emission standards to comply. Many drivers will choose to bring forward the date at which they planned to invest in a new, cleaner cab. Abatement technology, such as a selective catalytic reduction system (SCR) with particulate filter, can be fitted to their existing vehicle. Another option would be to convert the vehicle to run on liquefied petroleum gas (LPG).

5. EU Air 'Action Plan' Due

At the top of the European Union's environmental agenda for 2005 will be finalizing a proposal for comprehensive chemical regulations, taking steps to improve sustainable development, issuing an "action plan" to reduce air pollution, and ensuring the smooth start of a carbon dioxide emissions trading scheme.

The Union's 10-year-old drive to integrate sustainable development criteria into all aspects of policymaking will come up for a mid-term review in March, which may lead to a clash between forces calling for more environmental protections and those calling for more economic competitiveness.

The European Union is expected to take some steps in the coming year to "streamline" a range of environmental legislation as part of an initiative to reduce excessive regulation.

Luxembourg, which took over the six-month rotating EU presidency in January, has indicated it will focus efforts on boosting sustainable development initiatives. Luxembourg has said it will organize a summit of EU leaders in March with the aim of revamping EU sustainable development commitments.

In December, the European Commission launched a two-month consultation process in advance of writing a new air pollution reduction plan. The EU executive body emphasized that the problem of poor air quality is still acute, especially in some of the new EU member states in Eastern and Southern Europe.

"Each European citizen is losing about nine months of life expectancy due to poor air quality," said Environment Commission Stavros Dimas during a press conference with journalists. "Recent studies show that more than 22,000 premature deaths each year are due to the high level of ozone.

"In addition there is a reduction of life expectancy between 3 to 14 months due to particulate pollution," Dimas continued. "Twenty-three percent of the European forests are endangered by excess of acid rain and 63 percent of European ecosystems are endangered by excessive nitrogen deposition."

The Commission action plan will outline new exhaust emission standards for cars, new ways of promoting clean transport, future air quality standards, and emission-reduction objectives by country or sector.

"The facts about the impact of air pollution on the human organism are disturbing, but in order to react properly we need to understand more about causes and effects," said Dimas. "There are things we can do to improve air quality and we have to start now."

6. Russian Legislation Giving Tighter Central Control May Affect Air Pollution

In the year ahead, Russia appears set to continue centralizing authority in most areas of regulation, including environmental protection. At the same time, legislators and environmental authorities are considering amendments to rules affecting land use, air pollution, and solid waste. Also in the coming year, Russia is likely to take some steps to prepare for the Kyoto Protocol, which the country ratified last November and which will come into force in February.

If other developed countries that ratified the protocol (particularly EU member states and Japan) allow companies to buy large quantities of "carbon dioxide credits" from abroad to meet emission-reduction targets in their jurisdictions, Russia stands to benefit substantially. Russia's economic slowdown following the collapse of the Soviet Union led to the closure of many industrial facilities and thus a large decline in greenhouse emissions since Kyoto's baseline year of 1990. This creates broad opportunities for investors in Russia to generate emissions credits that can be traded internationally under Kyoto's "Joint Implementation" provisions.

President Vladimir Putin's campaign to strengthen central political control also has affected environmental regulation.

Institutional reforms announced in a presidential directive early last year have served to consolidate at the federal level some powers previously held by regional authorities (Presidential Decree No. 314, of March 9, 2004, on the System and Structure of the Federal Agencies of the Executive Branch). The decree eventually could solidify the authority of the Ministry of Natural Resources and insure greater uniformity of regulations and enforcement.

Regarding air pollution, Natural Resources Minister Yury Trutnev recently announced that his ministry is drafting a rule to require companies that violate emissions standards to invest in cleaner production technology rather than pay fines. Trutnev said a draft will be reviewed by the Cabinet in the second quarter of 2005.

In a move to help curtail automobile emissions, the capital city is taking steps to crack down on fuel that does not meet standards. Under a rule that took effect Jan. 1, Moscow's gasoline standard is now equivalent to that in the European Union, and fines for the use of gasoline that does not meet the standard have been raised from 5,000 rubles to 200,000 rubles (US\$178 to US\$7,140), according to Alexandr Savrazhen, Director of the Moscow Transport Inspectorate.

7. German Business Questions EU Particle Limits

Arguing that EU limits on fine particles (PM10) in air that took full effect on 1 January will hurt Germany economically, three German industry associations have urged chancellor Gerhard Schröder to campaign for their relaxation.

A 1999 directive set PM10 limit values of 50 micrograms per cubic meter over 24 hours (not be exceeded more than 35 times per year) and 40 micrograms over a year. Legal scope for these limits to be breached has been gradually reduced since 2001 and was finally eliminated on 1 January.

In a letter to Mr. Schröder, also sent to EU industry commissioner Günter Verheugen, the German chambers of commerce (DIHK) and two motoring associations criticized the EU particle limits, warning that they "could mean severe restrictions on car traffic, city tolls, more limited use of industrial installations and tougher heating requirements".

In a separate development, following a 16-month delay, Germany's pioneering satellite-based charging scheme for trucks using the country's motorways got underway on 1 January. The government plans to spend most of the € 3 billion in anticipated revenue for 2005 on road building and maintenance.

Meanwhile, the German environment ministry reported on 29 December that energy-intensive firms will benefit financially to the tune of €238m in 2005 due to exemptions written into national renewable energy support rules. Firms consuming over 10 gigawatt hours of electricity per year can qualify for lower energy costs.

8. Sweden Boosts Sustainability Profile

Sweden's environment ministry has reorganized, and from this month is to be known as the "ministry of sustainable development". The new body will take on "additional areas of responsibility [which] include energy issues, emissions trading, construction and housing, and responsibility for coordinating the Governments work on sustainable development", the government said in a statement. Former housing minister Mona Sahlin heads the new ministry while Lena Sommestad retains responsibility for environmental issues.

9. Italian Cities Clamp Down on High-Polluting Cars

Citizens in one Alpine region of northern Italy have been walking or taking the bus to work since a curfew on more polluting cars and scooters came into force this month. The cities of Bolzano, Merano, Bressanone and Brunico have largely banned cars more than 10 years old and scooters that are more than five years old.

"We've noticed that there are fewer jams, especially on the roads into the city, and teenagers are switching to bicycles," Delazer Heimo of Bolzano's traffic information centre reported. Bolzano and the others are prone to air pollution because they sit in valleys. Heimo said that curfew breaches had been few.

The ban applies from 7 to 9 a.m., 12 to 4 p.m., and 5 to 7 p.m., and will initially run until April 1.

Vehicles that meet tougher EU emission standards are exempt -- and owners of banned vehicles get a discount on bus passes.

10. Toyota Europe Aims to Sell 20,000 Prius Hybrids in Europe

The head of Toyota Motor Corp's European marketing arm aims to beat projections by a third and sell 20,000 Prius hybrid cars in Europe this year. Tadashi Arashima, chief executive of Toyota Motor Marketing Europe, said he expects sales of the Japanese automaker's conventional cars to get a boost this year from the advent of new diesel engines that are popular with European customers.

"In the long run, (hybrids) will play a significant role in the model line-up, but for the time being still, the recognition of the hybrid drive is not so high in Europe so we are gradually trying to increase these sales," Arashima said. "My personal goal is instead of 15,000 (to sell) 20,000."

He was referring to the world number-two carmaker's official forecast of a near-doubling of 2005 Prius sales to 15,000 units in Europe, where motoring journalists voted it car of the year in November.

Toyota, which seized 5 percent of the fiercely competitive European car market last year including its Lexus premium brand, has forecast vehicle sales in Europe will rise to 980,000 units in 2005, despite a sluggish overall market.

"I think in the five major markets -- Germany, France, the UK, Italy and Spain -- our market share is still very low and we would like to increase these five markets," Arashima said.

The company also aims to boost sales and market share in central and eastern Europe, he said, but is not prepared to sacrifice profit margins for the sake of sales growth.

"We are going to bring new products and the most important thing for us is we are going to have a new diesel engine, which is coming in March (or) April this year," he said. "A new state-of-the-art diesel engine will help us to increase sales." A shortage of diesel engines cramped Toyota sales growth in Europe last year, but unit sales still rose over 10 percent.

11. Germany to Sponsor Diesel Filters from 2006

Germany will offer tax incentives for diesel particle filters from 2006 as part of a move to cut harmful engine emissions in line with new European Union requirements, the government has confirmed. German Finance Minister Hans Eichel agreed to the program with Environment Minister Jürgen Trittin. It will cost 1.5 billion euros and offer incentives of 350 euros (\$456) for new cars and 250 euros for older cars.

The scheme was originally due to start this year but was postponed by Eichel. It will now run until the end of 2007. Germany's automobile industry has pledged to fit all new cars with diesel particle filters by 2008.

12. Austrian NOx Output Goes From Bad To Worse

Austria is in serious danger of missing by a wide margin a legal obligation to curb emissions of nitrogen oxides (NOx) by the end of the decade, the country's environment agency has signaled. According to the agency, national NOx output rose by 4.2% in 2003 to reach 229,000 tons. The total is over twice Austria's 2010 target of 103,000 tons set under the EU national emission ceilings directive in 2001.

The agency said the increase was mainly due to rising road transport emissions - the sector accounted for 57% of total output in 2003. Contributory developments included increased driving of cars and trucks, a rising share of diesel vehicles, plus an influx of foreign drivers looking to buy cheaper petrol in Austria.

13. Italy Ups Auto Fuel Tax To Tackle City Pollution

Italy is to increase taxes on petrol and diesel to pay for new, environmentally friendly buses to reduce smog which has forced many cities to close their roads to traffic, the environment minister announced. Italy will add 0.1 of a euro cent (0.131 of a US cent) per liter on diesel and half that on petrol -- a tiny increase on existing excise duties -- aiming to raise 350 million euros (\$456.6 million) to invest in new bus fleets.

Many Italian cities are struggling to meet new European Union limits on levels of fine particulate matter (PM), much of which comes from vehicle exhausts, which can cause respiratory illnesses, especially asthma.

Seven Italian cities banned cars and motorbikes for one Sunday recently as PM levels soared due to dry, windless and sunny conditions which prevents the smog from being blown or washed away. Some cities, including Rome, have introduced partial bans throughout the week. And more car-free days look certain as many cities are already bumping up against annual EU limits for PM emissions, which came into force on Jan 1. and demand no more than 35 days of excessive pollution per year.

"The renewal of the public transport fleet is a first solution to the problem," said Environment Minister Altero Matteoli, announcing the new tax which, he said, would not have a significant impact on pump prices.

The stepped-up campaign came as many Italian cities fast approached their yearly limits for particulate matter emissions under European Union rules. Each city is obliged to keep levels of small particles in the atmosphere below a set level for at least 330 days a year. But some of Italy's biggest urban centers, especially in the north, seem destined to miss that target as early as February.

Financial capital Milan has already nearly reached the yearly limit, exceeding the EU levels during 34 days up to Feb. 9, according to a study by Euromobility. Other cities, including Turin have already surpassed the limit. Rome, which will ban cars and scooters again during the day in early March, may only exceed the limit on another 12 days for the rest of the year, according to Euromobility.

A recent study found that nearly 4,000 Italians died each year due to diseases linked to air pollution.

14. New UK Cars to Get Climate Emissions Eco-Labels

New car customers in the United Kingdom soon will be able to assess how environmentally friendly any vehicle is through a system of color coded eco-labels displayed on the vehicles in dealers' showrooms. The label will show how much of the greenhouse gas carbon dioxide a vehicle emits and relates that figure to the vehicle tax that must be paid.

Transport Secretary Alistair Darling said the fuel efficiency stickers would enable consumers to compare brands.

The new eco-labels will be on 2006 model cars in dealers' showrooms.

They will help buyers decide "how green" a new car is, he said, launching the eco-label plan at the Low Carbon Vehicle Partnership Annual Conference. The labels, in showrooms after September 1, will display information on how much motorists can expect to pay in fuel bills in a typical year, and whether the car qualifies for a reduction in excise duty.

All 42 vehicle brands in the UK have signed up to the voluntary labeling plan.

The scheme was developed by the Low Carbon Vehicle Partnership (LowCVP), a group set up by the Blair government in 2003 to help find new ways of reducing emissions of greenhouse gases from road transport. The label has two visible messages regarding the cost of running the vehicle - the estimated fuel cost, based on average annual mileage of 12,000 miles, and the cost of 12 months of Vehicle Excise Duty (VED).

The new label has color-coded arrows graduating from green to red, aligning carbon dioxide (CO₂) emissions to the VED bands. CO₂ labeling is already a statutory requirement, but the existing label has not been successful in catching consumer attention. The new label is the result of an agreement between the Low Carbon Vehicle Partnership (LowCVP) Passenger Car Working Group, and vehicle manufacturers.

15. New Emission Rules For German Non-Road Mobile Machinery

The German cabinet has approved new legislation tightening standards for emissions of nitrogen oxide (NO_x) and particulates (PM) from non-road mobile machinery. Under the ordinance, which transposes an EU directive, the tougher standards will be phased in between 2005 and 2014. They will apply to tractors, forestry equipment, construction machines, forklifts and locomotives. The environment ministry said NO_x emissions from the non-road machinery fleet would be almost halved by 2015, while PM emissions would drop by more than half. The ordinance requires approval from the Bundesrat.

16. Industrial Clean-Up in Britain Shifts The Spotlight To Cars

"Dramatic" cuts in air pollution achieved by large industry in Britain mean that other sources, and particularly road transport, now present the key policy challenge, according to the Anglo-Welsh environment agency. Between 1990 and 2003, regulated businesses in England and Wales slashed emissions of dioxins 83%, fine particles (PM₁₀) by 78%, lead by 70% and sulphur dioxide by 75%, the agency reported. As a result, large industrial sources now contribute "relatively small proportions" of total emissions for six out of nine national priority air pollutants.

The improvements expose road traffic as a principal hurdle to future progress, though fossil fuel power stations also remain in the firing line. Road transport emissions are the main reason for 95% of government designated "air quality management areas" in the UK, the agency notes.

17. Europe's Refining Sector "Behind On BAT"

The EU oil refining sector is not on track to meet a key deadline under the 1996 IPPC industrial pollution directive, according to a consultancy study for the European Commission. Under the IPPC directive, refineries and thousands of other industrial installations will have to demonstrate that they are using best available techniques (BAT) to limit environmental impacts from October 2007.

The study was ordered by the European Commission when great disparities between refinery emission levels emerged during completion of a BAT reference (or bref) document for refineries by the EU IPPC bureau.

Not only does it confirm this variation, but it also reveals that refineries have made very little improvement in emissions of sulphur dioxide, nitrogen oxides and particulate matter since 1997. Governments are at least partly to blame, it suggests, because they have only sought alignment with national standards and have not tried to push for broader achievement of BAT by the sector.

The report says that it is difficult to compare actual emissions with BAT. But it does find some clear examples of EU-approved BAT techniques that are not being widely used. Notably, plants should replace fuel oil with natural gas as a refinery fuel. Taking this step could cut sulphur dioxide emissions by up to 99%, it calculates.

Furthermore, public information on emissions is "not adequate and needs to be improved". The situation appears to be worst in countries doing the least to cut emissions, it adds.

The consultancy suggests there should be a follow-up report in three years time, to fit in with data collected by the EU's industrial pollution inventory Eper. This first report covers all EU15 member states, with the exception of Italy, which missed the data submission deadline.

18. Commissioner Verheugen Sets Out Green EU Business Vision

EU environment policy is not being downgraded even if the European Commission's relaunch of the bloc's Lisbon strategy focuses on growth and jobs, the new industry commissioner Günter Verheugen has insisted. The German socialist said he was "flabbergasted" at the widespread interpretation by MEPs and the press that social and environmental issues were being sidelined.

"Protecting the environment is not an obstacle to improving the economy," he told the European parliament's environment committee. "If something is bad for the environment it will be bad for the economy. This is a line I'll be following in all decisions in my area. Environment is a positive factor for jobs and growth."

As commissioner responsible for business and chair of a committee charged with renewing the Lisbon agenda, Mr. Verheugen has a key responsibility for striking a balance between economic and environmental policies.

He went on to present a vision of European industry leading the world on environmental issues. European products, "should represent our values, and be leaders on environmental standards", he said. "I want them to be the most environmental, this will give us an advantage."

Mr. Verheugen illustrated his vision with the vehicle sector. The European industry "has to be the most environmentally-friendly in the world," he said. Focusing on the recently launched EU competitiveness initiative, Car 21, he said: "The aim is to ensure the European car of the future is the most environmentally progressive".

19. MEPs Tackle Sulphur in Marine Fuels

The European parliament's environment committee held a busy session on 2-3 February. Launching a second reading debate on a directive on Sulphur In Marine Fuel, parliamentary rapporteur MEP Satu Hassi retabled proposals for a tough 0.5% sulphur limit applicable in all EU sea areas. The Commission originally proposed a 1.5% limit, applying only to the North Sea, English Channel and Baltic Sea. It subsequently came out against the parliament's call for 0.5%, arguing that MEPs had produced no cost-benefit analysis to back up their case.

Ms. Hassi now claims that new calculations by Swedish NGO the Acid Rain Secretariat show that, even assuming high costs for 0.5%, benefits would be almost twice as high in every area apart from the Baltic Sea. Assuming slightly lower cost estimates, still based on Commission figures, benefits "could be as much as seven or eight times higher than costs".

The environment committee also voted to toughen up a draft directive to boost EU End-Use Efficiency. It called for mandatory national 2.5% annual energy saving targets from 2006 to 2012. MEPs rejected an amendment from Finnish rapporteur Eija-Riitta Korhola asking for more flexible targets that would reward actions already taken to improve efficiency.

Ministers last year indicated they were unhappy even with the Commission's original - much weaker - proposal for a 1% reduction target. A report to the parliament's energy committee recommends a target of 11.5% energy savings over nine years, or 1.3% per year.

NORTH AMERICA

20. Republican Governors Issue Preemptive Warning Against Undercutting States

California Gov. Arnold Schwarzenegger and New York Gov. George Pataki have sent a letter to Congress asking lawmakers not to water down provisions of the Clean Air Act that gives states flexibility to implement tougher environmental requirements than called for federally.

"The right of individual states to set policy with respect to the health and welfare of their citizens is a fundamental tenet in which we both strongly believe," the two wrote in a letter to the Senate Environment and Public Works Committee, which has started holding hearings on the act.

Massachusetts Gov. Mitt Romney, also a Republican, didn't sign the letter but has indicated his support as well.

Both New York and Massachusetts have adopted California vehicle standards as a key element of their clean air efforts.

The letter signed by Republican governors of the two most populous states in the union is very significant not only because it tries to protect the current California program as well as the rights of states like New York and Massachusetts to opt into it's car standards, but also because having California's truck standards as the fall back for states in case EPA weakens its stringent truck diesel rules reduces the likelihood of that happening. The vehicle and engine industries appear to prefer one national program than to have 10 or 11 states with CA standards, different from the rest of the country, with all the distribution headaches that could entail.

In their letter, the two governors reminded Senators James Inhofe (R-OK) and Jim Jeffords (I-VT) that "one of the cornerstones" of the Clean Air Act is "that states do the majority of the work to carry out its mandates," and that the law "allows individual states to have stronger pollution controls than those set for the whole country – a right California and New York have exercised under the Act."

The governors added that that their states and others "will need all the tools available under the Act to craft effective strategies to meet" new federal health standards for smog and fine particle soot.

21. Firm Dates Set By Court On PM and Ozone Air Quality Standards

On December 16, 2004, the U.S. District Court for the District of Columbia approved EPA's request to extend the deadlines in the Consent Decree governing the dates for the completion of the review of the NAAQS for particulate matter and ozone. The new schedule sets out firm dates for the completion of several key milestones in the review of the air quality standards and lays out a timetable for the completion of interim measures. Deadlines for completion of the PM review were extended by 9 months, and the completion of the ozone review was delayed by one year, from the previous schedule.

The new schedule for the Particulate Matter review is:

- January 31, 2005: Publication of second draft Staff Paper and Risk Assessment for peer review and 60-day public comment period. This Staff Paper will discuss policy options for the setting of the fine and coarse particle standards, including the form, level, averaging time, and compliance test. It will include a discussion of ranges for the standards.
- Deadline for written comments will occur around April 1, 2005.
- A CASAC public meeting to review the documents will be scheduled for the first or second week of April. Speakers may present public comments at the meeting. This will be the last opportunity to make public statements to EPA and CASAC on the policy issues in the review before a proposal is developed.
- June 30, 2005: Final Staff Paper and Risk Assessment published.
- December 20, 2005: Notice of Proposed Rulemaking signed.
- September 27, 2006: Notice of Final Rulemaking signed.

The Ozone review will proceed as follows:

- January 2005: EPA will appoint an Ozone Review Panel -- CASAC members plus additional consultants that will be charged with the peer review of the Criteria Document and Staff Paper.
- January 31, 2005: First Draft Criteria Document published for peer review and 90-day public comment period.
- January 2005: Development Plan for Staff Paper and Risk Assessment released for CASAC review and public comment
- February 2005: CASAC teleconference to review the development plan
- Last week in April 2005: CASAC public meeting to review the draft Criteria Document with opportunity for public comment
- April 30, 2005: Deadline for written comments on draft Criteria Document
- August-September 2005: Second draft Criteria Document published for peer review and 90-day public comment period
- August-September 2005: First draft Staff Paper and Risk Assessment published for peer review and 90-day public comment period
- December 2005: CASAC public meeting to review draft Criteria Document and Staff Paper and deadline for written comments
- February 28, 2006: Final Criteria Document published
- April 30, 2006: Second draft Staff Paper and Risk Assessment published for peer review and 60-day public comment period
- July 31, 2006: CASAC public meeting to review second draft Staff Paper
- September 30, 2006: Final Staff Paper and Risk Assessment published
- March 28, 2007: Notice of Proposed Rulemaking Signed
- December 19, 2007: Notice of Final Rulemaking Signed

22. ChevronTexaco Sued Over California Refinery Emissions

Residents of a Northern California town have sued ChevronTexaco Corp over a refinery shutdown that they claim spewed dangerous gases into the air and caused health problems. The residents of Richmond, just outside San Francisco, accuse the petroleum company of failing to take precautions to prevent the Aug. 9, 2003, discharge of a cloud

of black smoke from its nearby refinery, which unexpectedly shut down during a maintenance check, according to the Dec. 14 lawsuit.

The hydrogen sulfide gas released by a burning flare was measured at levels "in excess of (air quality) rules," the lawsuit filed in Contra Costa County Superior Court said.

San Ramon, California-based ChevronTexaco could not immediately be reached for comment.

The four named plaintiffs said they experienced headaches, burning eyes, coughing, shortness of breath, irritated throat, nausea and tingling skin.

The Richmond residents also accused ChevronTexaco of violating "numerous air pollution laws ... for decades," causing them "anxiety in not knowing the long term health effects from their exposure."

The lawsuit demands that ChevronTexaco be ordered to pay an unspecified amount of general and punitive damages as well as the residents' medical bills.

ChevronTexaco is the world's fifth largest energy company, and the second-largest US energy company based on market capitalization, according to the company's Web site.

23. ConocoPhillips, US Reach Clean Air Act Settlement

The US Department of Justice has announced that ConocoPhillips, the largest domestic refiner, will pay a \$4.5 million fine and spend \$525 million to cut harmful air emissions from nine US petroleum refineries in seven states. Under the Clean Air Act agreement, ConocoPhillips -- the No. 3 US oil company -- will pay the civil penalty and spend more than \$525 million to install pollution control measures at nine of its 12 US refineries. The remaining three refineries are subject to a similar agreement reached in 2001, a company spokeswoman said.

ConocoPhillips will spend at least an additional \$10 million on environmental projects to further reduce emissions and support community activities to help reduce pollution.

The agreement was part of a consent decree filed in the US District Court in Texas. Five states are involved in the settlement, which is a part of the Environmental Protection Agency's national effort to reduce air emissions from refineries.

Under the agreement, ConocoPhillips is expected to reduce harmful air emissions by about 65 percent from nine petroleum refineries in seven states. The affected refineries are located in Belle Chasse, La.; Linden, N.J.; Borger and Sweeny, Texas; Carson/Wilmington, Calif.; Ferndale, Wash.; Rodeo/Santa Maria, Calif.; Trainer, Pa. and Roxanna/Hartford, Ill.

The new technology should help reduce annual emissions of nitrogen oxide by more than 10,000 tons and sulfur dioxide by more than 37,100 tons per year. Emissions of particulate matter are also expected to be significantly reduced, Justice Department officials said.

24. Caterpillar Critical Of Selective Catalytic Reduction (SCR)

James J. Parker, Vice President, Caterpillar Power Systems Marketing recently issued a statement strongly urging the on-highway market to keep the technology options open regarding 2010 emissions. Several engine manufacturers have indicated that SCR is the only viable path for meeting the 2010 EPA standard; however, he noted that Caterpillar's research indicates SCR might not be the best choice for on-highway applications.

In 2002, when all of the other engine manufacturers decided to use cooled-EGR as the solution to meet the 10/02 emissions standards, Caterpillar developed a new emissions solution—ACERT® Technology—which it claims has proven to provide customer value in addition to meeting the EPA standards.

Regarding 2010 emissions, John Campbell, general manager of engineering for the Large Power Systems Division, has indicated that the Caterpillar engineering team is working on engine combustion technology solutions that have been promising in tests. In fact, the company has engines running in test labs today that are meeting the 2010 emissions regulations without the use of SCR. In addition to combustion technologies, Caterpillar also has established an Environmental Technologies Group that is working on various aftertreatment innovations in the area of diesel particulate filters and NOx aftertreatment. These technologies also will be a part of the total solution for 2010.

As was the case with ACERT Technology, Cat's engineering team is working toward a "system solution" that combines combustion technologies, fuel system technologies, electronics and aftertreatment to meet the 2010 EPA standards while providing customers with the same reliability, durability, operating cost and fuel economy as today. This type of technology solution eliminates some of the concerns regulators have regarding monitoring compliance with SCR—specifically, the regular addition of urea to special tanks on the vehicle. Campbell has indicated that a systems approach can provide customers with on-highway engines that meet emissions while delivering the operating cost they need to be profitable.

Parker noted that the Caterpillar engineering team is experienced with SCR technology—as a company, it has been using it for a number of years for electric power generation. Its research suggests that while it is an excellent technology for a stationary application, SCR may not be the best technology for mobile applications, such as on-highway trucks. Several issues exist with SCR, according to Caterpillar:

- First, regulating the required urea addition to tanks will be a challenge.
- Second, an infrastructure must be built for the logistically complicated North American market.
- Third, the use of SCR in mobile applications in Europe has shown that the cost benefits for SCR may not be as good as originally expected—the combined cost for fuel and urea may negate nearly all of the cost benefits provided with SCR for customers.
- Finally, issues such as the weight of the urea tank and the system's vulnerability to external damage may further increase owning and operating costs.

The German manufacturer MAN recently announced that it is offering for EURO 4 engines a "weight-saving, low-cost and tamper-proof solution" which is independent of

an AdBlue (urea) infrastructure in Europe. MAN is optimistic that it will be able to offer an analogue solution also for Euro 5 units at a later date. Apart from this, MAN also has an SCR solution (with urea additive) for Euro 5 engines – just in case the market requires this.

25. Proposed Canadian Tax Regulation Aims To Boost Alternative Energy

On December 18th, Canada's Department of Finance unveiled draft regulatory amendments that would implement proposals in the 2001 and 2003 federal budgets to expand tax incentives for energy conservation and alternative energy use. The proposed amendments to the Income Tax Regulations (Capital Cost Allowance--Energy Conservation Equipment and Alternative Energy Sources) would expand the application of accelerated capital cost allowances for more efficient use of fossil fuels and the use of renewable or alternative energy sources, the department said in a regulatory impact analysis statement published with the proposed amendments in the Canada Gazette.

"To the extent that these measures encourage the development of a successful domestic renewable energy and energy conservation sector, significant environmental benefits will accrue in the form of reduced greenhouse gas emissions and reduced reliance on fossil fuels," the department said. "These measures will also help Canada diversify its energy supply. However, tangible economic benefits of renewable energy are difficult to measure, given that much of the industry is still in the early stages of development."

Proposed changes include:

- the addition of "basic oxygen furnace gas" and "blast furnace gas" to the definition of fossil fuel for property acquired after 2000;
- an increase, to 50 megawatts from 15 megawatts, in the upper limit on the size of small hydroelectric projects that qualify for accelerated capital cost allowance treatment, effective for property acquired after Dec. 10, 2001;
- the addition of "bio-oil" to the list of fuels required to be used by an alternative energy project to qualify for accelerated capital cost allowance treatment, effective for property acquired after Feb. 18, 2003;
- the extension of preferential treatment for certain fixed-location fuel cells that use hydrogen generated from either fuel reformation equipment or ancillary electrolysis equipment, effective for equipment acquired after Feb. 18, 2003; and
- the extension of preferential treatment to certain active solar heating equipment used to heat liquids or gases used directly in a greenhouse, and equipment that generates heat energy for greenhouse use that is generated from the consumption of certain waste fuels, effective for equipment acquired after Feb. 18, 2003.

The proposed changes to improve tax treatment of fuel cell equipment is intended to help make fuel cells more cost-competitive with both conventional power sources and

other new technologies that already qualify for accelerated capital cost allowances, the impact statement said.

Bio-oil is considered a neutral energy source for greenhouse gases because carbon released was already part of the natural carbon cycle, it said. Support for alternative greenhouse heating technologies is intended to promote improved environmental performance in Canada's greenhouse industry, it said.

The 2001 and 2003 budgets estimated the total cost of implementing the expanded preferential tax treatment of energy conservation equipment and alternative energy sources at C\$5 million (US\$ 4.3 million) per year, the impact statement said.

26. Canadian Officials Praise California for Reducing Auto Emissions

On January 19th, Canadian Environment Minister Stephane Dion said he believes California's experience with reducing greenhouse gas emissions from vehicles provides hope that Canada's federal government can secure a voluntary reduction agreement with domestic automobile manufacturers. Meetings with Gov. Arnold Schwarzenegger (R) and key California lawmakers and government officials provided evidence that emissions reductions from the transportation sector can be achieved without economic harm according to Dion.

The federal government remains committed to a voluntary agreement with industry for a 25 percent improvement in vehicle fuel efficiency from current levels by 2010 as a key element in its climate change program, Dion said. "I'm optimistic that we will have a very healthy agreement for at least a 25 percent reduction," he said. California's most recent regulatory initiative to reduce greenhouse gas emissions for automobiles and light trucks could provide a fall-back if a voluntary agreement is not reached in Canada, he said. "It's a road that we will consider," he said.

The California Air Resources Board adopted the United States' first-ever rule to limit vehicle-related greenhouse gas emissions. The rule, which still requires review by the state Legislature, a final administrative process by the regulator, and approval by the state's Office of Administrative Law, would require a 30 percent reduction, between 2009 and 2016, in vehicle emissions of carbon dioxide, methane, nitrous oxide, and hydrofluorocarbons. It is expected to generate legal challenges by the automobile industry and possibly federal regulators, although several other states have indicated they plan to duplicate its requirements

Transport Minister Lapierre praised California as a world leader and innovator in addressing environmental issues in general and transportation issues in particular.

"The state has developed an interesting approach to greenhouse gas emission standards for automobiles and light trucks. We want to learn about California's experiences first-hand so we can better assess our options for moving forward," Lapierre said in a statement.

In addition to vehicle emissions, the meetings focused on goals for hydrogen technology development, including increased information sharing on technology deployment, research and development, fueling infrastructure, and codes and standards.

Canadian companies are heavily involved in California's hydrogen-related efforts, and the strength of British Columbia's fuel cell research has contributed to establishing a "coalition" of Pacific states and provinces in promoting the hydrogen economy, Dion said.

However, the two Canadian ministers negotiating with car makers over cuts in emissions are split on what to do, with one favoring binding restrictions and the other saying he wants the talks to continue.

Ottawa says that by 2010 it wants car makers to cut emissions by 25 percent from 1995 levels. But major automobile manufacturers say it would be hard to introduce new technologies at such short notice to meet Ottawa's demands and the two sides have yet to reach a deal.

Environment Minister Stephane Dion has threatened to impose binding restrictions, saying the talks had gone on long enough. "This (imposing restrictions) is something we want to avoid in Canada because we want an agreement with the car makers. But at the same time, if unfortunately we don't get an agreement, we'll have to act," he stated in an interview. "We've been discussing things for a long time and now it's enough. I hope we'll come to an agreement very soon because we can't carry on for months with this lack of certainty which is good for neither the economy nor the environment."

Cutting emissions from cars is one way Canada hopes to meet its targets under the Kyoto protocol on climate change, which obliges Ottawa to cut output of greenhouse gases by six percent from 1990 levels by 2012. Canadian emissions are in fact about 20 percent above 1990 levels and senior government officials candidly admit the country has no chance of meeting its Kyoto goals.

One of the reasons Canada is struggling is that the climate change file is shared between the environment ministry and the ministry of natural resources, which is responsible for the well-being of Canada's booming energy sector.

Natural Resources Minister John Efford, who along with Dion is talking to the car makers, was noticeably less enthusiastic about the idea of binding regulations on the major car makers. "I want to give them a chance ... I feel confident that they will come back with some good recommendations," he stated in a separate interview. "If not, then we have to take some alternative measures. But I am working with the automobile industry on a voluntary protocol and I want to continue on with that," he said.

Efford said he and Dion had "a very frank discussion" with the car makers in December about the need to meet the 25 percent emissions cut target. He said new talks were planned for the near future but did not name a specific date.

As noted above, Dion recently visited California, which has told car makers to cut emissions by 30 percent by 2016. "The Californians showed us that ... the technologies are in place and this could be done easily. The higher (purchase) price people would pay would very rapidly be made up by the savings at the pump," he said.

27. Senate Panel OKs Bush's Pick for US Energy Secretary

Sam Bodman, President Bush's pick to be the next US energy secretary, was easily approved by the Senate Energy and Natural Resources Committee. His nomination now goes to the full Senate for final approval, which is expected.

Bodman will leave his current post as US deputy treasury secretary to replace outgoing Energy Secretary Spencer Abraham, a former US senator from Michigan.

Bodman, age 66, said at his confirmation hearing that he supports opening the Arctic National Wildlife Refuge to oil drilling. The Republican-controlled Congress is expected to have enough votes to later this year give oil companies access to the Alaskan refuge. Bodman said he generally supports a "balanced" approach in opening more federal lands to drilling that weighs environmental protection against the nation's growing need for energy.

Bodman said passing comprehensive energy legislation is among the most important matters before Congress this year, calling a stable supply of energy "the lifeblood" of the US economy. Senate Majority Leader Bill Frist said earlier that clearing an energy bill is one of the top ten legislative priorities for Republicans.

Bodman was a chemical engineering professor and chairman of Cabot Corp., a specialty chemicals company from 1987 through 2001.

Bodman was confirmed twice before for senior jobs at the Commerce and Treasury departments during the past four years.

The Energy Department, with a \$23 billion budget, runs a network of nuclear weapons research laboratories and has over 100,000 employees and contractors.

28. DaimlerChrysler, GM To Team Up On Hybrid Engines

General Motors Corp. and DaimlerChrysler AG are teaming up to develop fuel-saving hybrid technology for a range of vehicles that will help them compete with hybrid-vehicle leaders Toyota Motor Corp. and Honda Motor Co. GM, the world's largest automaker, and its German-American rival have signed a memorandum of understanding and intend to enter into a definitive agreement early in 2005. No financial details were disclosed.

"Our planned cooperation will draw on the technical expertise of two of the largest auto companies in the world," DaimlerChrysler board member Thomas Weber said in a news release. "The result is expected to be a series of strong hybrid propulsion systems that will serve as a solution for our alternative powertrain needs."

GM and Chrysler both sell a small number of "mild" hybrid pickups, but the systems are less advanced than those used on cars sold by Toyota and Honda.

Toyota, Japan's No. 1 automaker, said in October it would double the allocation of Prius hybrid cars for the U.S. market in 2005, part of a companywide goal to sell 300,000 gasoline-electric hybrid vehicles worldwide by the end of next year. The announcement coincided with the sale of the 100,000th Prius in the United States, where they went on sale in the summer of 2000.

Honda has begun selling its third hybrid car in the United States, a high-performance version of its popular Accord sedan.

In early August, Ford Motor Co. began producing a hybrid version of its Escape SUV, the world's first gas-electric hybrid SUV.

GM and DaimlerChrysler have been working independently on their own hybrid propulsion systems for their range of passenger vehicles. The jointly built "two-mode" hybrid system will be used in GM, Chrysler and Mercedes vehicles. Variants planned include rear- and front-wheel-drive versions for cars, trucks and other vehicles.

In their statement, GM and DaimlerChrysler said today's typical single-mode hybrid systems rely on much-larger electric motors than are needed in their patent-protected two-mode system.

The two-mode system will be mated to different engines, and the respective vehicle programs will have unique performance dynamics and calibration.

The companies said the project will be open to other partners and may result in GM and DaimlerChrysler licensing hybrid technology to rivals.

29. International Automakers Join Challenge To California Greenhouse Rule

A trade association representing international automobile manufacturers has joined a legal battle to block California from implementing what would be the first rule in the United States regulating greenhouse gas emissions from vehicles. Filed Feb. 3 in the U.S. District Court for the Eastern District of California, the petition by the Association of International Automobile Manufacturers (AIAM) seeks to intervene in a lawsuit filed in December by the Alliance of Automobile Manufacturers and others.

Like the other plaintiffs, AIAM contends the California Air Resources Board overstepped its authority in adopting the rules, which require automakers to install technologies in 2009 and later-year model cars that reduce carbon dioxide and other emissions linked to global warming. The legal actions labeled the regulations "de facto fuel economy standards," which only the federal government may impose.

Honda, Hyundai, Isuzu, Kia, Mitsubishi, Subaru, Suzuki, and Toyota are among AIAM members.

New York, New Jersey, Connecticut, Massachusetts, Maine, Vermont, and Rhode Island are expected to follow California in adopting the rules.

The state has yet to file legal documents responding to the initial suit filed in the U.S. District Court for the Eastern District of California. General Motors, Ford Motor Co., and Daimler-Chrysler are members of the Alliance of Automobile Manufacturers, the co-plaintiff in the original complaint.

30. Calpers Ups Ante in Emissions Fight with US Car Makers

The board of Calpers, the biggest US pension fund, has voted to intensify its efforts to prod car makers to adopt California's strict tailpipe emission standards and vowed to make environmentalism a top investment priority. The board's move came two days before the Kyoto international climate change treaty went into effect.

The board of the \$182 billion California Public Employees' Retirement System, known as Calpers, said its investment staff could evaluate the fund's portfolio companies in terms of any environmental liabilities they might pose.

Under the plan, utility companies, along with car makers, would come under scrutiny because of greenhouse gas emissions. The plan calls this year for Calpers to join the Carbon Disclosure Project, a European effort by shareholders concerned about the effect of carbon emission on company value.

"We expect environmental corporate stewardship to play a greater role in corporate governance over the next 10 years," Calpers board member Priya Mathur said.

Calpers' move marks an escalation in its battle with car makers to adopt California's emissions standards. Car companies could be placed by Calpers on its so-called "focus list," a step the fund takes to discipline companies.

The Alliance of Automobile Manufacturers, an industry group, is suing to stop the state standards from taking effect and turned down a Calpers invitation to meet to discuss its demands. The car makers' alliance in a January 27 letter informed Calpers that only the federal government may set fuel-economy standards.

However, California may set air-emissions rules, which state officials say gives it authority over this matter.

31. OMB Rates EPA's Mobile Sources Program 'Moderately Effective'

The Environmental Protection Agency's acid rain program, mobile sources standards and certification, and new chemical programs are "moderately effective" in meeting EPA objectives, the only agency programs to receive the relatively high grade under a White House Office of Management and Budget rating released Feb. 7. Out of 32 EPA programs reviewed, the three programs were the only efforts to get the relatively strong rating under OMB's review, known as the Program Assessment Rating Tool (PART).

The ratings--drawn from combining four separate grades awarded for each program's purpose and design, planning, management, and results--are used by OMB to determine whether various programs throughout the federal government are well-managed and are achieving their intended results. The PART ratings were released in documents supporting President Bush's fiscal year 2006 budget request.

OMB gives more weight to a program's results, which are worth 50 percent of a program's total ranking, while a program's management as well as its purpose and design are each worth 20 percent. Planning is worth 10 percent of the overall rating.

The mobile sources program, funded under EPA's Office of Transportation and Air Quality, received a 73 grade for results, a 91 for management, a 67 for planning, and a 100 grade for program purpose and design. OMB concluded that the program, which regulates emissions from cars, trucks, buses, trains, and farm and industrial equipment, is "well-designed, well-managed, and had demonstrated environmental results."

That review underpins the administration's decision to ask Congress to increase the program's funding from the current \$68 million to \$70 million in fiscal 2006, the document said.

No EPA program received the higher grade of "effective," awarded to many other programs throughout the federal government, ranging from space exploration by the National Aeronautics and Space Administration to the General Services Administration's management of federal property.

32. Bush Seeks Nearly 6 Percent Cut in Environment Funding

The Bush administration has proposed cutting the Environmental Protection Agency budget by nearly 6 percent to \$7.57 billion in fiscal 2006 by targeting a program that helps cities replace aging sewage systems. The EPA said the requested reduction was part of the federal government's overall belt-tightening, but environmental groups said it would hurt an important clean water program.

Total EPA funding would decline from \$8 billion, which Congress allocated in the current budget year for the agency to protect the nation's air, water and land. In 2004, the EPA had a budget of \$8.4 billion.

Acting EPA administrator Steve Johnson defended the plan as "a strong request that allows us to keep up the pace of environmental protections" and said the cuts were part of the administration's larger deficit-cutting plan. The White House is facing a record federal budget deficit.

Most of the EPA cut proposed for 2006 is from a reduction in funding for a revolving fund that states use to upgrade sewage and septic systems, and storm-water run-off projects. Funding for the fund fell \$361 million, or 33 percent, in the Bush administration budget proposal.

The administration's budget plan would hold steady a separate \$850 million state fund for clean drinking water.

The EPA budget also would increase by \$47 million funding to clean up 600 toxic "brownfield" sites and add \$28 million to remove toxic sediments from the Great Lakes.

Money for Superfund -- an industry program to clean up toxic waste sites -- would rise slightly to \$1.28 billion.

Congress will debate and revise the White House budget proposal over the next few months before finalizing a government spending plan for fiscal 2006, which begins on Oct. 1.

33. Lawsuit Against EPA Tailpipe Toxics Rule Remains Alive

A federal judge has ruled against the U.S. EPA in a lawsuit seeking to force the release of a new regulation requiring reductions of toxic emissions from cars, trucks and buses. Judge Reggie Walton of the U.S. District Court for the District of Columbia denied EPA's motion to dismiss a case brought by environmentalists over the tardiness of the agency's "mobile source air toxics rule." The Sierra Club and U.S. Public Interest Research Group sued EPA, arguing the agency missed its own July 2003 deadline for proposing the regulation.

Environmentalists claim that without the rule, hazardous air pollutants -- most notably formaldehyde and benzene -- will continue unchecked, even as EPA declares that motor vehicles are the largest source of such emissions. The pollutants substantially increase the risks of cancer and other serious health problems for millions of Americans, they say.

EPA sought to dismiss the environmentalists' case by arguing that the agency does not have a "mandatory" obligation to meet a deadline it had suggested in a separate regulation. The agency also pleaded that environmental groups do not have standing to sue over the issue.

Walton's 23-page opinion rejects the agency's arguments. "The plain language of the regulation imposes a nondiscretionary duty on the [EPA] administrator to either affirmatively act or decide that no action was needed," Walton said.

Going forward, the environmental groups and EPA have a number of options. Plaintiffs can press the court to set an enforceable schedule order for EPA to finish a rule. The groups can settle the case. Or EPA can appeal. An EPA spokesperson said that the agency is reviewing its next step with the Justice Department and no decision has been made.

The fight over the setting of toxic standards for motor vehicles is a long one.

Under the 1990 Clean Air Act amendments, Congress called on EPA to complete a study on the need for and feasibility of such a rule by 1992, with regulations based on the report due in 1995. EPA missed the deadlines, and environmentalists sued. The result was a consent decree that led EPA to propose a rule in late 2000 and then finalize it in March 2001.

Ultimately, EPA's rule did not impose new regulations on tailpipe emissions. Instead, the rule established an "anti-backsliding" requirement intended to prevent refiners from increasing the average toxicity of gasoline. The rule also said EPA would conduct additional studies and release a proposal in July 2003 and a final rule in July 2004.

Environmentalists and state attorneys general from New York and Connecticut sued EPA before the U.S. Circuit Court of Appeals for the District of Columbia. But a three-judge panel ruled in April 2003 that EPA did not act in an arbitrary and capricious manner when excluding tailpipe emissions.

In that case, plaintiffs argued EPA could have pursued a rule that requires the use of cleaner-burning reformulated gasoline outside of the areas that already use it, require the use of better emission controls on cars, and implement a stronger national inspection and maintenance program so that new cars continue to meet federal standards as they age. In its defense, EPA countered that existing pollution control programs for motor vehicles would reduce emissions in future years. Among other things, EPA pointed to its efforts on reformulated gasoline for many of the nation's most polluted urban areas, new engine tailpipe and low-sulfur gasoline requirements for all new model year 2004 cars, sport utility vehicles, minivans, vans and pickup trucks, and low-sulfur diesel thresholds for both on-road and off-road engines.

34. Nissan Chief Says Hybrid Cars Make No Sense

The head of Nissan Motor Co., breaking ranks with some of his leading rivals, said that building fuel-sipping hybrid vehicles makes little sense in today's world because of their high costs. "They make a nice story, but they're not a a good business story yet because the value is lower than their costs," said Nissan Chief Executive Carlos Ghosn.

Nissan will, in fact, start manufacturing a gas-electric hybrid version of its Altima sedan for the US market in 2006. But Ghosn said the model was only intended to help Japan's second-largest automaker comply with strict fuel economy and emissions standards in states like California, not because he expects it to be a money-maker.

Nissan will license some technology for the hybrid Altima from Toyota Motor Corp., which is the world leader in hybrid production along with Honda Motor Co. Ltd. The hybrids made by Toyota and Honda are in high demand, but production levels are still relatively small. Toyota plans to nearly double production of its hybrid Prius car for the US market this year, with production totaling some 100,000 vehicles.

Ford Motor Co. is alone among US automakers in producing mass-market hybrid models; Ford recently announced plans to introduce four new models between this year and 2008.

Ghosn's comments came in an address to the National Automobile Dealers Association at its annual convention in New Orleans. In his speech, he noted that only about 88,000 of the 16.9 million light vehicles sold in the United States last year were hybrids, adding that they are still considered "niche" products and something way outside the automotive mainstream.

He also poured cold water on hydrogen fuel cell vehicles, which many automakers see as the industry's next big technological breakthrough. "The cost to build one fuel cell car is about \$800,000. Do the math and you figure out that we will have to reduce the cost of that car by more than 95 percent in order to gain widespread marketplace acceptance," Ghosn said.

Ghosn, who is credited with a dramatic turnaround at Nissan, is poised to take over as chief executive at France's Renault SA in May. His future role, simultaneously running operations at two major automakers, is thought to be an industry first.

Nissan -- owned 44 percent by Renault -- scored the biggest sales jump of any major car maker in the United States last year, with a 24 percent surge to 986,000 vehicles.

35. The EPA Staff Paper On PM Indicates Need For Tighter NAAQS

In considering the epidemiologic evidence, estimates of risk reductions associated with alternative annual and/or 24-hour standards, and the related limitations and uncertainties, EPA staff concludes that there is clear support for considering revisions to the suite of current PM_{2.5} standards to provide additional protection against health effects associated with long-term exposures. In looking specifically at the evidence of associations between long-term exposure to PM_{2.5} and serious health effects, including total, cardiovascular, and lung cancer mortality, as well as respiratory-related effects on children, staff concludes that it is appropriate to consider an annual PM_{2.5} standard in the range of 15 down to 12 $\mu\text{g}/\text{m}^3$. In considering the results of the quantitative risk assessment, in the absence of evidence of clear thresholds, staff believes that it is appropriate to give significant weight to base case risk estimates, while also considering the implications of potential thresholds within the range of the air quality data from the relevant studies. In so doing, staff finds further support for considering an annual PM_{2.5} standard in the range of 14 to 12 $\mu\text{g}/\text{m}^3$. Alternatively, staff also finds support for a revised 24-hour standard, in conjunction with retaining the current annual standard, in the range of 35 to 25 $\mu\text{g}/\text{m}^3$, with an emphasis on a 99th percentile form especially with a standard level in the middle or upper end of this range. Staff notes that a 24-hour standard at a level of 40 $\mu\text{g}/\text{m}^3$ is estimated to provide no additional protection against the serious health effects associated with long-term PM_{2.5} exposures in two or three of the five example cities (for a 99th or 98th percentile form, respectively) relative to that afforded by the current annual PM_{2.5} standard, regardless of the weight that is given to the potential for a threshold within the range considered by staff. Staff believes that a suite of PM_{2.5} standards selected from the alternatives identified above could provide an appropriate degree of protection against the mortality and morbidity effects associated with long-term exposure to PM_{2.5} in studies in urban areas across the U.S.

In summary:

- Staff recommends consideration of an annual PM_{2.5} standard at the current level of 15 $\mu\text{g}/\text{m}^3$ together with a revised 24-hour PM_{2.5} standard in the range of 35 to 25 $\mu\text{g}/\text{m}^3$. Staff judges that such a suite of standards, particularly in conjunction with a 99th percentile form for a 24-hour standard set at the middle to upper end of this range, could provide an appropriate degree of protection against serious mortality and morbidity effects associated with long- and short-term exposures to fine particles.
- Alternatively, staff also recommends consideration of a revised annual PM_{2.5} standard, within the range of 14 to 12 $\mu\text{g}/\text{m}^3$, together with a revised 24-hour PM_{2.5} standard to provide supplemental protection against episodic localized or seasonal peaks, in the range of 40 to 35 $\mu\text{g}/\text{m}^3$. Staff judges that such a suite of standards, particularly with an annual standard set at the middle or low end of this range, could provide an appropriate degree of protection against serious mortality and morbidity effects associated with long- and short-term exposures to fine particles.

ASIA-PACIFIC

36. China Moving Toward Euro 2 Fuels

China's top refiner, Sinopec Corp., is expected to produce lower sulfur transportation fuels at all its refineries from April 1 to meet a nationwide shift to cleaner fuels from July. Sinopec aims to produce gasoline and diesel used in vehicles that has a sulfur content of 500 parts per million (PPM), or 0.05 percent, compared with the current national requirement of 0.2 percent for diesel and 0.08 percent for gasoline.

Sinopec imports nearly 80 percent of its crude needs, more than half from the Middle East, and has been spending heavily in recent years adding and upgrading refining units to process the relatively cheaper high sulfur, sour crude. "Most of our plants are ready for the shift. Incremental crude imports this year will still be sour grades," said a Sinopec crude trader, without giving details.

Domestic rival and the country's second-largest refiner, PetroChina, has not imposed on itself a deadline before July for the cleaner fuels, as the refiner processes mostly Chinese crude with a low sulfur content. "Sinopec is under bigger pressure than us as a big portion of its crude imports are high sulfur grades," said a PetroChina official from Beijing.

Sinopec has turned its top four refineries – Zhenhai in east China's Zhejiang province, Maoming in southern Guangdong, Jinling in east China's Jiangsu and Qilu in east China's Shandong province -- into processing centers for high sulfur crudes. Zhenhai, China's largest refinery, operates a total of 14.25 million tons per year of hydrotreating capacity at 11 units, or nearly 90 percent of the plant's crude throughput rate in 2004, said a company source. But smaller plants such as Guangzhou and Wuhan, which are not adding desulfurizing units fast enough, would be forced to hunt for more sweet barrels.

Refineries normally build hydrotreating units to bring down the sulfur content.

China, which has seven of the world's 10 most polluted cities, has been boosting efforts to clean up its air using Euro 2 standards as reference for its fuel, led by top cities Beijing, Shanghai and Guangzhou.

From July 1, all petrol stations in Chinese cities will adopt the new Euro 2 specifications.

Beijing was the first to adopt the new fuel standard last October as the capital, which has the highest number of vehicles among Chinese cities, strived to clean its air before the 2008 Olympics. (Beijing has already adopted fuels requirements similar to Euro 3, to be required later this year.)

While nearly all gasoline produced in China is consumed by cars, the use of diesel in vehicles only accounts for about 35 percent of the country's total diesel consumption, while the rest is used for power generation, construction, agriculture and shipping.

Sinopec and PetroChina supply around 90 percent of the oil products demand in China, the world's second-largest oil consumer. Hundreds of small local refineries supply the rest, but most of them would have difficulties meeting the stricter specifications.

37. China, India to Share Asian 2005 Refining Growth

Asia will add more than 700,000 barrels per day (bpd) of primary refining capacity this year, allowing China to just keep pace with demand growth while India boosts exports, a new survey showed. The two most populous nations will each account for about half the increase, while refiners in developed Asia focus on installing sulfur-removing equipment to meet increasingly stringent environmental regulations, the survey found.

This year's half-dozen new crude distillation units (CDUs) look set to herald the start of another refining growth boom for the region, stung by years of low margins and overcapacity after a mid-1990s expansionary phase.

Encouraged by the fattest profit margins in nearly a decade and signs that China's sizzling economy should keep demand growth strong for years, refiners across the region appear set to add at least 2.3 million bpd of primary capacity by 2010.

With global oil demand growth set to outpace capacity expansion again this year as European and US plants face environmental hurdles, Asian refiners are in prime position to capitalize on years of healthy profit margins.

"The tension on refining should... heighten rather than relax in 2005," SG Commodities Research said in a report. "Taking into account the direct impact on refining margins, we expect margins to improve an average 10.5 percent."

China, which had to bump up diesel and fuel oil imports to feed last year's 9.5 percent economic expansion, will at best maintain the status quo this year, with some 375,000 bpd of new crude distillation capacity, the survey showed. Minor de-bottlenecking operations could add more than 100,000 bpd, analysts say, although this is less certain.

The International Energy Agency (IEA) has forecast growth of 360,000 bpd this year, much slower than 2004's demand surge, although most other analysts see a bigger increase leading to greater import needs, particularly for diesel.

Total Asian capacity looks set to grow more quickly than the region's oil use this year, forecast to expand by 560,000 bpd, as India's expansion easily outpaces its modest demand growth.

Capacity in India has doubled over the last six years, turning the country into a major oil products exporter, a position it looks set to consolidate this year with two new CDUs and the Essar Oil refinery adding 360,000 bpd of capacity. But analysts caution that the projects in India are often delayed and that state refiners are grappling with costly quality upgrades to meet tighter fuel specifications.

In Japan and Australia, where demand growth is modest and environmental restrictions tightening, refiners have pumped money into sulfur-reducing units rather than upgrading capacity to gain from strong margins.

South Korea, India and China are adding more advanced units this year to keep pace with the changes.

Globally some 850,000 bpd of desulfurization and hydrotreating capacity will be installed over 2005, the IEA said, superceding investment in upgrading units in the West.

"There is clearly a need for more upgrading capacity and that situation will have to be resolved over time, but first and foremost people will have to meet tighter sulfur regulations," said the IEA's Lawrence Eagles.

38. Japan National Climate Change Plan Expected In March

Climate change and solid waste will continue to dominate Japan's environmental agenda in 2005, with the government expected in March to unveil a national plan on energy demand and greenhouse gas (GHG) emissions. The Ministry of Environment forecast in December that, under a business-as-usual scenario, Japan's GHG emissions in 2010 would reach 6.4 percent above 1990 levels. Under the Kyoto Protocol, Japan is committed to reducing these emissions by 6 percent from 1990 levels by the period 2008-2012.

A preliminary MOE plan for meeting the Kyoto target calls for a mix of steps to reduce GHG emissions, to purchase emissions rights from abroad under the Kyoto "flexible mechanisms," and to develop forest "carbon sinks" to capture carbon dioxide in the atmosphere.

Other ministries including the Ministry of Economy, Trade, and Industry still have to weigh in before the final plan is released.

METI and MOE are already in basic agreement, however, on plans to purchase GHG emissions allowances from abroad under Kyoto's Clean Development Mechanism and Joint Implementation provisions. Both ministries' plans call for purchasing credits for about 100 million tons in carbon-equivalent emissions per year starting in 2006, officials said.

Although no new fuel taxes will be introduced in 2005, MOE is expected to announce a new environmental tax initiative in March that may call for introducing such taxes in 2006.

METI meanwhile may introduce a call for energy, manufacturing, transportation, and retail companies to submit and implement energy conservation programs, officials said.

In a related effort, the ministry is pushing forward with initiatives to encourage fleet operators not to run empty trucks and to use "smart tags" to enable them to participate in joint computerized logistics networking with rival transporters, according to an official at the ministry's Global Environment Division.

METI is also pushing for development of cleaner technologies. The development of fuel cell technology has been slowed by the lack of hydrogen infrastructure but is still moving forward, officials said. METI is backing several private sector initiatives in this area, including ones to develop fuel cell power generators and an "FC" train.

In the New Year Japan also will step up its campaign to control solid waste. On Jan. 1 the country added automobiles to its list of products that manufacturers and importers are required to recover and recycle or dispose of properly. Similar rules already cover

televisions, refrigerators, washers, dryers, air-conditioners, and personal computers. MOE officials warned, however, that the rule may have the unintended effect of pushing some unscrupulous businesses to illegally dump end-of-life cars across Japan or in poorer countries in Asia.

A National Police Agency spokesman said Japanese police are paying greater attention to illegal waste dumping. The MOE official said, however, that without more international cooperation on the issue, Japan would be unable to halt the trafficking of used cars and industrial products.

39. Thailand Environment Agenda Includes Moves on Vehicles

Thai environmental authorities in January were preoccupied with aiding and guiding the recovery of southern provinces devastated by the Dec. 26 Tsunami. Nevertheless, several general environmental policy initiatives will move forward in the year ahead, including steps to control vehicle emissions, to manage waste electronics, and to clean up the capital city, Bangkok.

Minister of Natural Resources and Environment Suwit Khunkitti told reporters that the ministry soon would formally declare the hard-hit provinces of Krabi and Phangnga "environmentally protected," which would grant it more power to regulate the rebuilding of the provinces and to issue new restrictions on construction projects in coastal areas. While assisting with the tsunami rehabilitation effort, the ministry's Pollution Control Department also will focus this year on finalizing a new master plan on air quality and noise management.

The plan seeks the consistent implementation of new emissions and noise standards for vehicles based on European Union models through more extensive monitoring, the promotion of alternative fuels, and increased cooperation with the police and private sector, according to a draft summary.

40. South Korea Aims to Cut Air Pollution

Environmental policy efforts in South Korea for the coming year will focus on cutting air pollution and tightening controls on industrial chemicals, according to officials at the Ministry of Environment (MOE). Legislation passed in 2004 establishing an array of air pollution measures in the capital region will come into effect in 2005 (Special Act on the Improvement of Air Quality in the Capital Region).

Among other things, the act will require all seven automakers in South Korea to sell motor vehicles that use low emissions technology. The target for the first year will require low-emission vehicles to account for 3 percent to 6 percent of manufacturers' sales in the country. The target will rise to 10 percent by around 2010.

The act also requires MOE and provincial and municipal administrations to set air pollution reduction targets and it gives them the authority to impose emissions limits on factories. Targets will be set for nitrogen oxides, sulfur oxides, and particulate matter and will begin to take effect in July 2007.

Also in 2005, MOE will produce detailed regulations under the latest amendment of the Toxic Chemicals Control Act (Law No. 06153), which was passed by the National Assembly Dec. 8. The amendment, which will take effect one year after the president signs it, will broaden rules for assessing chemicals' impacts on human health and the environment. It also gives MOE authority to impose restrictions or ban the use of substances.

In addition, maximum fines for violations of chemical regulations will be increased from 50 million won (\$47,000) to 300 million won (\$284,000).

41. China Crackdown On Violations Indicates SEPA's Growing Strength

China's State Environmental Protection Administration has demonstrated unprecedented determination to enforce the country's environmental impact assessment (EIA) laws in recent weeks and months, culminating in a major victory in a standoff over EIA compliance with one of the country's most powerful state-owned enterprises on Feb. 2.

On Jan. 18, SEPA ordered the suspension of 30 large infrastructure projects over failures to comply with EIA regulations. This included 26 power plants, many with price tags in the billions of dollars, and even three projects belonging to the powerful China Three Gorges Project Corporation. Upon issuance of the SEPA directive, 22 projects acquiesced, promising to pay fines of approximately \$24,000 each and to suspend construction until their EIAs had been filed and approved. Eight, however, initially flouted the order, the three most stubborn belonging to the Three Gorges Corp., among them the high-profile, US\$ 5.3 billion Xiluodu hydropower project in the country's southwest, and two projects associated with the Three Gorges hydropower project itself.

Analysts were initially doubtful that SEPA would be able to force the powerful state-run company to comply. SEPA had threatened legal action against the company, but the case would have been held in a local court in the city where the Three Gorges project is based.

In a statement Feb. 2, however, SEPA Vice Minister Pan Yue announced that the standoff had come to an end, with the company agreeing to suspend construction on the projects until it had submitted and obtained approval for the needed environmental impact assessment reports. With this, all 30 of the projects singled out by SEPA had come into compliance with SEPA's order.

SEPA's success in enforcing the EIA rules, however, was dependent on the backing of other, more powerful government agencies. In his statement, Pan said SEPA had enlisted the help of China's powerful central planning agency, the National Development and Reform Commission (NDRC), in enforcing its order.

While some analysts suggest that the recent crackdown on violations of EIA rules is driven at least in part by the need to curtail investment in some overheated sectors, others say it reflects a broader campaign to boost SEPA's power and strengthen enforcement of EIA rules generally.

SEPA hinted its intention to enforce EIA rules more vigorously in December, when it upgraded the status of the internal department responsible for technical evaluation of EIAs. Also in December, SEPA sponsored the "First China International Forum on Environmental Impact Assessment" in the southern island-province of Hainan. At the conference, Vice Minister Pan said explicitly that SEPA would begin to more strictly scrutinize EIA reports and that companies that began construction on projects without the needed EIA approvals would face "severe punishments," according to the state-run China Daily newspaper.

Pan also said that harsher measures would be taken to discipline local environmental officials and agencies that conduct EIAs, most of which are government-run, that fall short of standards.

Later in December, SEPA announced that during a review of 926 environmental impact assessment organizations throughout the country, it had identified 68 that did not meet licensing requirements and that would be sanctioned.

SEPA may also begin enforcing more strictly the requirement that the public be consulted in assessments of sensitive projects, as Pan suggested in his Feb. 2 statement. This requirement is contained in China's first comprehensive EIA law, which went into effect Sept. 1, 2003. That law consolidated and codified regulations on EIAs that had existed in some form since 1979, but it also added provisions on EIAs for government planning.

42. China Seems Likely To Become Net Exporter Of High-Sulfur Diesel

China appears likely to become a net exporter of high-sulfur diesel, or gas oil, starting in February and lasting through March, said a report from Energy Security Analysis Inc. (ESAI), Boston.

High-sulfur diesel is China's primary transport fuel and increasingly is being used in electric power generators. Imports surged to 5-year highs in December to nearly 125,000 b/d compared with 20,000 b/d during the third quarter, ESAI said.

But now, Chinese imports have slowed dramatically as higher refinery runs largely have met China's domestic demand, said Rick Mueller, ESAI oil manager, as reported by the Oil and Gas Journal. He expects Chinese gas oil imports will remain far below their December level through March. China Petroleum & Chemical Corp. (Sinopec) plans to shift to 500 ppm sulfur in its diesel production by Apr. 1, which "will undoubtedly disrupt gas oil production and raise the call on imports," Mueller said.

43. JAMA Reports FY2003 Hybrid Vehicle Shipments Up 173 %

The Japan Automobile Manufacturers Association, Inc. (JAMA) announced on October 13, 2004 the figures for Japanese factory shipments of low-emission vehicles (LEVs) for fiscal 2003. The number of all types of LEV shipments totaled 4,017,684 units, an increase of 370,735 units or 10 percent from the previous year.

Hybrid vehicles were the best seller among alternative fuel vehicles, one category of LEV, and their shipments rose sharply to 42,423 units, an increase of 173 percent (26,909 units) over the previous year. The breakdown in the alternative fuel vehicles shows 49 electric vehicles, a decrease of 34 units, (41 percent) from the previous year; 3,852 natural gas vehicles, a decrease of 120 units, (3 percent); and 14 fuel cell-powered vehicles, for which statistics first began in fiscal 2003.

Shipments of vehicles certified in the high fuel-economy/low-emissions category amounted to 3,968,102 units, an increase of 342,916, (9.5 percent). Vehicles certified in this category, implemented from fiscal 2003, are authorized as a system to ensure emissions based on fiscal 2005 standards. Diesel-alternative LPG vehicles shipped amounted to 3,244 units, an increase of 1,050, (48 percent).

For vehicles certified in the high fuel economy/low-emissions category, implemented from FY 2003 was a system of certifying emissions compared to FY 2005 standard values (4-star <****> rating for 75% reduction and 3-star <***> rating for 50% reduction from FY 2005 regulation standards). In addition to the conventional ranking platform of "ultra-low emissions" (3-star <***> rating for 75% reduction from FY 2000 regulation standards), "excellent low-emissions" (2-star <***> rating for 50% reduction from FY 2000 standards) and "good low emissions" (1-star <*> rating for 25% reduction from FY 2000 standards), these new categories have raised the overall low-emission vehicle rating system to a 5-level ranking.

The breakdown in the high fuel-economy, low-emissions category shows 73,426 high fuel-economy, ultra-low emission vehicles (****); 363,089 high fuel-economy, excellent low-emission vehicles (*** Y2005); 2,521,106 high fuel-economy, ultra-low emission vehicles (*** Y2000), an increase of 881,324 units, for a 154% year-on-year rise; 598,172 high fuel-economy, excellent low-emission vehicles (**), a decrease of 605,365 units, for a 50%, compared with the previous fiscal year; and 412,309 high fuel-economy, good low-emission vehicles (*), a decrease of 369,558 units, or 53%, compared with the previous fiscal year.

44. Japan's Toyota, Subaru May Tie Up in Hybrid Cars

Toyota Motor Corp. and Subaru-maker Fuji Heavy Industries Ltd. may cooperate in hybrid vehicles in another development that could establish Toyota's system as the de facto standard for the fuel-saving technology. A spokesman at Fuji Heavy said that although the company had not entered formal talks with Japan's top auto maker, there was a "very high chance" that Toyota's hybrid system would be the best match for its vehicles.

Toyota, which has so far agreed to a licensing deal with rival Nissan Motor Co. to supply its hybrid system, has said it would welcome similar deals with other auto makers because higher production volumes would help it reduce per-unit costs. Toyota accounts for the majority of hybrid vehicles sold in the world now, and also licenses part of its technology to Ford Motor Co.

A deal between the two Japanese companies would underscore Toyota's dominance in the field because Subaru would be choosing its technology over a less efficient hybrid system developed by General Motors Corp., its biggest shareholder.

GM said in December it would develop a new hybrid technology with DaimlerChrysler AG to catch up with leaders Toyota and Honda Motor Co., but the technology is best suited for bigger vehicles.

The Fuji Heavy spokesman said his company was still studying internally what type of cooperation, if any, it would need for its hybrid vehicles. The Nihon Keizai business daily reported that Toyota, the world's second-biggest seller of cars behind GM, would likely supply the power system, the key component in hybrid vehicles, to Fuji Heavy, which in return would provide Toyota with technology for lithium ion batteries.

"We are in discussions with various auto makers that have expressed interest in our technology, but we cannot name any individual company," a Toyota spokesman said.

Fuji Heavy, held one-fifth by GM, would use the power system in its Legacy and other models sold in the United States, where it generates 35 percent of its sales, the paper said.

Toyota President Fujio Cho and Fuji Heavy President Kyoji Takenaka are expected to hold talks soon on the matter, which had been discussed on a working level since last year, it said.

The fuel-sipping vehicles have been gaining popularity, especially in the United States, with 88,000 of them sold in 2004 through just three brands -- Toyota, Honda and Ford. Sales are expected to more than double to at least 200,000 units there in 2005 as oil prices remain high.

Toyota, whose Prius gasoline-electric sedan has been leading the global hybrid market since it first appeared in 1997, has targeted sales of 300,000 hybrid vehicles a year by mid-decade.

45. Hong Kong, South China Air Quality Won't Improve Till 2007

Hong Kong and southern China will have to wait until 2007 to see some relief from choking air pollution, Hong Kong's environment minister said. Hong Kong and much of China's southern Guangdong province are shrouded in smog many days of the year, and clear blue skies are increasingly rare. "These two years will be the worst," Sarah Liao, Minister for the Environment, Transport and Works, told legislators.

Officials on both sides have blamed poor air quality on power plants and the ever-increasing population of cars and factories.

Liao said Hong Kong and Guangdong would implement a series of measures to curb pollution in the coming years but it will take time before any improvement is visible. Some of these measures include requiring power plants to build facilities to minimize emissions of pollutants and that will take time to install.

"If you want to see any improvement in regional air quality, you will have to wait till 2007," Liao said.

In a document, the government said authorities in Guangdong's Pearl River Delta, where factories are concentrated, will begin monitoring air quality in 2005.

Hong Kong and Guangdong previously agreed to dramatically reduce by 2010 regional emissions of sulphur dioxide, nitrogen oxides and other pollutants. To achieve this, they would impose ceilings on the total emissions of power companies and require them to maximize the use of natural gas and develop renewable energy for power generation, according to the document.

Hong Kong will also soon begin to impose charges for construction and demolition waste.

SOUTH AMERICA

46. Venezuela Ratifies Kyoto in Bid to Draw 'Clean Development' Projects

On December 7th, Venezuela published a rule in the Gaceta Oficial, the country's official register, ratifying the Kyoto Protocol. The ratification requires no immediate action from Venezuela, since it is deemed a developing nation and a non-Annex I party under the agreement, with no obligation to reduce greenhouse gas emissions.

In November, Environment Minister Ana Elisa Osorio said that ratifying now was advantageous since the protocol will go into force early next year. If Venezuela did not ratify soon, she said in a statement, "we will lose opportunities" under the agreement's Clean Development Mechanism provisions. The CDM "flexible mechanism" allows developing countries to host investments to reduce greenhouse gas emissions to generate credits that can then be traded and used to meet emission-reduction targets in developed countries.

Venezuela currently generates 0.48 percent of global greenhouse gas emissions, Osorio said.

Venezuela's President Hugo Chavez has often said that sustainable development is a basic principle of his "Bolivarian Revolution for the poor." Yet Venezuela, the world's fifth-largest oil exporter, continues to subsidize gasoline to the extent that it retails for about \$0.10 per gallon.

A Nov. 8 statement carried by the government news agency VenPres cited Osorio as saying that a new government office would be created to advise the government on policies for reducing greenhouse gas emissions. The agency would include representatives from the ministries in charge of the environment, energy and mines, planning and development, agriculture and lands, and infrastructure. It would also include representatives of the national oil company, Petroleum of Venezuela.

MIDDLE EAST

47. Saudi Government Approves Kyoto Climate Protocol

Saudi Arabia, the world's biggest oil exporter, has given its approval to the Kyoto protocol which aims to stem global warming, the official Saudi Press Agency said. It said the decision was taken by ministers at a weekly cabinet meeting and a royal decree is being prepared to formally endorse the step.

As a developing country, Saudi Arabia would not be subject to emissions cuts under Kyoto, a requirement only binding 30 industrialized nations. Some 135 nations have formally given their support to the pact.

Saudi Oil Minister Ali al-Naimi, speaking in Argentina, said his country hoped to sign the protocol but expects to lose billions of dollars in oil sales as developed nations implement the pact. "By the year 2010, Saudi Arabia will lose at least \$19 billion a year as a result of the policies the industrialized nations will adopt to reduce their greenhouse gas emissions," Naimi told a UN climate change conference.

The oil giant, which sits on the world's biggest reserves of crude, expects to lose even more money after 2012 when the Kyoto protocol's requirements are seen getting stiffer, he said.

Saudi Arabia has called for research to improve technology to recover greenhouse gases at the point of production of fossil fuels, easing the impact of environmental measures on oil exporters.

HEALTH

48. Child Cancers Linked to Pollutants

Most childhood cancers are probably caused by exposure in the womb to environmental and industrial pollutants that have been inhaled by the mother, a British researcher said based on a new study. George Knox, an emeritus professor at the University of Birmingham in England, compared birth and death records of children who had died from cancer with a chemical emissions map of Britain. He found that children born within a 1-km radius of chemical emissions hotspots were 2-4 times more likely to die of cancer before reaching 16 than other children.

"Most childhood cancers are probably initiated by close perinatal (around birth) encounters with one or more of these high emissions sources," said Knox.

Being born near high emission sites of the organic compounds carbon monoxide and 1,3-butadiene carried the highest risks.

Carbon monoxide is a product of internal combustion engines and 1,3-butadiene is used to manufacture synthetic rubber and is also a product of internal combustion engines.

"These diseases are determined very early in life, probably prenatally," Knox said in an interview. "They are related to atmospheric emissions that are probably absorbed by the mother and passed across the placenta."

Particulate matter, nitrogen oxides, which are linked to oil burning and compounds such as benzene, benz(a)pyrene and dioxins were also mentioned in the study published in the Journal of Epidemiology and Community Health.

But Dr Lesley Walker, of the charity Cancer Research UK, said the evidence in the study is very thin.

"A wealth of information suggests that leukemia, the most common type of cancer in children, may be a rare response to an unidentified but common infection. This is a complex area to research -- not least because cancers in children are rare and some may have an underlying genetic basis," she said in a statement.

The maps used by Knox were produced by the UK National Atmospheric Emissions Inventory. They measured emissions of different chemicals per square kilometer per year across the country for 2001.

Knox converted the hotspots into map references and measured the distances between them and the birth and death addresses of the children born between 1960-1980 who had died of cancer.

"It was the birth addresses which were closer to these hotspots," said Knox, adding it suggests exposure occurred before or shortly after the birth.

Most of the hotspots in 2001 would have been present when the children had been born.

"With that assumption, one can say that these children were exposed at the level shown or probably at higher levels in many cases," Knox said.

Childhood cancers are comparatively rare. They occur in about 1 in 1,000 children but in some of the hotspots it is 3 or 4 per 1,000. Cancer experts say the disease has risen steadily in European children in recent decades but that survival rates have improved.

49. New Study Finds Air Pollution Damages Babies in Womb

Babies' DNA can be damaged even before they are born if their mothers breathe polluted air, according to a new study. "This is the first study to show that environmental exposures to specific combustion pollutants during pregnancy can result in chromosomal abnormalities in fetal tissues," said Kenneth Olden, director of the National Institute of Environmental Health Sciences, which funded the study.

"These findings may lead to new approaches for the prevention of certain cancers."

The team at the Columbia University Center for Children's Environmental Health in New York studied 60 newborns for the report, published in the February issue of the journal Cancer Epidemiology Biomarkers and Prevention.

As part of a larger study, they monitored the babies' exposure to polycyclic aromatic hydrocarbons, which are compounds produced by burning. "Although the study was conducted in Manhattan neighborhoods, exhaust pollutants are prevalent in all urban

areas, and therefore the study results are relevant to populations in other urban areas," said Dr. Frederica Perera, who led the study.

To determine exposure to pollution, the mothers filled out questionnaires and wore portable air monitors during the last three months of their pregnancies. Women were rated as having high, moderate or low exposure based on average pollution levels for the group.

Then they tested the umbilical cord blood of the newborns, looking specifically at the chromosomes, which carry the DNA. Damage to chromosomes can cause cancer.

"We observed 4.7 chromosome abnormalities per thousand white blood cells in newborns from mothers in the low exposure group, and 7.2 abnormalities per thousand white blood cells in newborns from the high exposure mothers," Perera said in a statement. The kind of damage to the chromosomes that they say was the type that tends to linger, making people more susceptible to cancer.

Other studies have linked exposure to pollution with leukemia and other cancers.

"While we can't estimate the precise increase in cancer risk, these findings underscore the need for policymakers at the federal, state, and local levels to take appropriate steps to protect children from these avoidable exposures," Perera said.

50. Ozone Air Pollution Associated With Acute Myocardial Infarction

Despite the diversity of the studied health outcomes, types and levels of pollution, and various environmental settings, there is substantial evidence for a positive link between urban air pollution and cardiovascular diseases according to a new study¹. The objective of this study was to test the associations between air pollutants and the occurrence of acute myocardial infarction (AMI).

Pollutant concentrations (SO₂, NO₂, and O₃) were measured hourly as part of the automated air quality network. Since 1985, an AMI registry (the Toulouse MONICA Project) has been collecting data in the southwest of France. All cases of AMI and sudden and probable cardiac deaths are recorded for subjects 35 to 64 years of age. The authors studied the short-term exposure effect of pollution on the risk of AMI (from January 1, 1997, to June 30, 1999) using a case-crossover design method. They performed a conditional logistic regression analysis to calculate relative risks (RRs) and their 95% confidence intervals (CIs). After adjustment for temperature, relative humidity, and influenza epidemics, the RRs (for an increase of 5 µg/m³ of O₃ concentration) for AMI occurrence were significant for the current-day and 1-day-lag measurements (RR, 1.05; 95% CI, 1.01 to 1.08; P=0.009; and RR, 1.05; 95% CI, 1.01 to 1.09; P=0.007, respectively). Subjects 55 to 64 years of age with no personal history of ischemic heart disease were the most susceptible to develop an AMI (RR, 1.14; 95% CI, 1.06 to 1.23). NO₂ and SO₂ exposures were not significantly associated with the occurrence of AMI.

¹ "Ozone Air Pollution Is Associated With Acute Myocardial Infarction", Jean-Bernard Ruidavets, MD; Maxime Cournot, MD; Sylvie Cassadou, MD; Michel Giroux, PhD; Mariam Meybeck, PhD; Jean Ferrières, MD, MSc, FESC

The authors concluded that observational data confirm that short-term O₃ exposure within a period of 1 to 2 days is related to acute coronary events in middle-aged adults without heart disease, whereas NO₂ and SO₂ are not.

51. Study Links Particulate Pollution To Low Birth Weight

Bolstering concerns about the health hazards of pollution, a newly published study said babies born in California cities with the dirtiest air weigh less than those born in cleaner communities. The study, published in the journal *Pediatrics*, joins a growing body of research about the dangers of fine particulate matter -- a microscopic form of soot that has already been linked to increased emergency room visits, more heart attacks and decreased lung function in children.

In their study of 18,000 babies born in California in 2000, researchers analyzed the birth weight and level of fine particulate matter pollution near the mother's residence in the preceding nine months. They found that babies born to mothers in the most polluted areas consistently weighed less -- about 1 ounce less -- than babies born to mothers who lived in clean-air cities.

Researchers could not determine how newborns might be affected by soot, whether the mother's worsened health impacts the baby or whether the pollution is getting directly to the fetus.

52. Ambient Air Pollution and Respiratory Emergency Department Visits Linked²

A number of emergency department studies have corroborated findings from mortality and hospital admission studies regarding an association of ambient air pollution and respiratory outcomes. Measurements of 5 pollutants (particulate matter [PM₁₀], ozone, nitrogen dioxide [NO₂], carbon monoxide [CO], and sulfur dioxide [SO₂]) were available for the entire study period (1 January 1993 to 31 August 2000); detailed measurements of particulate matter were available for 25 months. Researchers obtained data on 4 million emergency department visits from 31 hospitals in Atlanta. Visits for asthma, chronic obstructive pulmonary disease, upper respiratory infection, and pneumonia were assessed in relation to air pollutants using Poisson generalized estimating equations.

In single-pollutant models examining 3-day moving averages of pollutants (lags 0, 1, and 2): standard deviation increases of ozone, NO₂, CO, and PM₁₀ were associated with 1-3% increases in URI visits; a 2 ug/m increase of PM_{2.5} organic carbon was associated with a 3% increase in pneumonia visits; and standard deviation increases of NO₂ and CO were associated with 2-3% increases in chronic obstructive pulmonary disease visits. Positive associations persisted beyond 3 days for several of the outcomes, and over a week for asthma.

² Jennifer L Peel, Paige E Tolbert, Mitchel Klein, Kristi Busico Metzger, W Dana Flanders, Knox Todd, James A Mulholland, P Barry Ryan, and Howard Frumkin, *Ambient Air Pollution and Respiratory Emergency Department Visits*, *Epidemiology*, March 1, 2005; 16(2): 164-174.

The results of this study contribute to the evidence of an association of several correlated gaseous and particulate pollutants, including ozone, NO₂, CO, PM, and organic carbon, with specific respiratory conditions.

53. Lead in Environment Found To Cause Violent Crime

Lead left in paint, water, soil and elsewhere may not only be affecting children's intelligence but may cause a significant proportion of violent crime, a US researcher argued in a new study. He said the US government needs to do more to lower lead levels in the environment and parents need to think more about where their children may be getting exposed to lead.

"When environmental lead finds its way into the developing brain, it disturbs neural mechanisms responsible for regulation of impulse. That can lead to antisocial and criminal behavior," said Dr. Herbert Needleman, a professor of psychiatry and pediatrics at the University of Pittsburgh School of Medicine. Needleman's team, using a technique called X-ray fluorescence, found very low levels of lead in the bones of children.

Needleman cited several studies that associate crime with high levels of lead either in the bodies of those accused or in the environments they came from, including one that showed the average bone lead levels of 190 juvenile delinquents were higher than those of adolescents not charged with crimes.

His study suggested that between 18 percent and 38 percent of delinquent crimes in the Pittsburgh area could be attributed to lead toxicity in the adolescents. Another one tested 300 delinquents and found those with higher lead levels reported more aggressive feelings or behavior disorders.

"The brain, particularly the frontal lobes, are important in the regulation of behavior," Needleman told a meeting of the American Association for the Advancement of Science. "Exposure to lead, at doses below those which bring children to medical attention, is associated with increased aggression, disturbed attention and delinquency. A meaningful strategy to reduce crime is to eliminate lead from the environment of children."

Taking lead out of most gasoline has contributed to a sharp reduction in the level of lead in the blood of Americans over the past 30 years. But lead is still found in paint, some types of fuel for older vehicles, older water pipes and in the soil.

54. Winter Air Pollution And Disease Parameters Linked In Denver, Colorado.

Researchers explored the associations of pollution to pulmonary function, rescue medication, and symptoms over 2 winters in 2 panels of subjects with advanced Chronic Obstructive Pulmonary Disease (COPD) in Denver, Colorado.³ Subjects measured lung function and recorded symptoms and rescue medications. Daily ambient pollution

³ PE Silkoff, L Zhang, S Dutton, EL Langmack, S Vedal, J Murphy, and B Make, Winter air pollution and disease parameters in advanced chronic obstructive pulmonary disease panels residing in Denver, Colorado., J Allergy Clin Immunol, February 1, 2005; 115(2): 337-44.

concentrations for particulate matter (PM10 and PM2.5), carbon monoxide (CO), and nitrogen dioxide (NO2) were obtained for Denver. Estimated effects of pollution on outcomes were derived for the same day and 1 and 2 days after pollution measurements (lags 0, 1, and 2, respectively). Sixteen (mean age, 65.8 years; mean FEV 1, 42.3% of predicted value) and 18 (mean age, 67.4 years; mean FEV 1, 39.4% of predicted value) subjects participated in the first and second winters, respectively. There were no differences in demographic or disease characteristics between the 2 panels. In the first winter no detrimental associations were found. In the second winter, however, there were significant detrimental associations of CO in the morning and PM10, CO, and NO2 in the evening, increasing medication use at lag 0. Total symptom score increased at lag 0 with NO2. The concentrations of particulates increased in the second winter compared with in the first winter, and this winter was colder and more humid. In the second winter, subjects with severe COPD had worse lung function at lags 0 and 1 and increased rescue medication at lag 0 with increases in ambient air pollution. The effects of pollution varied between the 2 winters, perhaps related to levels of pollution and weather patterns. Significant effects were seen despite ambient pollution levels that conformed to US Environmental Protection Agency standards.

GENERAL

55. World Bank Portfolio Includes \$3.2 Billion For Environmental Projects

The World Bank's current lending portfolio includes US\$ 3.2 billion for projects that protect the environment and conserve natural resources, according to a report released Feb. 3. The report, *World Bank: Focus on Sustainability 2004*, provides an overview of the bank's lending activities with an emphasis on projects that have environmental and natural resources components. More than half of the projects focused on pollution reduction and water resources management. Other top lending categories include land management, environmental policy and institutions, climate change, and biodiversity.

The World Bank estimates that US\$ 11.2 billion worth of lending projects have secondary environmental objectives. These include projects in the agriculture, energy development, water supply, urban development, and transportation sectors.

The report found that 40 percent of environmental and natural resources lending went to projects in Europe and Central Asia; 24 percent to Africa; 19 percent to the Middle East and North Africa; 13 percent to Latin America and Caribbean nations; and 4 percent to Asia and Pacific nations.

56. World Oil Production Capacity May Grow 16 Million B/D By 2010

World oil production capacity could jump by more than 16 million b/d to 101.5 million b/d by 2010, with the addition split "fairly evenly" between members of the Organization of Petroleum Exporting Countries and non-OPEC producers, said an executive of Cambridge Energy Research Associates (CERA). In a Feb. 15 briefing at the weeklong CERA executive conference in Houston, Peter Jackson, director of oil industry activity, said 7.6 million b/d of the projected increased total liquids production capacity would be

from non-OPEC producers, with OPEC supplying 8.9 million b/d. World production of crude liquids is not expected to peak before 2020, he said.

He said producers "obviously are trying to add more light, sweet crude to their stream." However, Jackson said unconventional oil supplies would increase to about 20% of the total potential supply during that same period, from about "16% or so" at present. "The crude stream composition also is evolving in proportions of light, medium, and heavy crude," said Jackson.

CERA's projection is based on a "field by field, country by country" examination of potential production capacity. According to that study, Jackson said, "Major deepwater projects worldwide should show a tremendously strong increase of about 6 million b/d, which is quite a large proportion of the 16 [million b/d] that I'm talking about." That additional production from water depths beyond 2,500 ft will be "from countries like the US in the Gulf of Mexico, Brazil, Angola, and Nigeria," he said.

Non-OPEC production capacity is expected to continue strong through 2010 but then "slow down somewhat from current levels of increase," Jackson said.

Within OPEC, Jackson said, "The most significant changes are going to be found in countries like Nigeria, which could show an increase of just over 1 million b/d by 2010. And this is light, sweet crude, which is obviously very much sought after in the current market." Iran and Iraq also are expected to register major gains in production capacity, potentially up by 1 million b/d each, although "Iraq is a little more difficult to make judgments about because of the political situation," he said.

Among the 11 OPEC members, Jackson said, "Really only Indonesia seems to be struggling to expand capacity." However, he said, Indonesia has had some success in slowing its production decline rate.

Among non-OPEC countries, the best prospect for increasing production capacity is in the Caspian region, which could be up by 2.5 million b/d by 2010, Jackson said. He foresees "other significant increases" in Russia and Canada.

"We do see flat to declining capacities in countries like Norway, the UK, and Mexico. We get very pessimistic about the rates of declines in these countries, but with the application of new technology [and] better understanding of the hydrocarbon systems in these areas," he said, the production decline rates might be slowed.

Another CERA analyst noted the "strongest price environment ever" in 2004 because of strong demand, primarily in Asia. World demand growth was up by 2.5 million b/d over the previous year. If demand growth continues at that blistering pace in 2005, he said, "then yes, we will have another year of very strong oil prices. If it were to continue beyond 2005, then there would be challenges in bringing on [additional production] capacity in a timely manner."

However, the analyst said, "Let's be very cautious about saying that we've entered a definitive new era of exceptional demand growth. The reason demand grew so fast last year was because the global economy expanded at the fastest rate since the 1970s." Such growth could continue "for another year or two, perhaps three," said the analyst,

"but the global economy is cyclical, and at some point, we will experience a downturn compared with what we saw last year."

57. Refiners Of Heavy, High-Sulfur Crude Face Prosperous Years

Refiners face several prosperous years, especially those able to convert heavy, high-sulfur crude to light products, industry representatives said at a conference in London. Population growth and an increase in per-capital energy consumption in rapidly developing China and India will keep demand strong, said Tom O'Malley, chairman of US independent refiner Premcor Inc.

Other speakers at a Wood Mackenzie refining seminar held in conjunction with the Energy Institute's International Petroleum Week assessed refining prospects in specific regions.

"The biggest winners in the refining industry will be those companies that can deal with very heavy and high-sulfur crude oil," O'Malley said, adding that his company's high-conversion refineries make twice to three times as much money running heavy crude than it does with higher quality feedstock. Worldwide, he noted, "We have very little light crude oil coming on stream."

He expects 2005-07 to be "extraordinary years for refining" but warned: "\$100[/bb] crude oil will derail it."

He also pointed to a "countertrade" developing in the Atlantic Basin, with the US exporting diesel to Europe and Europe exporting gasoline to the US.

Refining capacity needs to grow, but construction faces resistance in the US and Europe. "We went from 'not in my neighborhood' in terms of construction to 'not anywhere in my country' in terms of construction," O'Malley said. Construction, he said, is likely in China and India, while expansion of existing plants is all that will occur in the US and Europe.

Agreeing with O'Malley that prospects are good for refiners for at least several years, David Waring, head of European energy for Deutsche Bank, said a "buyer's market for refineries" has developed in Europe because the wide refining margins of 2003-04 reawakened investor interest. Waring said as many as 18 refineries might change ownership during the next 18-24 months through initial public offering spin-offs, planned sales, and disposals by companies considering European facilities to be noncore assets.

Europe, he noted, has a surplus of gasoline and needs middle distillate because of strong growth in demand for diesel.

Ferenc Horvat, refining and marketing managing director of Hungary's MOL Group, said prospects for demand growth in Central Asia are "excellent" because of economic growth, accession of some of the countries into the European Union, and growing ownership of automobiles.

Refiners in the northern Central Asian countries are generally well along in privatization and have invested to meet EU product specifications. In the region's southern countries, refinery utilization rates are low, and companies face the need to make heavy

investments to raise product quality while plagued by poor refining economics and low working capital.

In the Asia-Pacific region, said Satvinder Roopra, vice-president, downstream oil, for Wood Mackenzie, oil demand will rise by more than 50% by 2015, with China and India accounting for 64% of the growth. Roopra said the crude slate in Asia-Pacific will change from 55% sour-45% sweet at present to 68% sour-32% sweet in 2015, requiring major upgrading and construction. He projected that product supply from regional refineries will increase by 300 million tons/year during the period from a combination of increased utilization rates, capacity creep from modernization and upgrades, and planned capacity additions accounting for about half of the increase.

Also during the period, he said, "significant deficits of all products [will] emerge," especially gas oil and diesel.

58. Surging Asian Demand Dominates World Energy Outlook

China and India took center stage as four forecasters described possible implications of their surging energy demand at a hearing of the Senate Energy and Natural Resources Committee. The implications could be significant if the two Asian countries strike more bilateral agreements with major oil producing nations, suggested Frank A. Verrastro, a director and senior fellow in the Center for Strategic and International Studies energy program in Washington, DC.

Andrew J. Slaughter, a senior economist at Shell Exploration & Production Co., London, agreed that world energy markets will face increasing pressures as developing nations industrialize in the next 20 years. "We need to prepare for a world in which continuing growing energy demand from rapidly developing countries, such as India, China, and Brazil, as well as continued demand growth in North America creates more competition for traditional energy sources and might require faster penetration of new energy sources," he said.

The US Energy Information Administration projects that total world energy demand will expand by 54% to 623 quadrillion btu in 2025 from 404 quadrillion btu in 2001. "The fastest growth is projected for the nations of developing Asia, including China and India, where robust economic growth accompanies the increase in energy consumption over the forecast period," EIA Administrator Guy F. Caruso said. EIA expects gross domestic product (GDP) in Asia's developing nations to grow at an average rate of 5.1%/year in the next 20 years, compared with 1.2%/year for industrialized countries and 3%/year for the world as a whole.

"With such strong growth in GDP, demand for energy in developing Asia is projected to double over the forecast, accounting for 40% of the total projected increment in world energy consumption and 70% of the increment for the developing world alone," said Caruso. He noted that energy demand grows by 3%/year in developing Asia as a whole and by 3.5%/year in China and 3.2%/year in India.

"Dependence on foreign sources of oil and, increasingly, natural gas will increase not only in [the US] but also in countries like China and India, which poses geopolitical implications," Caruso said.

Jeffrey Logan, China program manager at the International Energy Agency in Paris, pointed out that China surpassed Japan to become the world's second largest petroleum consumer in 2003. Its demand grew by 15% to 6.37 million b/d in 2004, about one third of what the US consumed, he told committee members.

China's domestic crude oil production has grown very slowly the past 5 years as demand surged, resulting in a jump in imports to 2.42 million b/d in 2004 from 1.38 million b/d in 2002, Logan continued, adding that imports now account for 40% of Chinese oil supply.

He said that during the 1990s Chinese energy consumption grew slower than GDP. That had changed by last year, when, "For every 1% increase of GDP, energy demand grew by over 1.5%."

Logan said, "No one, as yet, has come up with a sufficiently satisfactory answer as to why this change has occurred in the Chinese energy-economic relationship. Indeed, it caught many economic planners in China off-guard and explains some of the problems that are occurring there."

Rapid industrialization made Chinese demand jump for electricity from oil-fired generators the past few years. Logan expects this situation to change as the country builds more coal-fired power plants. But he also does not expect this to reduce China's thirst for oil. "As the oil demand falls off from the power generation sector, we anticipate that some of this will be replaced by stockpiling in strategic petroleum reserves, although this will be less than current power generation demand," he said.

China also is taking steps to increase use of natural gas, a strategy that the IEA official considers "simultaneously the most cost-effective measure to increase efficient use of energy and reduce greenhouse gas emissions." Plans called for construction of a second cross-country pipeline to Beijing after the \$24 billion West-East system began to operate late in 2004, he said. IEA expects liquefied natural gas imports will compete in China with pipeline gas from Russia, Kazakhstan, and other producing countries through 2025.

Political uncertainty in producing countries outside the Organization of Petroleum Exporting Countries also needs to be considered, the forecasters agreed.

"Most people believe that Russia has substantial resources. The question is the rate at which they can be produced," said Verrastro. As OAO Yukos increased exports the past few years, there was concern that it was easily produced oil from quickly depleted reservoirs, he said.

"Russia's three restrictions are infrastructure, policy, and investment. I think the Yukos episode froze people, who are waiting to see what policies come from the Kremlin. ConocoPhillips used the approach of going to the Kremlin first, which seems to have worked," said Verrastro. "I think President [Vladimir] Putin recognizes that oil and gas will control economic growth in Russia. I believe he is trying to centralize control at this point."

Slaughter said Shell deals with Russia on a project-by-project basis.

"Over the next 20 or 30 years, the world will be capable of absorbing all new production," he said. "Russian production will fluctuate from year to year as its policies develop, but over the long term, we are optimistic. We believe the key will be to work with them on a country-to-country basis to develop a stable environment."

Verrastro also warned that producing countries whose leaders are pursuing ambitious domestic social agendas could adjust their sales priorities as a result.

Logan was less certain that this might pose a threat, particularly with Venezuela and its president, Hugo Chavez. "Our forecasts, in the future, call for more of a surplus in the supply-demand equation than has existed in the last year," he said. "Venezuela is very much tied in to the global market, so it wouldn't make sense for it to stop selling oil at the current price."

59. UN Says Half World's People to Live in Cities by 2007

Half the world's population will live in cities in two years, a huge jump from the 30 percent residing in urban areas in 1950, UN demographers have reported. Some 3.2 billion of the world's 6.5 billion people live in cities today, and the number will climb to 5 billion -- an estimated 61 percent of the global population -- by 2030, the UN Commission on Population and Development said in a report.

The number of very large urban areas was also rising, the commission said. Twenty cities now have 10 million or more inhabitants, compared with just four -- Tokyo, New York-Newark, Shanghai and Mexico City -- in 1975 and just two -- New York-Newark and Tokyo -- in 1950.

The five biggest cities today in population are Tokyo, with 35.3 million people, Mexico City (19.2 million), New York-Newark (18.5 million), Bombay (18.3 million) and Sao Paulo (18.3 million). The next 15 largest are Delhi, Calcutta, Buenos Aires, Jakarta, Shanghai, Dhaka, Los Angeles, Karachi, Rio de Janeiro, Osaka-Kobe, Cairo, Lagos, Beijing, metropolitan Manila and Moscow.

By 2015, the five largest cities will be Tokyo, with 36.2 million residents, Bombay with 22.6 million, Delhi with 20.9 million, Mexico City with 20.6 million and Sao Paulo with 20 million, it said.

Despite the growing number of vast urban agglomerations, about half of all city dwellers live in far smaller urban areas of fewer than 500,000 inhabitants, according to the report.

Urban residence patterns vary depending on an area's development status, the commission found. About three-quarters of people in more developed regions lived in cities, while just 43 percent lived in them in less developed areas, it said.

Patterns also vary by region, with 75 percent of people in Latin America and the Caribbean living in cities compared with 40 percent of the people of Africa and Asia.

60. Kyoto Climate Treaty Goes Into Effect: Recent Developments

A world plan to fight global warming went into force on February 16th. After years of delays, the UN Kyoto Protocol on curbing emissions of heat-trapping gases blamed for disrupting the climate took effect at midnight EDT (0500 GMT) with muted celebrations for a deal Washington dismisses as an economic straitjacket.

Green groups marked Kyoto by protesting outside US embassies, by interrupting oil trading on London's International Petroleum Exchange and by carving fast-melting ice sculptures of kangaroos in Australia.

"Climate change is a global problem. It requires a concerted global response," UN Secretary-General Kofi Annan said in remarks beamed to the ancient Japanese city of Kyoto where the pact was signed in 1997. "I call on the world community to be bold, to adhere to the Kyoto Protocol and to act quickly in taking the next steps," he said. "There is no time to lose."

Supporters of the 141-nation pact say it is a tiny first step to slow global warming by imposing legally binding caps on greenhouse-gas emissions -- mainly from burning fossil fuels in power plants, factories and cars -- in 35 developed nations.

Many climate experts fear temperature rises will disrupt farming, raise sea levels by melting icecaps, cause more extreme weather like hurricanes or droughts, spread diseases and wipe out thousands of animal and plant species by 2100.

The United States, the world's biggest polluter, pulled out in 2001. President George W. Bush said Kyoto was too costly, based on unreliable science and unfairly excluded big developing nations like India, China and Brazil which account for a third of the world's population.

"141 countries have not allowed this process to be blocked by the unilateral power play of one country," German Environment Minister Jürgen Trittin said, outlining plans for even bigger German cuts beyond 2012.

The White House said it aims to fight climate change through technology, especially with techniques that still need work such as clean-burning coal, advanced nuclear power and hydrogen fuel cells. "The US, in the last three years of the Bush administration, has dedicated more resources to the issue of climate change than any other nation of the world and most other nations of the world combined," James Connaughton, chairman of the White House's Council on Environmental Quality, said.

Under Kyoto, developed nations will have to cut emissions of greenhouse gases by 5.2 percent below 1990 levels by 2008-12. Those exceeding the 2012 goals will be penalized with bigger cuts than the average targets from 2012.

Australia, the only big developed nation on the sidelines with the United States, said it had no plan to sign up. "Until such time as the major polluters of the world, including the United States and China, are made part of the Kyoto regime it is next to useless and indeed harmful for a country such as Australia to sign up to the Kyoto Protocol," Prime Minister John Howard told parliament.

"Climate change is one of the greatest threats we face today," European Commission President Jose Manuel Barroso said. "If the world acts together in the fight against climate change we have a real chance."

Kyoto backers say rich nations are probably the main cause of a 1 F (0.6 C) rise in world temperatures since the Industrial Revolution and should take the lead by cutting use of fossil fuels and shifting to cleaner energy like wind and solar power.

Russia, whose ratification last November gave Kyoto enough weight to enter into force, hopes to sell carbon dioxide quotas abroad, after the collapse of Soviet-era industries reduced emissions. In Moscow, Russian electricity giant Unified Energy, which accounts for 2 percent of world greenhouse gases, said it was close to signing 30 Kyoto-linked deals to cut emissions.

Even if fully implemented, Kyoto would brake rising temperatures by just 0.18 F (0.1 C) by 2100, according to UN figures, tiny compared to forecasts by a UN climate panel of an overall rise of 2.5-10.4 F (1.4-5.8 C) this century.

A. The Science

i. Ocean, Arctic Studies Show Global Warming is Real

A parcel of studies looking at the oceans and melting Arctic ice leave no room for doubt that it is getting warmer, people are to blame, and the weather is going to suffer, climate experts announced. New computer models that look at ocean temperatures instead of the atmosphere show the clearest signal yet that global warming is well underway, said Tim Barnett of the Scripps Institution of Oceanography.

Speaking at an annual meeting of the American Association for the Advancement of Science, Barnett said climate models based on air temperatures are weak because most of the evidence for global warming is not even there. "The real place to look is in the ocean," Barnett told a news conference.

His team used millions of temperature readings made by the US National Oceanic and Atmospheric Administration to calculate steady ocean warming. "The debate over whether or not there is a global warming signal is now over, at least for rational people," he said.

The report was published one day after the United Nations Kyoto Protocol took effect.

"Could a climate system simply do this on its own? The answer is clearly no," Barnett said. His team used US government models of solar warming and volcanic warming, just to see if they could account for the measurements they made. "Not a chance," he said. And the effects will be felt far and wide. "Anywhere that the major water source is fed by snow ... or glacial melt," he said. "The debate is what are we going to do about it."

Other researchers found clear effects on climate and animals.

Ruth Curry of the Woods Hole Oceanographic Institution found that melting ice was changing the water cycle, which in turn affects ocean currents and, ultimately, climate. "As the Earth warms, its water cycle is changing, being pushed out of kilter," she said. "Ice is in decline everywhere on the planet."

A circulation system called the Ocean Conveyor Belt is in danger of shutting down, she said. The last time that happened, northern Europe suffered extremely cold winters. She said the changes were already causing droughts in the US West.

Greenland's ice cap, which contains enough ice to raise sea levels globally by 23 feet (7 meters), is starting to melt and could collapse suddenly, Curry said. Already freshwater is percolating down, lubricating the base and making it more unstable.

Sharon Smith of the University of Miami found melting Arctic ice was taking with it algae that formed an important base of the food supply for a range of animals. And the disappearing ice shelves meant big animals such as walruses, polar bears and seals were losing their homes.

"In 1997 there was a mass die-off of a bird called the short-tailed shearwater in the Bering Sea," Smith told the news conference. The birds, which migrate from Australia, starved to death for several years running when warmer waters caused a plankton called a coccolithophore to bloom in huge numbers, turning the water an opaque turquoise color. "The short-tailed shearwater couldn't see its prey," Smith said.

ii. *Global Warming Could Worsen US Pollution*

Global warming could stifle cleansing summer winds across parts of the northern United States over the next 50 years and worsen air pollution, according to US researchers. Further warming of the atmosphere, as is happening now, would block cold fronts bringing cooler, cleaner air from Canada and allow stagnant air and ozone pollution to build up over cities in the Northeast and Midwest, they predicted.

"The air just cooks," said Loretta Mickley of Harvard University's Division of Engineering and Applied Sciences. "The pollution accumulates, accumulates, accumulates, until a cold front comes in and the winds sweep it away."

Mickley and colleagues used a computer model, an approach commonly used by climate scientists to predict weather and climate changes. She told a meeting of the American Association for the Advancement of Science that the model predicted a 20-percent decline in summer cold fronts out of Canada. "If this model is correct, global warming would cause an increase in difficult days for those affected by ozone pollution, such as people suffering with respiratory illnesses like asthma and those doing physical labor or exercising outdoors," she said.

The model used by Mickley and her colleagues incorporates things such as the sun's luminosity, topography of the planet, the distribution of the oceans, the pull of gravity and the tilt of the Earth's axis, as well as predicted warming. They fed in gradually increased levels of greenhouse gases at rates projected by the Intergovernmental Panel on Climate Change. What they found surprised them.

"The answer lies in one of the basic forces that drive the Earth's weather -- the temperature difference between the hot equator and the cold poles," Mickley said. In the middle latitudes, low-pressure systems and accompanying cold fronts help redistribute heat by carrying warm air to the poles and replacing it with cool air. Warming slows that process down, Mickley's team found.

iii. Scientists Take Strong Stance On Global Warming At UK Meeting

The world faces the likelihood of dangerous climate change unless it makes deep and early cuts in greenhouse gas emissions according to presenters at a UK government-sponsored international scientific conference. The meeting was called by prime minister Tony Blair, who is pursuing global consensus on the need to curb greenhouse gas emissions during the UK presidency of the G8 group of nations. The core objective of the 1992 UN climate change convention is to avoid "dangerous" global warming.

The Exeter conference provided the closest thing to a definitive scientific update on climate change since the last UN intergovernmental panel on climate change assessment in 2001. In just about all areas the conference conclusions suggest that the risks are equal to or greater than previously thought. It has not produced agreement on a single threshold beyond which climate change is indisputably "dangerous". However, a consensus seems to be emerging around a global temperature rise from pre-industrial levels of two degrees centigrade. This is already the EU's political goal.

The Greenland ice cap could suffer irreversible melting if world temperatures rise by as little as 1.5 degrees, the conference heard. New findings suggest that the western Antarctic ice sheet, previously thought to be stable, may actually be starting to melt.

Meanwhile, completely new climate change risks were presented. Most notably the oceans are growing more acidic as dissolved carbon dioxide concentrations rise. The trend could threaten phytoplankton populations, putting at risk the ocean's ability to remove CO₂ from the atmosphere and damaging the entire marine food chain, scientists fear.

Global warming will probably exceed two degrees even if atmospheric greenhouse gas concentrations are stabilized at 550 ppm (CO₂-equivalent), Malte Meinshausen of ETH in Switzerland told the conference. Concentrations would have to stabilize at 400 ppm – which is actually about 50 ppm lower than today - for there to be a high certainty of the two degree temperature limit being respected.

Limiting greenhouse gas concentrations to even 550 ppm represents a huge challenge. The world would have to cut emissions 10% from 1990 levels by 2050 to achieve it, Dr Meinshausen suggested. Emissions would have to be halved to achieve stabilization at 400 ppm. In fact, the latest International energy agency figures predict that world CO₂ emissions will rise by 63% over 2002 levels by 2030.

Emission cuts need to be made quickly, scientists also said. Even a delay of five years could be significant, according to the conference conclusions. If action is delayed for 20 years, cuts might have to be 3-7 times larger to achieve the same temperature limit.

Although its main focus was on climate science, the conference also considered technological options to reduce greenhouse gas emissions. Greater energy efficiency, nuclear and other non-carbon energy, and carbon capture and storage were all highlighted.

Jason Lowe of the U.K. Meteorological Office said studies had shown that if the Greenland ice sheet were to melt, global average sea levels would rise by 7 meters.

Rajendra Pachauri, chairman of the U.N. Intergovernmental Panel on Climate Change, told the conference that sea level rises and agricultural changes could result in an estimated 150 million "environmental refugees" by 2050. Some nations, he said, would be significantly more affected than others. Bangladesh stood to lose 17 percent of its territory within 45 years, and Egypt would lose 12-15 percent of its arable land.

In a summary of the proceedings, the conference's steering committee said that in the absence of an extraordinary reversal of greenhouse gas volumes, the world was "committed to a temperature rise of between 0.5 and 2.0 degrees Celsius by 2050."

While technological options for reducing emissions already exist, the committee said, "There are no magic bullets. A portfolio of options is needed and excluding any options will increase costs."

iv. Gases Could Raise Temperatures 11 Degrees

Greenhouse gas emissions could cause global temperatures to rise by up to 11 degrees Celsius, according to first results from the world's largest climate modeling experiment.

The top end of the predictions, which range from 2-11 degrees, is double estimates produced so far and could make the world dramatically different in the future. "Our experiment shows that increased levels of greenhouse gases could have a much greater impact on climate than previously thought," said David Stainforth, the project's chief scientist, from Oxford University.

Without significant cuts in greenhouse gas emissions, scientists estimate the Earth's temperature and sea level will rise, leading to increased flooding and drastic climate changes. The temperature range predicted is based on assumptions of carbon dioxide levels double those found before the Industrial Revolution. Scientists estimate these levels will be reached by the middle of this century if greenhouse gas emissions are not reduced.

"This is really just the beginning of the process to try and understand the uncertainty and predictions of climate change," Stainforth added.

From Uruguay to Uzbekistan and Sierra Leone to Singapore, 95,000 people from 150 countries are taking part in the climateprediction.net experiment to explore the possible impact of global warming. By downloading free software from www.climateprediction.net on their personal computers, participants run their own unique version of Britain's Met Office climate model.

While their computer is idle, the program runs a climate simulation over days or weeks and automatically reports the results to Oxford University and other collaborating institutions around the world.

Together, the volunteers have simulated more than 4 million model years, donated 8,000 years of computer time and exceeded the processing power of the world's largest supercomputers. The first results of the continuing experiment are reported in the latest edition of the science journal Nature.

"... it is entirely possible that even current levels of greenhouse gases, if stable and maintained for a long period of time, could lead to dangerous climate change," Stainforth told reporters.

The Kyoto protocol, the main UN scheme to reduce greenhouse gases, aims to cut emissions of carbon dioxide by 5.2 percent below 1990 levels by 2008-12.

"The danger zone is not something we are going to reach in the middle of this century. We are in it now," said Dr Myles Allen of the Met Office.

Climateprediction.net was conceived more than five years ago and launched in 2003. It is funded by Britain's Natural Environment Research Council.

B. The Politics

i. Blair Seeking Commitment From G8 Nations

On January 26th, British Prime Minister Tony Blair, chairman of the Group of Eight nations, urged Jan. 26 developed countries to begin cutting greenhouse gases using technology that is already available in addition to working to develop new technologies. "Whether because of the risks associated with climate change or related issues of security of energy supply, we need to send a clear signal that whilst we continue to analyze science ... we are united in moving in the direction of greenhouse gas reductions," he told the World Economic Forum in Davos, Switzerland.

Because the G8 nations account for 65 percent of global gross domestic product and 47 percent of global carbon dioxide emissions, Blair called on their leaders to take "practical measures" to cut emissions not just focus on developing new technology.

These nations must "work much harder to find ways to implement the vast range of low-carbon technologies that have already been developed," he said.

Blair added, "I support the Kyoto Protocol," which will enter into force on Feb. 16. The treaty calls on developed countries to reduce greenhouse gas emissions, but will not be implemented by the United States in part because President Bush and others say it would harm the U.S. economy. Instead, the U.S. administration has chosen to implement voluntary measures to address climate change and to pursue the advancement of technology to reduce emissions.

Blair, who will also serve as the EU president this June through December, said "business and the global economy need to know [climate change] isn't an issue that is going away." To that end, Blair said the debate that remains "will be how and on what time scale it is confronted, not whether."

Blair said he wants "to develop a package of practical measures, largely focused on technology, to cut emissions. And here I don't just mean research into new technologies, important though that is." Rather, Blair said energy efficiency, renewable energy sources, cleaner fossil fuels, and avoiding waste can all "be done, and often at a much lower cost than we realize."

Recognizing the disagreement over the Kyoto Protocol, Blair acknowledged that Bush and other leaders in opposition to the treaty "worry they are being asked to take unacceptable falls in economic growth and living standards to tackle climate change." "But fortunately that need not be the case," Blair said. "Science and technology cannot alone provide the answer. But they certainly provide the means to ensure that we can reduce greenhouse gas emissions without damaging our economy. Indeed, over time they provide the prospect of significant business and economic opportunities."

Blair used the EU nations' ratification of the treaty and the European trading scheme designed to help its implementation as an example of such opportunity. This, he said, will be "a powerful driver to more sustainable means of energy generation, industrial production and to business activity."

ii. *Blair Calls on US to Take Climate Change Seriously*

The United States, realizing it cannot defeat global threats like terrorism alone, must cooperate to fight other planetary challenges like climate change, British Prime Minister Tony Blair said in a major speech. "Interdependence is no longer disputed," said Blair, speaking to a forum of business and political leaders. "If America wants the rest of the world to be part of the agenda it has set, it must be part of their agenda too."

President George W. Bush's inauguration speech showed the United States realized it could not defeat terror threats just by military means or on its own, said Blair, one of the US leader's staunchest allies.

Defending the speech, which was accused of not reflecting the reality of US policies, Blair said its support for extending democracy and liberty "emphatically puts defeating the causes of terrorism alongside defeating the terrorists." Blair said after international divisions over the war in Iraq, there was "a wish to re-unify." He has predicted Bush's second term would see more account taken of the views of Europe.

There was common purpose in fighting global terrorism, extending democracy and seeking peace in the Middle East, said Blair, stressing that those issues and his agenda for this year's Group of Eight presidency could not be decoupled.

A broad belief in Europe that scientists have proved global warming is a reality is not so widely shared in the United States. The evidence of climate change had been clearly and persuasively advocated by a very large number of entirely independent and

compelling voices, said Blair. "The majority is not always right. But they deserve to be listened to."

If governments proposed solutions involving drastic but justified cuts in growth or living standards they would not be agreed, Blair conceded. But global warming could be tackled without enormous economic cost through more intelligent use of science, a greater contribution by rapidly developing economies and market mechanisms like emissions trading, he argued.

"We need to send a clear signal that whilst we continue to analyze science ... we are united in moving in the direction of greenhouse gas reductions," said Blair.

iii. Chirac Wants Rich Nations to Exceed Kyoto Targets

French President Jacques Chirac called on Tuesday for developed countries to cut gas emissions to a quarter of current levels by 2050 -- exceeding targets set by the Kyoto pact to combat global warming.

Chirac, who is due to discuss climate change with US President George W. Bush in Belgium, said the July summit of the Group of Eight industrialized nations would be an opportunity to make progress on the issue. "We must go further -- divide by four by 2050 the greenhouse gas emissions of developed countries. The next G8 summit must be an opportunity for advancing in this direction," Chirac told a working group, according to the Elysee presidential palace.

"France supports Britain's wish to make this a priority. Europe must continue to set the example. I want France to try to exceed its Kyoto commitments without waiting until 2012," Chirac added.

iv. Blair Pours Cold Water on Aviation Tax Idea

British Prime Minister Tony Blair virtually dismissed calls for taxes on aviation fuel to help prevent global warming. Blair suggested the move -- also being proposed by members of the European Union to finance development aid -- could harm his chances in an expected May election.

A tax on aviation fuel would push up the cost of flights.

"I do not think you are going to have any political consensus saying we are going to slap some huge tax on people for cheap air travel," Blair told a parliamentary committee. "Hands up around this table: how many politicians facing, let's say or not say, a potential election at some point in time in the not-too-distant future would vote to end cheap air travel?" he asked the cross-party committee of lawmakers.

Blair was answering questions about an aviation fuel tax to help combat climate change. He was not quizzed about a similar proposal to tax aviation to fund the fight against poverty.

At a recent G7 meeting, most European Union finance ministers supported a tax on kerosene, the high-powered fuel used by aircraft. But German finance officials said the plan earned a cool response from the United Kingdom, which says it already has high energy taxes. Washington opposes taxes on aviation fuel.

Blair has put climate change and African poverty at the heart of Britain's presidency of the G8, to be showcased at a summit in July, but the election is expected to precede that. Opinion polls put Blair on track to win a third term.

The idea of an aviation tax, long pressed by environmentalists and Germany's Green Party, moved to the forefront of the international agenda last week when Germany and France joined up to support it.

European airlines have reacted angrily to the proposal. Aviation is currently exempt from taxation on international air travel under the terms of the 1944 Chicago Convention.

Blair said steps to increase fuel efficiency to curb pollution by aircraft were the only way forward in the fight against climate change. "If we are realistic about this, then the only way through is to take a hard-headed look at what science and technology can offer us," he said.

v. *Bush: "Human Ingenuity Alternative To Kyoto"*

US president George W Bush began his lightning visit to Brussels on Tuesday with his first statement of America's position on climate change since the Kyoto protocol came into force. America's determination to remain outside the Kyoto framework remains strong, it emerged. "All of us expressed our view on the Kyoto protocol, and now we must work together on the way forward," Mr. Bush said.

What this should mean in practice is technological progress, according to Mr. Bush. "All of us can use the power of human ingenuity," said the president. "Emerging technologies... will encourage economic growth that is environmentally responsible."

He called for action that will ensure "all nations – including developing countries - can advance economically, whilst slowing the growth in global greenhouse gas emissions." Promising technologies singled out for a mention were hydrogen, clean coal, and renewable electricity.

US officials said Bush wanted to show he was willing to work on the problem with Europe. The issue was likely to come up in private talks with EU leaders during the week.

The European executive Commission is keen to get the United States on board in planning a post-Kyoto climate change regime. EU Environment Commissioner Stavros Dimas said technology advances were good -- but not sufficient. Dimas said he thought Bush was open to talk about the issue.

Blair, Bush's top ally, has said the US president wants to start discussing measures to combat climate change. Blair has suggested an agreement on the issue may be presented in July.

Under Kyoto, the EU has backed binding targets for carbon dioxide reduction. The United States has backed voluntary targets while putting billions of dollars into research on climate change technology. "All of us can use the power of human ingenuity to improve the environment for generations to come," Bush said.

The United States will spend nearly \$5.8 billion in 2005 on research and programs addressing climate change. The US State Department said the White House is committed to cutting greenhouse gas emissions. "While the United States and countries with binding emissions restrictions under the Kyoto Protocol are taking different paths, our destination is the same, and compatible with other efforts," said Richard Boucher, a spokesman for the State Department. Almost \$700 million will be available in tax incentives for renewable energy and energy efficiency programs and \$200 million will be spent on foreign aid programs that contribute to climate change benefits, he said.

The Bush administration has previously said it wants to reduce the greenhouse gas "intensity" of the US economy -- the tonnage of greenhouse gas emissions for every million dollars of economic output -- by 18 percent by 2012.

vi. EU Parliament Hails Efforts by U.S. States; Dimas Hints at Cooperation

On January 13th, EU lawmakers hailed the climate change initiatives of several U.S. states, contrasting those with Washington's "obstructiveness" toward the Kyoto Protocol on greenhouse gas emissions. "The European Union could learn from California how to limit transport emissions," the European Parliament declared in a resolution that urged the executive European Commission to draft binding carbon dioxide limits for new vehicles in Europe. Without legislation, lawmakers fear that Europe's rising transportation emissions may negate reductions achieved in other sectors. Current EU emission standards date from an agreement negotiated between industry and the Commission.

Lawmakers were "greatly encouraged" by climate change initiatives, including California's Pavley Law designed to reduce that state's greenhouse gas emissions by 22 percent by 2012.

The resolution cited discussions on a regional carbon dioxide emissions cap-and-trade program covering nine northeastern states, with Maryland, the District of Columbia, Pennsylvania, and several eastern Canadian provinces participating as observers.

Parliament's nonbinding resolution was adopted by a vote of 542 to 24 after a report from EU Environment Commissioner Stavros Dimas on the Tenth Conference of the Parties to the U.N. Framework Convention on Climate Change, which took place in Buenos Aires Dec. 6-17. Lawmakers regretted that COP-10 failed to launch substantive negotiations on a tougher round of greenhouse emission targets to apply when the first phase of the Kyoto Protocol ends in 2012. They urged that emissions from aviation and shipping be included in reduction plans to contain global warming below 2 degrees Celsius above pre-industrialization levels.

Dimas said COP-10 achieved "some progress" by agreeing to convene a meeting in May to initiate "dialogue and debate for a global climate policy after 2012." Washington's

decision to participate was "a small breakthrough," he said. Meanwhile, he confirmed that Canada, Norway, and Japan had shown interest in cooperating with the EU emission trading scheme, which began Jan. 1.

Although individual states can not be party to the Kyoto pact, Dimas said, "Cooperation with local and regional authorities could be very interesting."

vii. EU Cautious On Future Climate Targets

The EU should await the outcome of further international talks before deciding what climate emission reductions it wants to see achieved by a second Kyoto protocol commitment period, according to environment commissioner Stavros Dimas. Mr. Dimas said the EU should adopt a diplomatic approach as substantive discussions on post-2012 global climate action get underway this year. Presenting a policy paper on future EU climate strategy, the commissioner said his key goal was to "broaden international participation" in fighting climate change. As a result the paper includes no suggestion for the level of emission cuts the EU might want Kyoto's second round to achieve and rules out no options for combating climate change.

The Commission said it will sound out Kyoto-skeptic parties, first during a visit to Europe by US president George Bush, and then at a global climate seminar in June. It will then propose a more concrete EU negotiating stance for December's COP 11 meeting of governments.

The Commission document underlines that the transition to a climate-friendly society offers economic opportunities for the EU, reinforcing its Lisbon agenda. Proposals are made on how to develop increased energy efficiency and security of energy supply, including an increase in EU spending on research, and the development of new climate-friendly technologies for which demand is growing. This Commission communication has been requested by EU heads of state and government, who will be discussing medium and longer term reduction strategies including targets at the Spring Council.

The Commission's report recommends that the EU's post-2012 strategy include the following elements:

- Broader international participation in reducing emissions. The EU should continue to lead multilateral efforts to address climate change, but identify incentives for other major emitting countries, including developing countries, to come on board. During 2005, it should explore options for a future regime based on common but differentiated responsibilities.
- Inclusion of more sectors, notably aviation, maritime transport and forestry since deforestation in some regions significantly contributes to rising greenhouse gas concentrations in the atmosphere.
- A push for innovation in the EU to ensure the development and uptake of new climate-friendly technologies and the right decisions on long-term investments into the energy, transport and building infrastructure.
- The continued use of flexible market-based instruments for reducing emissions in the EU and globally, such as the EU emissions trading scheme.

- Adaptation policies in the EU and globally, which require more efforts to identify vulnerabilities and to implement measures to increase resilience.

In preparation, the document recommends accelerated implementation of existing policies that reduce emissions and which foster new technologies, raising public awareness, more focused research, increased cooperation with third countries and the launch of a new phase in the European Climate Change Program to review progress and identify further options for cost-effective emission reductions.

viii. Italian Minister Questions Kyoto if U.S., Others, Do Not Commit

Italy will pull out of the Kyoto Protocol after 2012 if the United States and other large countries not now participating in the climate change agreement do not sign on, Italian Environment Minister Altero Matteoli said Dec. 27 during a televised address. Matteoli was speaking on state-controlled RAI television about progress made during the Tenth Conference of the Parties (COP-10) to the U.N. Framework Convention on Climate Change, which the Kyoto Protocol serves to implement. The COP-10 meeting concluded Dec. 17 in Buenos Aires.

Matteoli said Italy was making progress toward reaching its target to reduce greenhouse gas emissions by 6 percent from 1990 levels by Kyoto's first compliance period, which extends from 2008 to 2012. After that, Matteoli said, Italy was unlikely to continue its support for multilateral action against climate change without worldwide support for the action.

"It would be senseless to go ahead with the Kyoto Protocol [after 2012] if the United States, China, and India do not participate," Matteoli said. The United States has said it will not ratify the protocol. China and India have ratified but are deemed developing countries under the agreement and are therefore not required to reduce emissions.

"If these countries do not wish to talk about binding agreements, then that means we must move forward with other strategies," Matteoli said. Other possible strategies Matteoli mentioned are voluntary measures or direct agreements between countries.

C. The Reality

i. "Huge" Urban CO2 Cuts Potential Demonstrated

German environment minister Jürgen Trittin has welcomed a case study concluding that Munich could cut its building and transport-related carbon dioxide (CO₂) emissions by a quarter by 2010. Mr. Trittin said the result demonstrated that local authorities could make a substantial contribution to reducing national output of greenhouse gases.

The independent Institute for applied ecology modeled the effects of initiatives including ecological renovation of old building stock, expanding the local rail network, installing rooftop solar panels, promoting biomass energy and encouraging bicycle use. It

concluded that Munich could reduce its CO2 emissions by 25% from 1987 levels by the end of the decade.

The projected emission savings are lower than Munich's voluntary objective of halving CO2 output over the same period. However, against a general EU background of large and rising CO2 emissions from both buildings and road transport they look more ambitious.

ii. Kyoto Host Japan Still Far From Greenhouse Targets

Many in Japan feel that having hosted the 1997 meeting that led to the Kyoto treaty means Tokyo has a greater duty to meet emissions targets set out in the pact for developed nations. "Given that the Kyoto Protocol is the only international treaty with a Japanese name, it would be good to be able to live up to it," said Keizo Fukushima, who works on climate change policy in Japan's Environment Ministry. "We aren't doing too well, though. And given present conditions, it could be pretty tough to meet the goals."

Tokyo originally pledged to cut emissions by 6 percent from 1990 levels. Instead, emissions have risen by 8 percent since then, the environment ministry says. According to the UN Framework on Climate Change, though, levels have risen by 12.1 percent, which Japan says is due to different calculations.

For Japan, a number of factors are behind the rise, including low consumer awareness and an economy finally overcoming years of recession. A tug-of-war between environmentalists and a powerful business lobby hasn't helped, either.

Business leaders worry that too much emphasis on cutting carbon dioxide (CO2) emissions could damage international competitiveness, especially against the United States, which opted out of Kyoto in 2001, and China, which as a developing nation has no obligation to cut emissions for the present. "Compared to conditions in America, China and in Europe, Japan's pledge to cut by 6 percent is quite stiff," said Meguri Aoyama, chief economist at the environment bureau of the Japan Business Foundation (Keidanren), Japan's largest business lobby.

Nowhere is the split more evident than in debate over whether to impose an environment tax of 2,400 yen (\$23) for each ton of carbon emitted from fossil fuels such as crude oil or coal, an Environment Ministry proposal that has so far gone nowhere. The tax would be imposed on companies, but the hope is that it could encourage ordinary households, whose emissions have risen a worrying 28.8 percent from 1990 levels, to cut back on electricity usage through higher energy costs.

Business leaders are ferociously opposed, arguing the tax would dampen economic growth and weigh heavily on Japan's already highly taxed population.

The industrial sector is actually faring best, up by only 1.7 percent over 1990 levels, which Aoyama attributes to an early push to conserve but Fukushima says was due to the lengthy economic downturns. Worst is the commercial sector, up 36.7 percent, largely on a boom in nearly ubiquitous 24-hour convenience stores.

a) Energy-Saving Targets For Transportation Operations Being Considered

Japan's trade ministry is considering a plan to set energy conservation targets for the transportation operations of 2,000 top Japanese manufacturers as a move to trim carbon dioxide emissions, officials said Feb. 1. The Ministry of Economy, Trade, and Industry (METI) is preparing to propose legislation in the current Diet (parliament), which runs through mid-June, which would amend the 1979 Law on the Rationalization of Energy Use. The draft changes would be implemented in June 2006. The 2,000 figure implies that the targets would apply to most mid- and large-sized Japanese companies.

The ministry has said the measure would be part of the government's overall plan to reduce greenhouse gas emissions. The government is due to issue a comprehensive climate change plan in March that would cover fiscal years 2005 to 2009. Japan's fiscal year runs from April 1 to March 31.

Japan last amended the Energy Rationalization Law in December 2002 to require manufacturers to submit more detailed energy consumption and emissions information to the government.

The proposal would require manufacturers to report aggregate carbon dioxide emissions from transportation. They would then also be required to submit to the ministry energy conservation plans that might, for example, outline steps such as switching freight from air and truck routes to rail and sea, the METI officials said. While the officials offered few specifics about the proposal, they said the ministry wants manufacturers to set targets for reducing energy consumption by at least 1 percent from current levels.

The amendment also would empower the ministry to issue corrective recommendations or to impose penalties on companies that fail to comply, the officials said.

The current law sets energy conservation goals for utilities and large energy users, such as steel mills and cement and aluminum makers, but not for transport, which accounts for about one-quarter of Japan's aggregate energy consumption. Energy consumption for Japanese transportation increased 20 percent from 1990 levels by fiscal 2002, according to government statistics.

b) Tokyo Businesses May Be Required To Report on Climate Measures

The Tokyo municipal government is drafting legislation to toughen city ordinances on greenhouse gas emissions by requiring not only large energy users but also utilities and other businesses to submit carbon dioxide emissions reduction plans to the city government, said an official of the city's Environment Bureau Feb. 1. Under the proposed plan, the city would also tell electronics manufacturers to include energy conservation information on product labels, the official said. The city is preparing to submit legislation to the municipal assembly, which will convene later in February, the official said.

To date, the city has been requiring 800 large energy-consuming companies, such as major office buildings and manufacturers, to report their carbon dioxide emissions. The proposed measure would require electric and gas utilities to inform consumers about energy consumption patterns as a means to enhance consumer awareness about energy conservation, the official said.

iii. New Emissions From U.S., India, China To Exceed Kyoto Reductions

Three key nations that are not under Kyoto Protocol restrictions -- the United States, India and China -- will build 850 new coal-fired plants by 2012 that will emit an extra 2.7 billion tons of carbon dioxide -- an amount five times greater than total emissions cuts proposed by Kyoto, according to an analysis by the Christian Science Monitor. Under Kyoto, industrial nations are expected to cut their CO2 emissions by a combined total of 483 million tons by 2012.

China is currently on track to build 562 coal-fired power plants in the next eight years -- nearly half of the entire world's total over that time period. India is expected to add 213 coal-fired plants and the United States could build 72 new plants. The plants will burn an additional 900 million tons of coal each year.

The Kyoto parties have long recognized the treaty, which requires greenhouse gas (GHG) emissions reductions of 5.2 percent below 1990 levels by 2012, will not succeed in curbing global GHGs without participation by the United States, the world's biggest emitter, as well as major developing nations whose emissions are rapidly increasing.

Following Russia's recent ratification of the treaty, Kyoto is scheduled to enter into force in February. However, due to the structure of the treaty, countries must begin next year to negotiate the second round of emissions reductions slated for after 2012.

iv. Many Nations Far From Meeting Kyoto Goals

The UN's Kyoto protocol on curbing global warming entered into force on Feb. 16 with many nations far from meeting targets for 2012 set under the plan. Under Kyoto, developed countries are meant to cut emissions of carbon dioxide, largely from burning fossil fuels in power plants, factories and cars, by an average 5.2 percent below 1990 levels by 2008-12.

Following is a list of countries that originally agreed to Kyoto targets, starting with those furthest above the 1990 baseline.

Emissions of greenhouse gases:

	Pct Change 2002 vs. 1990	Total 2002 Emissions mln tons	Tons per Capita 2000	Pct of World Total 2000
Spain	+40.5	399.7	7.0	1.2
Portugal	+40.5	82.0	5.9	0.2
Monaco	+31.7	0.1	N/A	0.0

Ireland	+28.9	68.9	11.1	0.2
Greece	+26.0	135.0	8.5	0.4
Australia	+22.2	526.0	18.0	1.4
New Zealand	+21.6	75.0	8.3	0.1
Canada	+20.1	731.2	14.2	1.8
United States	+13.1	6,934.6	19.8	23.1
Japan	+12.1	1,330.8	9.3	4.9
Austria	+8.8	84.6	7.6	0.3
Italy	+8.8	553.8	7.4	1.8
Finland	+6.8	82.0	10.3	0.2
Norway	+6.1	55.3	11.1	0.2
Belgium	+2.9	150.3	10.0	0.4
Netherlands	+1.1	213.8	8.7	0.6
Liechtenstein	+0.1	N/A	N/A	0.0
Denmark	-0.4	68.5	8.4	0.2
Slovenia	-1.1	20.4	7.3	0.1
Switzerland	-1.7	52.3	5.4	0.2
France	-1.9	553.4	6.2	1.5
EU	-2.5	4,123.6	N/A	N/A
Sweden	-3.5	69.6	5.3	0.2
Iceland	-4.2	3.2	7.7	0.0
Croatia	-11.5	28.0	4.4	0.1
Britain	-14.5	634.9	9.6	2.3
Germany	-18.5	1,014.6	9.6	3.2
Luxembourg	-19.8	10.8	19.4	0.0
Czech Republic	-24.9	142.9	11.6	0.5
Slovakia	-28.4	51.9	6.6	0.1
Hungary	-31.0	78.0	5.4	0.2
Poland	-32.2	382.8	7.8	1.2
Russia	-38.5	1,876.0	9.9	5.9
Belarus	-44.4	70.4	5.9	0.4
Ukraine	-47.4	483.5	6.9	1.4
Romania	-48.0	136.6	3.8	0.4
Estonia	-55.2	19.5	11.7	0.1
Bulgaria	-56.0	62.4	5.2	0.2
Latvia	-62.8	10.8	2.5	0.0
Lithuania	-65.7	17.2	3.4	0.0

(Sources: UN Framework Convention on Climate Change, based in Bonn, for data on 1990-2002 in first two columns; carbon dioxide and other greenhouse gases, excludes emissions/removals from land-use change and forestry. Data for 2000 per capita carbon dioxide emissions and percentages of world total from UN Development Program's 2004 Human Development Report)