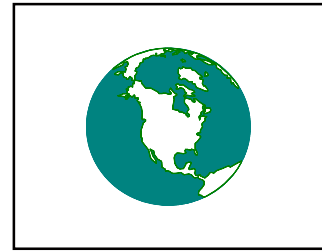


Michael P. Walsh
3105 N. Dinwiddie Street
Arlington, Virginia 22207
USA
Phone: (703) 241 1297 Fax: (703) 241 1418
E-Mail mpwalsh@igc.org
<http://walshcarlines.com>



CAR LINES

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EUROPE

1. ACEA Notes That EU Cars Are Meeting Greenhouse Targets

The average CO₂ emission level of ACEA new car fleet registered within the EU in 2001 has been reduced to 164 g/km, from 169 g/km in 2000 (and 185 g/km in 1995). These figures are included in the 2001 Monitoring Report of the Commitment on CO₂ Emission Reduction of Passenger Cars signed by ACEA and the EU Commission in 1999. The key objective of this Commitment is to achieve a 140 g/km CO₂ level by 2008.

Commenting on the 2001 figures, Jean-Martin Folz, President of ACEA and Chairman of the Managing Board of PSA Peugeot Citroën, said: "These results are encouraging and show that the European automotive industry is continuing to deliver what it has agreed". The key 2001 figures are the following: The average CO₂ emission level of the ACEA new car fleet (petrol + diesel) was of 164 g/km, which represents a reduction of 2.5% with respect to 2000 (169 g/km). The 2001 figure is below the 2003 target range of 165 – 170 g/km; In line with another objective of the ACEA commitment, over 306,000 cars with CO emission levels under 120 g/km were sold in 2001, accounting for more than 2.5% of total sales.

This good performance has been made possible by the continuous introduction of new technologies, the progressive introduction of Diesel cars on the market and by the ongoing progress in fuel efficiency.

The European automotive industry's commitment is the main single contributor to Europe's reduction of CO₂ emissions, and strongly supports the leading role taken by the European Union in the fight against global

warming laid down in the Kyoto protocol of 1998.

2. EU Parliament Approves Draft Measure To Promote Development, Use of Biofuels

Legislative drafts approved by the European Parliament July 2 and 4 will promote use of biofuels in the European Union. Adopting tax incentives and targets for biofuel market share represents "a first step towards an EU-wide policy of supporting development of non-oil-based fuels," said Spanish Deputy Maria del Pilar Ayuso, for the Parliament's Committee on Energy. Ayuso saw the proposals from the executive European Commission as a response to parliamentary demands that, by 2020, alternative fuels should account for 20 percent of fuels in EU road transport, helping to curb greenhouse emissions and reducing Europe's dependence on imported hydrocarbons.

One draft, approved July 2 by a 540-1 vote, empowers state governments to cut the excise duty (fuel tax) on biofuels to 50 percent of the rate set for equivalent gasoline or diesel oil, through 2010 Biofuels are currently handicapped by higher production costs, equivalent to around 30 U.S. cents a liter. That margin is expected to shrink as oil reserves decline and economies of scale begin to boost "agri-fuels," according to the Parliament's Economic and Monetary Affairs Committee.

The Parliament's influential farm lobby supports the measures, hoping EU aid for biomass production will offset losses in rural income due to reductions in EU food subsidies. But skeptics fear Europe will exchange one system of expensive farm subsidies for another, along with a new form of energy dependence.

In the vote, deputies urged that states should reward fuels that meet stringent

environmental criteria with particularly low rates. But the Parliament's amendments are not binding. On EU tax issues, national governments have the last word. The Commission is entitled to propose EU-wide tax bands for each type of fuel, but the proposals have to be accepted by the states, which are then free to set national rates somewhere within the EU bands.

The Council of Ministers, representing the Union's 15 national governments, will now take their own decision on the draft.

A second Commission proposal, approved by the Parliament July 4, suggests nonfiscal measures for promoting biofuels. Energy Commissioner Loyola de Palacio wants to secure a progressively greater market share for biofuels, starting from a minimum of 2 percent by the end of 2005 and rising to at least 5.75 percent in 2010. Calculations would be based on the energy content of equivalent, conventional gasoline and diesel sold for transport purposes.

The commissioner has a narrow majority backing from the Parliament for mandatory national targets, but she warned that national governments want the figures to be "indicative," that is, they want broad, nonbinding targets. "If it helps to achieve a compromise, I'm ready to accept indicative targets," said de Palacio. "But there has to be a clause that allows the Commission to present fresh proposals for binding targets, if governments fail to honor their commitments." This approach is already being taken in EU legislation on targets for generation of electricity from renewable sources, she said.

But Socialists in the Parliament insisted on retaining mandatory targets for the time being. They complained that in preliminary contacts, governments had

been reluctant to offer the Parliament concessions on other issues.

Ministers will now determine a "common position" on the draft, in light of 60 amendments introduced by the Parliament. Final agreement on the text will likely require formal "conciliation" negotiations between the two bodies.

However, Parliament and the Council are likely to unite against Commissioner de Palacio's ideas for setting progressively higher levels of biofuels to be blended with conventional fuels. Deputies say blending issues are best left to the market, while the EU establishes quality standards for biofuels and updates technical regulations on fuel.

The Ayuso report complained that the EU lags far behind United States and Brazil, world leaders in use of biofuels in transport. Even in neighboring non-EU countries, such as Switzerland and Norway, vehicles are able to operate on normal fuels or biofuel blends of up to 10 percent without technical adjustment or added cost.

The Parliament also seeks a commitment to more detailed environmental impact assessments to ensure that "green" fuels offer overall environmental benefits.

3. EU Parliament Backs Plan for Aligning National Traffic-Reduction Programs

The European Parliament on July 2 backed proposals for aligning national traffic-reduction schemes that seek to cut emissions and noise by banning truck travel on weekends and public holidays. Of the 15 European Union member states, seven routinely close major highways to trucks on weekends and holidays. But national restrictions vary in timings, dates, types of highway, and vehicle weights. The rules are

particularly strict in the EU's central regions, where heavily used routes run through environmentally sensitive Alpine valleys. Local regulations can leave truckers stranded at frontiers for the weekend or force them to make international detours.

Parliament approved proposals from the European Commission, subject to a series of amendments. Parliamentarians want the Commission to set up an EU-wide road information system to advise haulage operators in real time about local restrictions. Deputies envision that collaboration between national road information centers could evolve into a continental system of traffic monitoring.

For the Parliament's Committee on Transport Policy, French Deputy Gilles Savary explained that the Commission is obliged to act because EU treaties guarantee freedom of movement for goods and individuals within Europe's "single market." But the issue is "politically sensitive" because states demand control of national traffic rules--hence, the withdrawal of an earlier, 1998 draft in the face of strong opposition from state governments.

The revised draft proposes a schedule of possible closure periods based on current practice. During these periods, states will be entitled to prohibit international truck traffic using the Trans-European Network of international routes, arteries being developed with support from the EU budget. Individual nations will remain free to adopt additional restrictions solely for national transport operations on the entirety of their highway systems.

One issue continues to defy all attempts at harmonization: differences in national calendars of public holidays.

4. Signing of Gothenburg Protocol Approved by European Parliament

The European Parliament on a show of hands July 2 approved European Union signature of the Gothenburg Protocol on cross-border air pollution. The protocol adds to the Union's obligations under the 1979 United Nations Convention on Long-Range Transboundary Air Pollution. Adopted in Gothenburg, Sweden, in 1999, the protocol requires additional measures against acidification, eutrophication, and ground-level ozone.

Individual EU member states are parties to the convention, but signature of the protocol by the Union in its own right would be "a useful step toward final approval," according to British MEP Caroline Jackson, who chairs the Parliament's Committee on Environment Policy. In a report to the Parliament's plenary session, she explained that the protocol seeks to "control and reduce emissions of sulfur, nitrogen oxides, ammonia, and volatile organic compounds which cause some of the most important air pollution problems affecting the environment and human health in the [EU] today."

The protocol sets maximum permitted national levels of these four precursor pollutants, to be met by 2010, as well as limits on emissions from specific sources, including combustion plants, electricity generation, and road vehicles.

5. EU 'Non-Road' Machinery Measure Expected to Receive Early Approval

European Union legislation on emissions from "non-road mobile machinery" is expected to receive early approval, following a vote in the European Parliament July 2. Deputies introduced just four amendments to the latest version of proposals from the European Commission. The changes had been discussed in advance with the

Council of Ministers, representing the 15 EU national governments. Ministers are now free to sign the draft into law, without further formality.

Closely modeled on U.S. regulations, the legislation covers a wide range of tools and machines ranging from hand-held chain saws and mowers to outdoor compressors and generators -- equipment blamed for producing a disproportionate share of hydrocarbon and nitrogen oxide emissions that act as precursors of ground-level ozone pollution. The preamble to the directive points to the marketing and environmental benefits of "continuing alignment" with "strict environmental standards" applied to small spark ignition engines in the United States, where it had proved possible to achieve "significant" reductions in emissions from this source.

The draft envisions that progressively stricter emission standards will be introduced in two stages. The first will apply to new type approvals as of 18 months after the new directive is enacted. Deadlines for compliance with the second stage of emission limits range from Aug. 1, 2004, to Aug. 1, 2008, according to engine type.

However, the EU will not follow U.S. "averaging and banking" procedures that allow manufacturers to offset excessive emissions from noncompliant products against the superior performance of cleaner machines in the same product range. Although the Commission proposed adopting the practice, the Parliament rejected the idea in a preliminary vote Oct. 2, 2001, fearing it would give an unfair advantage to large-volume producers. The Council of Ministers also opposed the idea in determining its "common position" on the draft, arguing that an emissions draft was not "an appropriate place" to introduce the concept in EU law.

Instead, a regulatory committee will advise the Commission on whether technical problems justify exemptions from compliance with the directive's "Stage II" limits. In such cases, the Commission is required to produce by Dec. 31, 2003, follow-up legislative proposals for exemptions, which will be limited to five years.

Of the four amendments cleared with national ministers, three clarify the types of machines for which extended compliance timetables may be granted. The fourth authorizes manufacturers of "greener" machines that guarantee Stage II compliance ahead of schedule to promote that superior performance in sales promotion and labeling.

6. EU Environment Ministers Prepare For Earth Summit

European Union environment ministers have started drawing up their negotiating position for an upcoming global summit on environmental protection and poverty reduction. With just a few weeks to go before the World Summit on Sustainable Development in Johannesburg, diplomats have yet to agree on core issues such as what targets to set and who should pay for helping the world's poor while stopping environmental damage.

"It is vital we achieve results in Johannesburg in August, therefore I am gathering my European colleagues," Danish Environment Minister Hans Christian Schmidt said in a statement. Denmark holds the rotating presidency of the 15-country EU and will lead the bloc's delegation at the summit.

Johannesburg marks 10 years since the Rio Earth Summit when world leaders for the first time formally agreed to act to stop global warming and protect nature. But Schmidt said governments had failed to live up to the expectations of Rio. "Since then the world has not seen

the progress so desperately required...Countries in the north and the south must demonstrate political commitment - there must be action behind the words."

The EU believes it holds the moral high ground on global environmental matters after it worked to save the Kyoto Protocol on global warming from collapse when the United States pulled out of it last year. But with Kyoto yet to come into force pending ratification by Russia, climate change will take a back seat at the summit. The meeting will instead focus on how to meet the United Nations Millennium Declaration aims for reducing poverty.

"Poverty must be combated and this must take place with due consideration for the environment. There must be a balance," Schmidt said. "I hope we will agree to insist upon this balance."

According to the EU's executive Commission, the bloc has five priorities for Johannesburg: drafting a 10-year plan for sustainable production and consumption, reversing the decline in biological diversity, action to deal with hazardous chemicals, delivering clean water and sanitation to the world's poor and increasing the use of renewable energy.

EU Environment Commissioner Margot Wallstrom said the EU would be pushing for Johannesburg to produce an action plan with measurable targets and deadlines. "We must continue to push for clear targets and timeframes to which politicians can be held accountable," Wallstrom said in a statement.

7. UK Faces Battle To Meet 2010 CO2 Emissions Cut

Britain will struggle to meet its target of a big cut in carbon dioxide emissions by 2010 as generators burn more coal to fill

the gap left by the closure of nuclear power plants, according to a new report from Cambridge Econometrics. The report predicts a rise in carbon dioxide (CO2) emissions from 2005 as a result of energy demand growth and an increase in coal-fired generation as many of Britain's ageing nuclear power stations shut.

"Our forecasts of energy demand and carbon emissions are an important reality check," said Paul Ekins, co-editor of the study "UK Energy and the Environment" in a statement. "They show the magnitude of the task facing the government as it seeks to make significant headway towards its domestic policy goal of cutting carbon dioxide emissions by 20 percent by 2010."

All but one of Britain's nuclear power stations are due to shut by 2025. The newest plant, Sizewell B, built in 1995, will operate until 2035.

Britain's CO2 reduction target is voluntary but much deeper than its legally binding commitment under the Kyoto climate change protocol to cut emissions of greenhouse gases, widely blamed for causing global warming.

Cambridge Econometrics said the UK is on course to meet its Kyoto goal of a 12.5 percent cut in greenhouse gas emissions on 1990 levels by 2008-2012. Britain's CO2 emissions fell sharply in the 1990s as power producers switched to cleaner natural gas from coal but they have risen over the last two years as high gas prices prompted a switch back to coal generation.

Coal is expected to be much cheaper than gas after 2010 when gas prices are forecast to rise as Britain becomes more dependent on imported gas.

While emissions rose again in 2001,

Cambridge Econometrics revised down the level of pollution in 2000 by 2.7 million tons of carbon (mtc) to 146 mtc. As a result, it forecast emissions in 2010 at 147.7 mtc, 7.2 percent below the 1990 level, compared to 149.5 mtc Cambridge Econometrics estimated in January 2002.

The challenge for the government in its white paper on energy, due to be published in the autumn, will be to combine measures to encourage a low-carbon economy with tax measures which boost energy conservation, said the report.

"The government is clearly finding environmental taxes in general...politically challenging," said Ekins. The government has faced opposition from companies to its recently introduced climate change levy on energy used by businesses. It also faces a struggle to reach its target of providing 10 percent of Britain's electricity from green sources by 2010, up from around three percent at present.

8. Emissions Trading Among Top Priorities Of Danish EU Presidency, Environment Ministry Downgraded

Denmark assumed the EU presidency on July 1 and stated that one of its top goals is helping the EU make the upcoming U.N. summit on sustainable development a success. Further, reaching agreement in the Council of Environment Ministers on an emissions trading scheme is considered crucial in order for the European Union to reach its Kyoto Protocol greenhouse gas reduction target of an 8 percent reduction in emissions by 2012 from 1990 levels.

Currently, EU member states, led by Germany, are locked in a dispute over whether certain industry sectors that already have voluntary agreements on carbon dioxide emission reductions

should be exempt from the mandatory emission levels put forward in the Commission proposal. There is also disagreement about whether companies should have to pay for their initial distribution of emission trading rights or if they should be free.

The center-right government headed by Liberal Party leader Anders Fogh Rasmussen, which took office Nov. 27, has also reorganized and reduced the mandate of the Ministry of Environment, cut environmental jobs, and decreased funding for foreign-aid environmental projects to Central and Eastern Europe. As many as 20 percent of the vacancies and jobs in the Danish Environmental Protection Agency were eliminated or have not been filled. Funding for new environmental projects in Central and Eastern Europe was slashed by about 50 percent.

9. New Finnish Environment Minister Lists Green Taxes, Climate Change Top Priorities

Jouni Ensio Backman, Finland's new environment minister, wants to revise Finnish and perhaps European Union tax policies to allocate more money to environmental programs. Backman, a parliamentarian since 1987 and administrative affairs minister from 1995-1999, assumed Finland's top environmental post May 31 after former Environment Minister Satu Hassi announced her resignation May 27.

Hassi's Green Party withdrew from the government after parliament voted May 24 to permit construction of a fifth nuclear reactor, a position supported by Prime Minister Paavo Lipponen and the majority of his Cabinet.

Backman said he will make virtually no changes in ministry personnel to implement his agenda. His biggest responsibility regarding international affairs is to prepare and participate in

the United Nations World Summit on Sustainable Development, scheduled to begin Aug. 26 in Johannesburg.

His second priority is climate change, including ensuring Finland does not exceed its 1990 greenhouse gas emissions by 2012, its commitment under an EU agreement to reduce greenhouse gases in accordance with the United Nations Framework Convention on Climate Change's Kyoto Protocol.

Backman also wants income tax rates, already high in Finland and the Nordic region, to decline but environmental taxes to increase or be introduced for the first time, including environmental taxes levied on consumer goods. State revenues could thus remain stable, but environmental tax receipts would be segregated from general revenues and could be dedicated to environmental improvements.

10. Russia Moving Forward On Lead Free Gasoline

Up to now, law at the federal level has not mandated a ban on production of leaded petrol in Russia although this is under discussion. However, according to official data of the Ministry of Energy of Russia the production of leaded petrol was stopped at all refineries in 2001. The lead additive is not produced in Russia either (but some producers are beginning to use a manganese additive instead - MMT). Unfortunately the lack of strict legislative norms and strict control of fuel quality at fuel stations doesn't allow one to exclude the possibility of sale of some batches of leaded petrol in the Russian market.

11. The United Kingdom Adopts Powering Future Vehicles Strategy

The UK Department for Transport, HM Treasury, Department of the Environment and Rural Affairs and Department of Trade and Industry,

jointly launched the Powering Future Vehicles strategy on Wednesday 31st July. The strategy is aimed at promoting the UK's shift to low-carbon vehicle technologies and fuels, to reduce transport's impact on the global and local environment and improve transport standards.

The strategy is not a technical blueprint – rather, it establishes a framework for the decision-making and action needed to facilitate the development, introduction and consumer take-up of low-carbon vehicle and fuels.

It also sets out ambitious Government targets to ensure that by 2012, ten per cent of new cars sold in the UK will be low carbon vehicles, defined as 100 or less grams of CO₂ per km at the tailpipe (compared with the current new car average of 178gm). Its also sets the target that by 2012, 600 new buses joining the fleet yearly (around 20%) will also be low-carbon, defined as 30% less than current average.

These targets make the UK the first country to set itself a target for shifting its *mainstream motoring* to low-carbon - as distinct from targets for niche vehicles or technologies. The Government is supporting the shift to low-carbon by linking our *mainstream vehicle taxation* - i.e. the graduated Vehicle Excise Duty introduced in 2001, and graduated company car taxation, introduced in 2002 – to carbon dioxide emissions.

Delivering these objectives involves more than one part of Government, and the Prime Minister has set up a 'Ministerial Low Carbon Group' to oversee the delivery of the low-carbon agenda, consisting of:

- Department for Transport – David Jamieson MP, Parliamentary Under Secretary of State for Transport

- Department of the Environment and Rural Affairs – Michael Meacher MP, Minister of State for the Environment
- HM Treasury – John Healey MP, Economic Secretary
- Department of Trade and Industry – Brian Wilson MP, Minister of State for Energy and Construction
- Cabinet Office – Lord Macdonald, Minister for the Cabinet Office

together with Scottish, Welsh and Northern Ireland Ministers. The Ministerial Group will report annually to Parliament.

The shift to low-carbon transport cannot be achieved by Government action alone, but need the commitment and involvement of vehicle and fuel industries, consumer, environmental and other stakeholders. The Government is therefore supporting the establishment of a 'Low Carbon Vehicle Partnership' by the end of the year.

Transport is a substantial and growing source of emissions of greenhouse gases. The shift towards low-carbon transport will support the delivery of the UK's target under the Kyoto Protocol to reduce its greenhouse gas emissions to 12.5% below 1990 levels by 2008-12 and contribute towards achieving its domestic goal of a 20% reduction in carbon dioxide emissions below 1990 levels by 2010.

The strategy looks further forward to the long-term shift to ultra-low carbon vehicles and ultimately to zero emission transport. The Government will put in place further targets beyond the decade, accelerating the shift towards technologies such as hydrogen fuel cells

In his foreword to the Powering Future Vehicles strategy, the Prime Minister concludes – *'Britain needs a modern transport system. But we also need to embrace fully our environmental*

responsibilities. It is the job of all of us to get that balance right.'

12. EU Again Proposes Harmonizing Member States' Fuel Tax Rates

In order to remove competitive distortions in the EU single market and reduce the environmental impact of excess truck exhaust pollution, the European Commission has again proposed measures to harmonize taxation rates on diesel fuel for commercial use. The Commission also proposed to set minimum taxation rates on diesel fuel for passenger cars to close a gap with the cost of unleaded gasoline, which is generally more expensive.

Commercial users are described as trucks weighing more than 16 tons that haul goods internationally and buses that carry more than nine people.

As with all EU taxation measures, approval of the proposal will take unanimous consent in the Council of Ministers. For more than five years, the Commission has been trying to get a harmonized rate of excise tax on diesel fuel and unleaded gas approved via its energy harmonization tax, which has been stalled in the Council of Ministers.

The controversial measures, which are likely to meet stiff opposition by some EU member states, would mean that some countries--such as the United Kingdom and Germany--would have to lower taxation rates on diesel fuel while other member states--such as Luxembourg and Spain--would have to raise taxation rates on diesel fuel. The taxation rates in EU member states vary from [euro] 245 (\$244) per 1,000 liters in Greece to [euro] 750 (\$746) per 1,000 liters in the United Kingdom. The EU average is [euro] 350 (\$348) per 1,000 liters.

In an effort to win over reluctant member

states, the Commission proposal calls for a transition period that would give them until 2010 to reach a rate of [euro] 410 (\$408) per 1,000 liters on diesel fuel. Meanwhile, starting in 2003 a central rate of [euro] 350 (\$348) per 1,000 liters would be established, and the price in the member states could fluctuate within a band of [euro] 100 (\$99). The margin would be reduced every year until 2010 by raising the lower limit by [euro] 28 (\$28) a year and dropping the upper limit annually by [euro] 15 (\$15) per 1,000 liters.

The proposal to raise the tax on diesel used for noncommercial purposes is designed to put it in line with the cost of unleaded gasoline. The proposal calls for a minimum rate on unleaded fuel at [euro] 360 (\$358) per 1,000 liters as of 2003, up from [euro] 287 (\$285) as it is now. The minimum rate on diesel fuel would rise to [euro] 302 (\$300) per 1,000 liters. By 2006, the diesel rate would be raised to [euro] 360 (\$358).

13. Ships Found To Be Significant Contributor To Pollution

Ships traveling in European Union waters contribute between 20 percent and 30 percent of all airborne sulfur dioxide and nitrogen oxides and significant amounts of PM-10, the European Commission said in a report published Aug. 6. The study was conducted by the European Commission as it plans to boost coastal shipping in the EU as a way to help reduce the growing road transport sector and meet the EU's commitment under the Kyoto Protocol to reduce greenhouse gas emissions 8 percent between 2008-2012, based on 1990 levels.

The study was conducted to address the following key tasks:

- • To quantify ship emissions of SO₂, NO_x, CO₂ and hydrocarbons in the North Sea, Irish Sea, English

Channel, Baltic Sea, Black Sea and Mediterranean, as well as quantifying in-port emissions of these pollutants plus particulate matter;

- • To determine these emissions for all vessels as well as separately for each vessel type and flag state (Registered in the European Community or outside) if possible. This should separately consider: (a) all vessel movements; (b) where the starting port and destination port are both in the Community; (c) where the starting port is inside the Community but the destination port is not; (d) where the destination port is in the Community but the starting port is not; and (e) where no stops at any Community port are undertaken;
- • Estimation of the effects of the MARPOL Agreement and additional future scenarios upon emissions, principally sulphur dioxide and particles, in the North Sea and Baltic Sea and other European seas;
- • To undertake a market survey of low sulphur marine distillates; and
- • To investigate the feasibility of ships storing and using multiple grades of marine distillates.

It is clear that the majority of emissions arise from certain key groups of movements including, in order of decreasing priority:

- • EU-15 member states to EU-15 member states;
- • EU-15 member states to Non-member, Non Accession Candidate Country states and
- • Non-member, Non Accession Candidate Country states to EU-15 member states.

"The contribution from ship emissions to the calculated concentrations of [sulfate], nitrate, and ammonium can amount to 20 to 30 percent in most western European coastal areas," the report said. Precise figures on the

contribution of shipping to particulate matter are more difficult to estimate but "The results indicate that international ship traffic emissions may be an important source to concentrations of PM-10 in Europe, especially in coastal areas and areas dominated by long-range transport," the report said. "Ship traffic emissions appear to contribute with 5 to 10 percent of the calculated PM-10 concentration in large parts of Great Britain, Portugal, and Italy, but with 10 to 20 percent in Denmark, Iceland, Norway, and Sweden and more than 20 percent in remote areas in these countries," the report said.

14. Vehicles Entering Poland to Be Stopped For Emissions Tests

Polish Environment Minister Stanislaw Zelichowski has announced that exhaust emissions of cars and trucks transiting Poland will be checked at the border to stop growing environmental pollution. Zelichowski said equipment measuring emission exhaust would be installed at the Polish border. Cars that do not meet Polish emission standards will not be let into the country.

He also said that the 2.7 million foreign trucks transiting Poland are the chief environmental polluters because the majority of them are not well maintained.

The Environment Ministry will coordinate with the Ministry of Infrastructure on preparing a plan of action. The measure then will pass to the Cabinet, which will have to approve the regulatory plan if it is to go into effect.

Zelichowski said that, beginning this fall, trucks not meeting Polish emission standards will not be allowed to travel through Poland on their own power. "Trucks that did not meet the emission standards will be loaded on to train platforms," he said.

15. Britain Unveils New Targets For Reducing Air Pollutants

The United Kingdom set new targets for cutting air pollution Aug. 5. Under the government's new measures, air pollution from particulate matter would be reduced by 50 percent by 2004, to an average of 20 micrograms per cubic meter over the year. Regarding daily pollution levels, the number of times 50 micrograms per cubic meter of particulate matter could be exceeded would be reduced from 35 times a year to seven.

Target levels of the carcinogen benzene, produced by automobile engines, will also be cut. Carbon monoxide targets will be tighter too, and targets will be set for the first time for polycyclic hydrocarbons, produced by home coal and wood burning fires, aluminum manufacturers, and cars.

Local authorities that fail to meet the new targets will be forced to introduce special measures to do so. More than 100 local authorities in England have declared air quality management areas and the new targets will probably mean the establishment of many more. Where local councils refuse to act, the Environment Agency itself has the power to intervene.

Environment Minister Michael Meacher said local councils were likely to introduce congestion charges for private cars, or institute road closings, or allow only low pollution vehicles such as electric, gas, or hydrogen cars on high-pollution days. But Meacher stressed that the government was not endorsing congestion charges or any other steps. He said congestion charging--a measure recently proposed by London Mayor Ken Livingstone--was just one method that local authorities could adopt to meet the new targets. He further noted that at least 12 local councils

were watching to see whether Livingstone's congestion charges could cut pollution in London. On July 31, Livingstone prevailed over opponents in his plans to begin charging £5 a day (\$7.50) per car for motorists to enter central London in 2003 (see below).

Meacher said that air pollution targets in London would be higher than the rest of the country because the volume of traffic is so heavy in London. An estimated 80 percent of pollution in London comes from traffic, but in the country as a whole about 50 percent comes from other sources including industry. He noted that air pollution causes between 12,000 and 25,000 premature deaths per year, the chief culprit being particulate matter, which affects those with heart, lung, and respiratory problems.

16. London Mayor Wins Congestion Pricing Court Battle

London mayor Ken Livingstone has fought off a court challenge to his plans to charge motorists for entering the heart of the capital when the High Court in London rejected an application by Westminster City Council and residents from Kensington, south London, for a judicial review of the scheme.

Westminster council's lawyer Roger Henderson had argued the plans would create "rat runs" of extra traffic in residential areas, increase traffic jams, cause parking problems and generate more pollution. He added that the mayor was wrong to press ahead with the scheme without an Environmental Impact Assessment and a public inquiry, and had asked the judge to order both to be carried out before the scheme could go ahead.

Under the mayor's plans, motorists will be charged five pounds (\$7.85) to enter the eight square mile zone of central London from next February. Livingstone

hopes the 200 million pound scheme will reduce inner-city congestion by up to 15 percent and raise 2.2 billion pounds in 10 years to spend on bus and train improvements.

About one million people work in central London and an estimated one in seven commutes by car. At peak traffic times it is estimated that 50,000 vehicles an hour stream into the city center.

17. Germany To Upgrade Clean Air Regulations By October

Germany will introduce new clean air regulations that take effect Oct. 1, toughening most emissions standards for industrial and manufacturing plants, the Environment Ministry has announced. At that time, the revised Technical Instruction Air standards will go into effect, a lengthy compendium of emission standards for about 170 gases and other pollutants. These technical standards will be binding for all newly erected industrial plants; existing plants generally must be modernized to meet the new standards by Oct. 31, 2007, although local authorities may give some plants longer or shorter transition periods depending on the dangers they pose.

The new TA Luft replaces its predecessor, in effect since 1986, which had become outdated and also encompasses new standards set by the European Union in its Clean Air Directive and other directives for a number of dangerous pollutants.

18. Suzuki, Fuji, GM Reportedly To Join On Recycling Cars

Japan's Fuji Heavy Industries Ltd and Suzuki Motor Corp. will join with their dominant shareholder, General Motors, on recycling automobiles, The Nihon Keizai Shimbun (Nikkei) reported. The paper said the companies would cooperate on recycling automobiles in Europe, where the auto industry soon

will have to collect discarded cars.

As of this month, auto makers have to collect discarded cars for no fee in Europe. Fuji and Suzuki aim to use GM's facility there to cut costs, the Japanese daily reported.

According to Nikkei, the three auto makers will cooperate on the same recycling system in Japan in the future.

19. Italy To Suspend Car Tax For 3 Yrs On Some Autos

In a new tax decree the Italian government said it would suspend a car tax on new eco-friendly compact vehicles for three years. The Italian government had been expected to introduce measures to help struggling carmaker Fiat out of a slump in sales and deepening losses. A deep drop in Fiat's car sales is gnawing away at its market share around Europe as well as its bottom line, dragging the industrial group to a 529 million euro (\$487.1 million) net loss in the first quarter of the year. The tax break is likely to receive careful scrutiny by the European Union.

20. Mitsubishi & Perkins Reportedly In Deal To Boost Engine Output

Japan's Mitsubishi Heavy Industries Ltd. plans to boost its eco-friendly engine output in response to stricter emission regulations and to supply Perkins Engines Co., the British engine maker unit of Caterpillar Inc., a Japanese newspaper reported. Mitsubishi will start supplying the UK company from 2003, on an original equipment manufacturer (OEM) basis, with 30,000 3.3-liter diesel engines per year for small construction machinery that comply with an 18 percent cut in nitrogen oxide emissions, the Nihon Keizai Shimbun said.

Armed with the OEM deal, Mitsubishi - Japan's largest heavy machinery maker - plans to boost output by five times to 50,000 engines per year by fiscal

2004/05, the newspaper said. The firm is reportedly spending about 1.7 billion yen (\$14.1 million) to increase the capacity of its Sagami-hara plant in Kanagawa, west of Tokyo.

Perkins hopes the OEM arrangement will reduce its heavy initial investment costs, the newspaper said.

Rivals like Komatsu Ltd., Japan's largest maker of construction equipment, also hope to eclipse rivals in selling eco-friendly engines to other construction machinery makers, the Nihon Keizai said. Isuzu Motors Ltd. has also begun working with Hitachi Construction Machinery Co. on development of the eco-engines, which it expects to cost the automaker 7 percent more than engines that meet current regulations, the report said.

21. European Trade In Ultra-Clean Diesel Taking Off

European oil products traders are starting to actively buy and sell ultra-clean, sulphur-free diesel, which will soon become the norm in Germany. The new eco-friendly diesel, containing a maximum of 10 parts per million (ppm) sulphur but commonly known as sulphur-free, is much cleaner than the 50 ppm fuels currently used in northern Europe.

France, Italy, Spain and the rest of southern Europe are still using 350 ppm diesel and will only switch to 50ppm in 2005 in accordance with European Union regulations.

Traders say many cargoes of the 10ppm fuel have already been sold. "People are already preparing for the switch and at least 300,000 tons of 10 ppm diesel have been put in storage in Scandinavia," one Scandinavian trader said according to reports. "There is an increasing demand for the product."

Cargo price for 10 ppm now are around \$235 a ton, about \$10 higher than the 50 ppm diesel. Most deals are still kept confidential as players are unwilling to reveal their exact position on the new grade, most traders said.

Germany, Europe's largest consumer of motor fuels, will move to 10 ppm diesel and gasoline on January 1 2003, with the help of a 1.5 euro cents-a-liter tax break. It moved to 50 ppm fuels this January and will simply roll the subsidy over to 10 ppm. The country is well ahead of schedule to meet European Union regulations on environment-friendly oil products that require all member states to be on 50 ppm motor fuels by 2005 and 10 ppm gasoline and diesel by later in the decade. (The final date is still under discussion between the Council and the Parliament but is expected to be 2009.)

Some activity is also already evident on the derivatives market, where the 10 ppm barges and cargoes are quoted at a premium to 50 ppm diesel.

Traders say there will be enough fuel to meet market needs even if Finland and Benelux states also decide to move to 10 ppm diesel and gasoline next year. Most refiners have made the necessary investments to produce the clean fuel.

22. Austria Wants New Alpine Trucking Permits Blocked

Austria, fearing a rise in truck traffic through its crowded Alpine passes, will ask the European Court to block a European Commission decision this week to hand out more permits for transit trucking this year. Austrian politicians reacted angrily to a decision by the Commission to override Vienna's objections and release a batch of so-called eco-point permits, which could boost trucking through the Austrian Alps by 10 percent this year.

"This is a decision against the Austrian population," Transport Minister Mathias Reichhold told reporters.

It is the latest clash in Austria's battle since joining the European Union in 1995 to keep a lid on the flow of heavy trucking through its Alps, which lie on the shortest route between big northern markets including Germany and southern markets such as Italy. Reichhold said the government would ask the European Court for an immediate order to bar the Commission, which distributes the permits each year to member states for their trucking companies, from releasing the permits while Austria appeals the decision.

Heavy trucks crossing Austria require a varying number of eco-points for each trip based on "green" factors such as fuel efficiency, and the total available is limited to keep the number of trips under 1.61 million a year. The latest dispute revolves around one million eco-points that Austria argued should be withheld to punish trans-European shippers for exceeding the maximum number of trips last year. But the Commission, following a recommendation by all member states except Austria, said the Austrian transit tally for 2001 was inaccurate and the true number did not exceed the ceiling of 1.61 million.

The Commission has already handed out about 10.25 million points this year. The remaining one million would be enough to allow an additional 150,000 to 170,000 transit trips, about 10 percent of the annual maximum limit, Austrian officials said.

NORTH AMERICA

23. California Lawmakers Vote to Lower Auto Greenhouse Gas Emissions; Governor Davis Signs It

After a long and bitter debate,

lawmakers in California passed the nation's strongest legislation to regulate emissions of the main pollutants that can cause warming of the planet's climate, a step that would require automakers to sell cars that give off the least possible amount of heat-trapping gases. By the narrowest of margins, the State Assembly passed the California Climate Bill, which for the first time gives the agency that regulates air pollution in the state the power to limit emissions of carbon dioxide and other greenhouse gases.

The vote was 41 to 30, with 9 members not voting and with a majority of 41 needed to pass the bill. Democrats control the Assembly 50 to 30, and the vote was mostly along party lines, with Republicans in opposition. The California Senate passed the measure, 23 to 16.

Environmental advocates called the bill the most significant step ever taken to control heat-trapping gases in the United States, which is the world's leading source of such pollutants but which, under President Bush, has refused to join a global pact to restrict their emissions.

The measure would not take effect until 2005, and the first models that would come under its restrictions would be sold in 2009. Even so, environmental groups said this was the most important step to cut emissions of heat-trapping gases since global climate change first came to public attention some 20 years ago.

Automakers sought to thwart the bill with a vigorous campaign of television commercials and other publicity suggesting that the measure would result in a ban on sport utility vehicles and large cars.

Cars and light trucks are responsible for

40 percent of California's carbon dioxide (CO₂) emissions, which form a heat-trapping blanket in the atmosphere. Just last month, researchers at UC-Santa Cruz published a detailed analysis outlining the severe threat of global warming to the state's water supply and coastal areas.

AB 1493 explicitly states that the agency cannot impose taxes or restrict speed limits, vehicle size, or other consumer driving choices. It also gives automakers flexibility in meeting emissions targets.

After carefully considering the bill and the amendments, California Gov. Gray Davis signed it into law, making his state the first in the nation to regulate vehicle greenhouse gas emissions in an effort to curb global warming.

"This is the first law in America to substantively address the greatest environmental challenge of the 21st century," Davis said. "In time, every state - and hopefully every country - will act to protect future generations from the threat of global warming. For California, that time is now."

But the auto industry, which strongly opposed the California law, vowed to dismantle it in federal court by invoking federal laws that reserve for Congress the power to set fuel economy standards. "Federal law and common sense prohibit each state from developing its own fuel economy standards," Josephine Cooper, president of the Alliance of Automobile Manufacturers, said in a statement. "We expect to challenge successfully the implementation of this law in federal court."

The California law takes advantage of a unique provision of the Clean Air Act that allows it to set its own vehicle emissions standards independent of the federal government.

Davis said the auto industry was wrong to fight the measure, which he called a "historic step."

"Clearly there will be resistance to this bill and opponents will say the sky is falling," Davis said this week. "They said the sky was falling about unleaded gasoline. They said it about the catalytic converter. They even said it about seat belts and airbags. My friends, the sky is not falling. It is just getting a lot clearer."

Under the new law, the California Air Resources Board must adopt rules to achieve "the maximum feasible reduction" in greenhouse gas emissions by cars as well as light-duty trucks and sport utility vehicles, which together now account for 47 percent of passenger vehicles sold in California.

Several speakers at the signing ceremony, including Davis, criticized the Bush Administration for declining to raise auto fuel economy standards and rejecting the Kyoto treaty designed to cut greenhouse gas emissions worldwide.

"The Gray Davis administration is leading the way for the country because Washington, D.C. has failed to lead," said Winston Hickox, secretary of the California Environmental Protection Agency.

With California making up some 10 percent of the national auto market, state officials say the new legislation could become a national model and will push automakers to devise new ways to make cars and trucks run cleaner.

"I'm convinced that in time states will adopt our model, they will contribute their best efforts to reducing greenhouse gases," Davis said.

24. Court Voids Ozone Attainment Delay

A federal appeals court ruled that EPA acted illegally in extending the deadline for the Washington, DC area to meet air quality standards for ozone. Among other things, the court ruled that EPA did not look at the possible emission reductions that could be achieved through retrofitting diesel trucks and buses.

In a suit brought by Earthjustice on behalf of the Sierra Club, the Court ruled that EPA violated the Clean Air Act in granting the area a six-year extension of the 1999 deadline without reclassifying the area to "severe".

EPA had argued that the extension was justified because of the impacts of transported pollution from other communities and the Midwest, but the Court said EPA had no power to override the explicit requirements of the statute. The Court also held that EPA illegally waived a requirement that the DC area achieve 3% annual reductions in ozone forming pollutants until the standard is attained, and illegally waived a requirement for adoption of contingency measures that will kick in if clean air deadlines are missed in the future. The Court vacated EPA's approval of the DC area ozone plan and sent the matter back to EPA.

25. Another Key EPA Enforcement Official Set To Retire

A key enforcement official at the Environmental Protection Agency will resign her post in a second high-level departure that could hinder the agency's landmark lawsuits against eight electric utilities. Sylvia Lowrance, EPA's principal deputy assistant administrator for Enforcement and Compliance Assurance, will retire in the near future, according to an EPA spokesman. Lowrance helped oversee Clinton-era lawsuits filed in 1999 against nine U.S.

utilities to force them to install expensive pollution-reduction equipment at aging coal-fired power plants. One case has been settled out of court.

Environmental groups are concerned that the lawsuits might be dropped by the Bush administration, which last month proposed to relax air pollution rules for aging plants. Under a Clinton-era rule known as "new source review," such plants had to install expensive anti-pollution devices when they made major renovations or expansions.

Utilities contend that the regulation is too costly and drives up the price of electricity.

Environmentalists say the regulation is needed to protect the public health from emissions of smog, acid rain and soot.

Lowrance's low-key departure will come on the heels of the resignation of Eric Schaeffer, another high-ranking enforcement official who left in March to protest what he called the Bush administration's lax enforcement of emission cases.

Phyllis Harris, tapped to replace Lowrance on an interim basis, has experience in EPA enforcement actions. She will head the EPA enforcement effort while a Senate committee considers the confirmation of former New Jersey gaming industry official John Peter Suarez as an assistant administrator.

Hanging in the balance are several lawsuits filed three years ago against Midwest and Southern utilities that operate dirty, coal-fired power plants. Another case is pending against the Tennessee Valley Authority, the nation's largest public power producer.

26. US Utility Pollution Cases Going

Forward Says Justice Department

The Bush administration is pressing ahead with lawsuits against eight electric utilities despite its plan to relax air pollution rules for aging coal-fired power plants, a senior Justice Department official said. Democrats and environmentalists worried the cases were in jeopardy of falling apart after the Bush administration said it planned to ease requirements for utilities to install expensive anti-pollution devices. The proposed changes would modify the so-called "new source review" requirements of the Clean Air Act which are triggered when an old power plant has a major renovation or expansion project.

Green groups say the existing rule is important to protect public health from smog, acid rain and soot, while U.S. utility groups contend that the rules require expensive investments in equipment that drive up the cost of electricity.

The Clinton administration in 1999 filed lawsuits against nine U.S. utilities to enforce the new source review rule. One case has been settled out of court.

"I think you saw a real backing off on getting settlements as soon as the (Bush) administration took its position" on new source review, Vermont Sen. Patrick Leahy, a Democrat, said after a joint hearing by the Senate Judiciary and Environment committees.

Thomas Sansonetti, the assistant attorney general for environment and natural resources at the Justice Department, said the new rules have not affected the government's enforcement actions against utilities. "I'm going forward with them regardless of what happens with these policies," Sansonetti said. "I've got to go forward. I have no choice."

New York's two Democratic senators and its litigious Attorney General Eliot Spitzer vowed a court battle if the administration finalizes new rules it proposed in June. Spitzer accused the Environmental Protection Agency of creating "an intentional regulatory limbo" to put the cases on hold. Finalizing the rules would be an "illegal act. We would go to court to prevent it and I think we would win," he said.

Hanging in the balance are the Clinton-era lawsuits brought in November 1999 against several Midwest and Southern utilities that operate dirty, coal-fired power plants. Another case is pending against the Tennessee Valley Authority, the nation's largest public power producer. The 11th U.S. Circuit Court of Appeals in late June ordered the TVA case put on hold until the end of August to allow mediation talks. (See below)

Sansonetti told reporters after the Senate hearing that he did not believe the new Bush administration rules affected the judge's decision to call for TVA mediation talks. Leahy said the mediation talks were "a much weaker outcome than expected."

Five other cases are "in active discovery on liability issues," Sansonetti told the senators. A case against Southern Indiana Gas and Electric Co. is set for trial in October. A federal judge in Buffalo, New York, was also scheduled to hear arguments in a separate lawsuit filed by Spitzer against Niagara Mohawk, owned by British company National Grid Group Plc, and NRG Energy Inc. for clean air violations.

James Jeffords, the Vermont independent who chairs the Senate Environment panel, said he still may subpoena the White House to get records on interagency discussions with industry groups on the new source

review rules.

27. US Court Orders Settlement Talks In TVA Pollution Case

A U.S. court ordered the government and the Tennessee Valley Authority (TVA) to try to settle within 60 days a lawsuit over whether TVA should install pollution-control devices at its aging coal-fired power plants. The law requires utilities to add pollution control equipment when they upgrade or significantly modify their power plants.

After hearing oral argument on the case earlier this year, the Atlanta-based 11th U.S. Circuit Court of Appeals ordered a 60-day mediation procedure. At issue is how far a U.S. utility can go in enlarging or upgrading old plants before they must invest in expensive new air pollution technology to control smog, acid rain and soot. The TVA case is seen as a bellwether for the utility industry's willingness to cut emissions from coal-burning plants, after the Bush administration earlier this month relaxed rules for utilities to expand or upgrade their plants.

28. Jeffords Accuses White House of Undermining Environment Summit

When global leaders gather next month at an environmental summit in Johannesburg, the Bush administration will try to block discussion about heat-trapping gases blamed for global warming according to the head of the Senate Environment and Public Works Committee. Some 100 heads of state are expected to attend the summit, which will focus on the Kyoto treaty's aim to reduce greenhouse gas emissions by industrialized countries, as well as the clean water, sanitation and electricity needs of developing nations.

Sen. Jim Jeffords, a Vermont independent who chairs the Senate's environmental panel, accused the White House of trying to "keep global climate

change off of the agenda" at the Johannesburg meeting. The administration will likely send a "smaller and lower-level delegation that has sought to narrow the scope of the discussions," Jeffords said at a Senate hearing on international environmental treaties.

Many Democrats and environmental groups criticized President George W. Bush's decision last year to pull the United States out of the Kyoto treaty, which would have required it to cut greenhouse gas emissions seven percent below 1990 levels by 2012. Bush said the targets would be too costly for the U.S. economy.

Japan, all 15 European Union members and a dozen other nations have signed the treaty. It is expected to be ratified by enough countries by the end of the year to go into effect.

Bush administration officials testified that, while the U.S. delegation to the Johannesburg meeting has not yet been chosen, the White House is committed to act on global warming. Undersecretary of State for Global Affairs Paula Dobriansky may lead the Washington delegation, although a final decision has not yet been made, according to John Turner, an assistant secretary at the U.S. State Department. Some countries that support the Kyoto treaty are also trying to downplay the issue at the summit meeting, Turner said.

The summit would accomplish more by focusing on other environmental issues, he said. The Bush administration views clean water and health issues as the top two U.S. priorities at the environmental summit, Turner said.

During the hearing, the administration officials reminded the senators of a White House proposal for U.S.

companies to voluntarily cut greenhouse gas emission "intensity" by 18 percent over the coming decade. The proposal, which is due to be finalized by January 2004, would also allow companies to trade emissions credits. The plan has been criticized by green groups, which say it would allow greenhouse gases to rise in tandem with the U.S. economy instead of requiring real cuts.

The administration wants to hold U.S. greenhouse gas emissions "at a level that will prevent dangerous interference with the climate," said James Connaughton, chairman of the White House Council on Environmental Quality. But "given current scientific uncertainties, no one knows what that level is," he told the Senate panel.

The Kyoto treaty would have cost the U.S. economy \$400 billion and wiped out as many as 4.9 million jobs, according to White House calculations.

29. Powell Lists U.S. Environmental Priorities; No Mention of Climate Change Measures

The United States plans to tell a major United Nations summit meeting in late August that it will take "concrete action" on seven environmental areas essential to sustainable development, U.S. Secretary of State Colin Powell said July 12. Combating climate change was not among the areas enumerated by Powell.

Recognizing that "we have only one home, planet Earth," the administration of U.S. President George W. Bush "will initially work for concrete action in ... health, energy, water, sustainable agriculture and rural development, education, oceans and coastal management, and forests," Powell told attendees at a Washington, D.C., conference, *Making Sustainable Development Work: Governance, Finance, and Public-Private Cooperation*. The conference was

sponsored by the State Department as a forerunner to the Aug. 26-Sept. 4 World Summit on Sustainable Development to be held in Johannesburg, South Africa.

Leading up to the Johannesburg meeting, participating national governments are working behind the scenes to resolve remaining disagreements on the summit conference agenda.

While climate change is not one of the key areas of focus by the United States, Powell said, the administration's budget request for fiscal year 2003 asked for \$4.5 billion for climate science and technology research and development spending. This would be an increase of \$700 million over 2002 funding, he added.

The Sierra Club, a global environmental group, took exception to Powell's presentation. The Bush administration's "approach ... may seriously undermine the global community's efforts to protect clean air and water, and fight global warming," the group said in a July 15 statement. The administration "has consistently blocked attempts to protect the global environment by promoting plans that benefit large corporations rather than the billions of citizens who have to deal with environmental crises, like dirty water and air, and global climate change," said Sierra Club Director Michael Dorsey, who has represented the Club during the preparatory meetings and will attend the Johannesburg summit.

According to the Sierra Club, the U.S. delegation at the final preparatory meeting for the summit "repeatedly resisted any serious steps to address a host of global environmental problems, especially global warming," and "criticized environmental targets and timetables as 'theater' and 'fiction' not worthy of serious consideration."

However, in his speech, Powell said, "Poverty, destruction of the environment, and despair are destroyers of people, of societies, of nations, a cause of instability as an unholy trinity that can destabilize countries and destabilize entire regions." He called sustainable development a "compelling moral and humanitarian issue."

30. EU, US Say Want Concrete Results At Earth Summit

The European Union and Washington have vowed to push for concrete results at next month's Earth Summit in South Africa despite failed attempts to reach a common agenda for the conference. "This conference will not just be about rhetoric, but there'll be concrete, tangible projects that will bring water to people who need it, sanitation for those who need it," Charles Ries, deputy assistant secretary at the U.S. Bureau of European and Euroasian Affairs, said after meeting EU and Danish officials. Ries said a meeting of developed and developing countries at the United Nations would take forward discussions of the program of action for the earth summit, which 120 ministers failed to agree upon at Bali in early June.

The Johannesburg summit seeks ways to halve the number of people living in poverty by 2015 while curbing pollution.

"In addition, in coming weeks we will be talking about a variety of partnerships, between agencies and NGO's (non-governmental organizations) and so forth in specific areas. That's an important component for a successful conference," he said.

Many environmental activists say there is no chance of meaningful progress at Johannesburg's August 26-September 4 World Summit on Sustainable Development (WSSD). They blame the United States for putting the brakes on

work on environmentally friendly policies for water and sanitation, energy, agricultural productivity, biodiversity and health.

"We made progress on the Johannesburg world summit talks and can initiate a process that will ensure a positive input to the meeting from the U.S. and European sides," said Danish Foreign Ministry official Michael Zilmer-Johns. "That makes it much more likely that we will have a positive outcome of the Johannesburg summit."

South Africa says it expects more than 100 world leaders and around 60,000 participants at the WSSD and parallel gatherings of non-governmental organizations and business. Among Western leaders French President Jacques Chirac and British Prime Minister Tony Blair have both pledged to attend.

31. Study Finds Alaska Glaciers Melting At Higher Rate

A new study indicates that glaciers in Alaska are melting faster than previously thought, providing further evidence of global warming, according to researchers. Scientists have long warned that global warming -- when heat-trapping gases force atmospheric temperatures to rise -- could eventually raise sea levels to a dangerous point by melting ice sheets and glaciers.

"The whole issue of global climate change is important to everyone," said glacier expert Anthony Arendt of the University of Alaska at Fairbanks. "The whole issue of sea-level change affects people who live near the coast quite directly. Just small changes in sea level can cause very large incursions of water up along the coast and can destroy valuable property there. It can move people away from their homes."

Arendt and his colleagues used a

technology called laser altimetry to measure volume changes of 67 Alaskan glaciers over four decades.

"Glaciers in Alaska seem to be thinning from the mid-1950s to the mid-1990s," said Arendt, adding that the thinning rate has about doubled between the mid-1990s and 2001.

"We know that the climate has had to change for that to happen," he said. "Whether or not these changes in climate are due to human influences, that's not for us to say, but it's possible that it is linked to a larger-scale change in global climate caused by human activity."

A panel of scientists that regularly reports to the United Nations on global warming issues has projected that sea level will rise between three inches and about two-and-a-half feet during this century. But glaciers melting faster than expected could increase that projection.

The study found that the Alaskan glaciers were thinning enough to produce a sea-level rise of about .14 millimeters per year -- melting almost twice as fast as the Greenland ice sheet, the researchers said.

The survey, published in the journal *Science*, relied on an airborne laser and a satellite-based global positioning system to plot the glaciers' altitudes and calculate their volume. Comparisons were then made with topographic maps from years before the 1990-technology was developed, to extrapolate melting rates back to the 1950s.

The Environmental Protection Agency says the Earth's temperature has risen about 1 degree Fahrenheit during the past 100 years, most likely because of global warming.

"Human activities have altered the

chemical composition of the atmosphere through the buildup of greenhouse gases – primarily carbon dioxide, methane, and nitrous oxide," says a definition posted on the EPA Web site. "The heat-trapping property of these gases is undisputed although uncertainties exist about exactly how Earth's climate responds to them."

32. White House Pushes For Ethanol Mandate In Energy Bill

The Bush administration has urged U.S. Senate and House lawmakers negotiating an energy bill to include language that would triple the amount of ethanol-blended gasoline and biodiesel used each year in American cars, trucks and sport-utility vehicles. Farm state lawmakers support more use of corn-based ethanol and soybean-made biodiesel because it benefits their constituents and makes gasoline produce less pollution, but California and New York lawmakers fear the fuel additive is difficult to ship and would result in higher gasoline prices.

A renewable fuels requirement will be one of the more contentious issues that members of a special Senate-House of Representatives conference committee will have to address as they try to hammer out legislation to update U.S. energy policy for the first time in a decade.

The Senate-passed energy bill included a requirement to triple the amount of renewable fuels used to 5 billion gallons a year by 2012. The House of Representative's energy legislation does not have a similar mandate.

U.S. Energy Secretary Spencer Abraham asked lawmakers on the conference committee last week to include the Senate's renewable fuels language in a final energy bill. While Bush has endorsed more ethanol use, a recent internal administration document

said a jump in ethanol consumption would increase gasoline costs and might create fuel supply shortages in some areas.

The renewable fuels agreement in the Senate bill would also ban MTBE, a gasoline additive that many states already are phasing out because MTBE has leaked from underground storage tanks and polluted drinking water.

33. State Officials Want Bush To Act On Global Warming

Attorneys general from 11 U.S. states criticized President George W. Bush for failing to adopt a comprehensive policy to combat global warming, urging he "rethink" his response to climate change and enact a cap on greenhouse gases. In a letter delivered to the White House, the 10 Democrats and one independent from states including New York, California, Massachusetts and Alaska wrote that inaction by the Republican administration had resulted in a confusing tangle of anti-pollution regulations passed by various states.

The Bush administration has received some of its most strident criticism on environmental issues, most recently for its plan to seek voluntary and not mandatory cuts in U.S. greenhouse gas emissions. Its withdrawal last year from the Kyoto climate treaty prompted an international outcry.

The 3-1/2-page letter applauded the U.S. State Department's report issued in May that cited the threat to ecosystems and coastlines from rising global temperatures and sea levels, but criticized the administration for not acting on it. "While we are certainly heartened that the United States has now officially recognized the existence and scope of the climate change problem, the administration has yet to propose a credible plan that is consistent with the dire findings and

conclusions being reported," the letter said.

"In light of the (State Department) Report's findings, however, we urge you now to rethink the administration's policy response to the problem," the letter said.

An administration suggestion to increase the use of air conditioning to combat higher temperatures would only add to the emissions problem by increasing demand for power, it said.

Some individual states were moving "to fill the void left by federal inaction on this issue" by instituting carbon dioxide reductions by power plants or by vehicles, creating potential regulatory conflicts and uncertainty for business. The global nature of climate change lent itself to regulation at the national level, the letter said.

The attorneys general suggested creation of a market-based "cap" on greenhouse gases, a system used successfully on a smaller scale to curtail emissions whereby power plants buy or sell a shrinking pie of rights to emit certain pollutants.

Signatories to the letter were Attorneys General Thomas Reilly of Massachusetts, Bill Lockyer of California, Bruce Botelho of Alaska, Richard Blumenthal of Connecticut, Steven Rowe of Maine, Joseph Curran of Maryland, Philip McLaughlin of New Hampshire, Eliot Spitzer of New York, Sheldon Whitehouse of Rhode Island, William Sorrell of Vermont, and independent David Samson of New Jersey.

34. US Energy-Related Emissions Down First Time In Decade

U.S. energy-related carbon dioxide emissions that are linked to global warming fell by 1.1 percent last year, the first drop in a decade, because of a

manufacturing slowdown and warm weather. The drop in emissions was due to the slowing U.S. economy, which grew only 1.2 percent in 2001, and warm winter weather that reduced demand for heating fuel, rather than to voluntary efforts pushed by the Bush administration to get U.S. companies to act on their own to cut heat-trapping emissions.

U.S. carbon dioxide emissions totaled the equivalent of 1,540 million metric tons in 2001, down from 1,558 million metric tons the year before, according to preliminary estimates from the Energy Information Administration. The 1.1 percent decline is the first drop since 1991, when emissions decreased by 1.2 percent.

"Because energy-related carbon dioxide emissions account for 81 percent of total U.S. greenhouse gas emissions, they are a good indicator of the level of, and rate of change in, total U.S. greenhouse gas emissions," EIA said. U.S. energy-related carbon dioxide emissions have averaged a 1.2 percent annual growth since 1990, according to EIA, the Energy Department's statistical arm.

The reduction in U.S. manufacturing output in 2001 lowered industrial emissions, the agency said. Ironically, warmer winter weather last year that many scientists blamed on global warming decreased the demand for heating fuels and electricity from coal-fired power plants, which reduced emissions growth from electricity generation.

While industrial emissions were down 9.1 percent from slower manufacturing activity, transportation sector carbon-dioxide emissions increased by 0.6 percent. Residential sector emissions grew by 1.8 percent as warmer weather helped increase housing starts, EIA said.

35. EPA Chief Says Bush Emissions Cuts Would Save Lives; Enviro Disagree

The Bush administration said that its plan to cut polluting emissions at U.S. power plants, criticized by green groups for being too industry-friendly, would save 12,000 lives by 2020. The administration proposal would reduce three kinds of air pollution from electric generating plants by an estimated 70 percent, compared to a Senate plan calling for faster, deeper cuts.

Environmental groups say the White House plan would weaken existing clean air rules to benefit the energy firms that were big contributors to George W. Bush's presidential campaign.

"The new data show that we can improve the quality of the air we breathe and achieve these results faster, at less cost to consumers and in a way that makes sense for the environment, for industry and for the health of the American people," said EPA Administrator Christine Todd Whitman.

One of the most controversial issues is the best way to curb air pollution from aging coal-fired utilities.

The Bush proposal would set a 2017 deadline to cut sulfur dioxide, nitrogen oxide and mercury by about 70 percent. Senate Democrats prefer an approach requiring deeper cuts by 2008. Their plan would also include limits on emissions of carbon dioxide that is linked to global warming.

However, Whitman doubted the plan authored by Sen. Jim Jeffords, a Vermont independent, would have the votes to pass the Congress.

The White House plan, first announced in February, would nearly eliminate the most severe impacts of acid rain in the

Northeast, according to Whitman. It would reduce the number of lakes in the Adirondack Mountains harmed by acid rain from the current 25 percent to just 3 percent.

Whitman unveiled the new details about the president's proposal during a visit to the Smoky Mountains National Park in Tennessee. Visitors to the park once could admire the vista for as much as 100 miles but now have an average visibility of just 15 miles because of pollution.

Congress would have to approve the Bush plan for it to be implemented. The White House will send its legislative proposal to lawmakers this month, Whitman said. The plan faces an uphill battle to win approval due to Democratic opposition to the proposal and less than 30 working days remaining in Congress before lawmakers adjourn in early October.

36. Democrats Say Bush Global Warming Plan "Baloney"

Senate Democrats dismissed the Bush administration's plan for voluntary cuts in U.S. greenhouse gas emissions as "baloney" and said it will not help slow global warming. The White House plan depends on U.S. companies to voluntarily curb industrial emissions of carbon dioxide and links reduction targets to American economic growth. Democrats prefer a mandatory approach that dictates specific cuts.

President George W. Bush withdrew the United States last year from the international Kyoto treaty that aims to cut heat-trapping emissions, saying it was too costly to the economy. James Connaughton, chairman of the White House's Council on Environmental Quality, told the Senate Commerce committee that the administration's voluntary plan would reduce U.S. greenhouse gas emissions relative to

the size of the American economy by 18 percent over the next decade.

But Democrats expressed skepticism. They said the Bush plan was based on cutting the amount of emissions emitted per dollar of economic output, which would not reduce total U.S. emissions. "This is a myth and we're going to expose it," said Democrat Sen. Barbara Boxer of California, referring to the White House plan. She added: "It's baloney."

Connaughton acknowledged the administration's proposal would slow the growth of U.S. emissions, not reduce them. "Greenhouse gas emissions will rise under our approach, there's no question about that," he told the Senate panel. The National Wildlife Federation, for instance, said in a report that the administration's plan would result in an 13 percent jump in U.S. emissions in the next decade.

Democrat John Kerry of Massachusetts, who chaired the hearing, said the administration was not doing enough to reduce emissions and fight global warming. He criticized the administration for claiming the science on the cause of global warming was unclear and using that as an excuse for not tackling the problem. Kerry asked how the United States could ignore the position of the European Union, Japan and more than 100 other countries that have endorsed the Kyoto treaty. "What do they know that we don't?" said Kerry, who is seen as a Democratic candidate for the 2004 presidential election.

Connaughton said the Kyoto treaty would have cost the U.S. economy up to \$400 billion and caused the loss of 4.9 million job to comply to with the accord's requirements.

Democrats said the United States should have participated in the treaty so

it could refine and change the troublesome provisions in it.

Connaughton and other administration officials appearing before the panel were also grilled on the recent White House climate change report sent to United Nations. The report said human activities - from driving automobiles to operating power plants and oil refineries - produced greenhouse gas emissions that were the primary cause of global warming. Connaughton defended President Bush's dismissive-sounding comment that the report was nothing more than a product of the federal bureaucracy. "The fact of the matter is the report was produced by the bureaucracy," he said. The report was written with input from several agencies and cabinet departments, including the Environmental Protection Agency.

However, EPA Administration Christine Todd Whitman said last month that she never saw the report before its release and did not know it was posted on the agency's Web site until the media reported on it. The Senate panel wanted Whitman to testify, and rescheduled the hearing twice to accommodate her, but the White House said she would not be able to appear.

The White House report laid out possible global warming side effects for the United States, including higher sea levels for coastal cities, more wildfires in the Southwest and less snow cover in the Rocky Mountains and Alaska. John Marburger, director of the White House Office of Science and Technology Policy, testified the computer models used to predict weather conditions years into the future were unreliable and did give much credence to the report's conclusions.

37. Environment Canada Lines Up Sulfur Rules to US Levels

Finalized regulations reducing by 95

percent allowable sulfur levels in on-road diesel fuel in Canada represent a key element of the federal government's efforts to reduce air pollution, Environment Minister David Anderson said July 31. The Sulfur in Diesel Fuel Regulations, issued under the Canadian Environmental Protection Act, are part of the 10-year Action Plan on Clean Air and complement regulations already in place to reduce sulfur levels in gasoline, Anderson said in a statement. Implementation of the new standards is aligned in both timing and level with corresponding requirements being imposed in the United States by the Environmental Protection Agency.

The Ozone Annex to the Canada-United States Air Quality Agreement, signed by the two governments in December 2000, committed Canada to develop and implement regulations to reduce allowable levels of sulfur in on-road diesel fuel to align with future U.S. standards. The Sulfur in Diesel Fuel Regulations, published in final form in the July 31, 2002, issue of the Canada Gazette, Part I, limit the allowable level of sulfur used in fuel for on-road vehicles with diesel engines to a maximum of 15 parts per million, a 97 percent reduction from the current limit of 500 ppm. The lower limit will permit the introduction of advanced emission control systems for buses, trucks, and other on-road vehicles with diesel engines, in turn reducing emissions of other air pollutants from diesel engines, including sulfur dioxide and sulfates, said a regulatory impact analysis statement published with the final regulations.

"The regulations, combined with the planned new vehicle emission standards, will reduce sulfur dioxides, nitrogen oxides, volatile organic compounds and particulate matter emissions from new, heavy-duty diesel engines by about 90 percent, 90

percent, 89 percent, and 90 percent, respectively. The low sulfur diesel fuel will also be necessary to enable diesel-fueled, light-duty vehicles and light-duty trucks to use similar advanced technologies as a means of meeting more stringent emission standards that are planned to be phased in over the 2004 through 2009 model years," the impact analysis statement said.

The 15 ppm limit takes effect June 1, 2006, for producers and importers, and Sept. 1, 2006, for retail fuel sellers, with the phase-in intended to permit an orderly turnover of existing diesel fuel supplies, it said. In Arctic regions, the reduced sulfur limit will take effect Sept. 1, 2007, for retail sellers, reflecting the slower turnover in that region and logistical difficulties in delivering new supplies, it said.

The diesel fuel regulations complement the 1999 Sulfur in Gasoline Regulations, which will limit the sulfur content of gasoline to 30 ppm as of Jan. 1, 2005, with an interim average of 150 ppm that took effect July 1, 2002.

The impact analysis included cost estimates based on two reasonable methodologies suggesting that the cost would be between C\$1.25 billion (\$813 million) and C\$2.3 billion (\$1.5 billion) in capital costs and between C\$86 million (\$56 million) and C\$159 million (\$103 million) in additional annual operating costs. That would represent an increase in total costs of between 1.7 cents and 3.1 cents per liter of diesel fuel, it said.

Other properties of diesel fuel that may be considered for regulation in the future, including cetane, aromatics, and polycyclic aromatic hydrocarbons, are the subject of a voluntary survey of Canadian refiners and importers that was initiated in July 2001, it said. A regulatory limit for sulfur in off-road diesel fuel will be set in the same time

frame as that ultimately developed by the U.S. EPA.

38. EPA Finalizes Non-Conformance Penalties For Diesel Manufacturers

EPA has finalized a rule establishing monetary penalties that could be used by manufacturers of heavy-duty diesel engines unable to meet 2004 and later model year emission standards. When EPA set the 2004 model year emissions standard for hydrocarbons and nitrogen oxides for heavy duty trucks and buses, the Agency committed to establishing non-conformance penalties (NCPs) if the need became apparent. Under a penalty structure established by the Clean Air Act, manufacturers that cannot meet the standards can choose to pay a penalty on a per-engine basis. This rule allows a manufacturer that might be forced from the marketplace in the absence of NCPs to continue to produce and sell engines if the manufacturer cannot meet a particular emission standard due to technological difficulties. In order to ensure that manufacturers strive for the lowest possible emissions level, the penalty increases with the amount of emissions in exceedance of the standard. The penalties range from a few hundred dollars for an engine close to meeting the emission standards, to more than \$12,000 for an engine emitting the maximum pollution allowed (see Table Below). The NCPs also apply to engines covered under a 1998 settlement reached by the Department of Justice and EPA with six major manufacturers of diesel engines. The settlement resolved claims that the manufacturers installed illegal computer software on heavy-duty diesel engines that turned off the emission control system during

highway driving. The consent decrees require compliance with the 2004 NOx emission limits by October 2002 and specify that manufacturers unable to meet the emission limits that begin October 2002 pay penalties based on their emissions level above the 2004 standard. EPA has already certified two engines that meet the consent decree guidelines.

The decision followed intense lobbying to get EPA to back down. Rep. Ray LaHood (R-IL) and others in a congressional delegation met with EPA Administrator Christine Whitman on July 11th to ask for an extension of the October 1, 2002 deadline for meeting the 2004 model year NOx emission standard for those heavy-duty engines covered by the "defeat device" consent decree. If the deadline is not extended, the congressional delegation asked that the nonconformance penalties proposed by EPA be reduced. They said that unless the trucking industry is given more lead time to field and test new equipment, the trucking companies will not purchase new low-emissions engine, resulting in thousands of layoffs across the country. The congressional delegation indicated it was also considering budget riders that would reduce the penalties. Environmental groups said the delegation is acting on behalf of diesel engine manufacturers, most notably Caterpillar.

In an unprecedented move, Caterpillar has sued EPA for certifying the Cummins engine.

Penalty Rates at Several Example Emission Levels¹

	Heavy-Duty Service Class
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NMHC+NOx Compliance Level (g/bhp-hr) ²	Heavy-Duty Service Class			
	Light	Medium	Heavy	Urban Bus
2.5	\$0	\$0	\$0	\$0
3.0	\$1,262	\$910	\$3,640	\$2,470
3.5	\$1,745	\$1,820	\$6,946	\$4,393
4.0	\$2,227	\$2,716	\$7,999	\$5,527
4.5	\$2,710	\$4,930	\$9,052	\$6,660
6.0	N/A ³	N/A ³	\$12,210	N/A ³

¹ The penalties are for exceedance of the 2.5 g/bhp-hr NMHC+NOx standard. They are expressed in 2001 dollars and are for the first year of non-compliance (the penalties increase with subsequent years).

² g/bhp-hr = grams per brake horsepower-hour.

³ For the light and medium heavy-duty service classes, and for urban buses, the upper limit is established at 4.5 g/bhp-hr, therefore no NCPs are applicable to emissions at 6.0 g/bhp-hr. For the heavy heavy-duty diesel engine service class, the upper limit is set at 6.0 g/bhp-hr.

39. Detroit Diesel Engines Will Meet EPA's Oct. 1 Deadline

Detroit Diesel Corp. said it expects to have its low-emissions engines certified in time to meet the Environmental Protection Agency's Oct. 1 deadline. "Recent reports in the press about the implementation of the Oct. 1 change in emissions standards have mischaracterized DDC's technological readiness," the company said in a press release about its 2002 Series 60 engine program.

"DDC will submit applications for 2002 emissions certification to the EPA approximately 30-60 days in advance of scheduled production." The company agrees with many in the industry that delaying the Oct. 1 deadline would allow a longer period of fleet testing for the new engines.

Detroit Diesel and its competitors - except for Caterpillar, which has developed its own technology - have designed engines using exhaust gas recirculation to achieve the emissions reductions.

40. CASAC Meeting Assesses Impact of Statistical Problems

The Clean Air Science Advisory Committee (CASAC) met on July 18-19, 2002 to consider the impact of recent reanalysis of PM data as well as EPA's development of a new PM standard. A number of researchers were invited to present the findings of their re-analyses. There were two statistical issues with the "GAM" function: the effect on the convergence criteria; and the effect on the confidence limits.

Francesca Dominici presented the results of the re-analyzed NMMAPS mortality study. The basic message was that there were quantitative changes, but the qualitative conclusions remained the same.

Joel Schwartz presented on the NMMAPS morbidity study and the Harvard 6 Cities Reanalysis. In NMMAPS, the estimates of hospital admissions for the elderly will be reduced for COPD and pneumonia, but not for cardiovascular disease. In the Six Cities Time Series study, there will

be a very slight reduction in effects. In some studies the effect will go up, as in a multi-city European study of hospital admissions for heart disease.

Rick Burnett of Health Canada reported that ACS follow-up study included a sensitivity analysis that used GAM, but that the PM10 effect was robust when using the stricter convergence criteria.

The upshot seems to be that the effect of the software error is likely to be greatest in the NMMAPS study because of its multifactorial design. The effects in other time-series studies are likely to be minimal. Case cross-over and cohort studies are not affected at all.

EPA distributed a table of the analytical models used in the various PM epidemiological studies, showing that 70 percent of recent time series studies of mortality used GAM.

Some of the early re-analysis results will be published as letters to the editor of scientific journals.

The Committee discussed their process suggestions for completing the review. These include EPA's convening a workshop to review the results of more re-analyses, and asking HEI science review committee to serve as an expedited peer review process for the revised results. Despite the likely minimal impact on most studies, the discovery of the software error will greatly delay completion of the review of the PM standard.

Next Steps:

- EPA will identify priority studies and develop a work plan for completing a review.
- CASAC will review the EPA draft plan in a teleconference the last week in August.

- HEI will issue a final report on the re-analysis of the NMMAPS study this fall (November).
- CASAC will schedule a teleconference for the fall to review the EPA work plan for the review of the ozone standard. A new ozone panel will be appointed.
- There may be an additional teleconference on the PM risk assessment in the fall.
- CASAC will reconvene in January to review Chapters 8-9 of the Criteria Document (Epidemiology and Integrative Synthesis). At this time, CASAC should be able to reach closure on the revised versions of the other chapters.
- EPA will not produce a Staff Paper until CASAC has reached closure on the Criteria Document.

41. US Proposes Pollution Cuts For Motorcycles, Boats

The Bush administration has proposed a 50 percent cut in pollution from motorcycles and an 80 percent reduction for gasoline-fueled recreational boats. The standards will take effect in 2006 for new motorcycles and in 2008 for boats.

"When final, these new standards would have clean air gains equivalent to reducing pollution from 9.4 million cars annually," said EPA administrator Christie Whitman.

Motorcycles and boats account for 12 percent of hydrocarbon emissions and 3 percent of carbon monoxide emissions from mobile sources, which also include automobiles, trucks and off-road vehicles.

The proposed standards would help

avoid a range of respiratory and related health problems associated with ozone, carbon dioxide and soot levels, the agency said.

While many of the 5 million motorcycles currently on the road are cleaner than required, the average motorcycle still emits about 20 times more pollution per mile than a new car, according to EPA. The proposed standards for new motorcycles will not affect their highway performance, the agency said.

The boat standards will cover yachts, sport boats, fishing boats, jet boats and other types of pleasure craft and boats with outboard engines. EPA has already set emission standards for most marine categories. Exhaust emissions standards were set for some outboard engines and personal watercraft in 1996.

The agency proposed emission guidelines for diesel-powered recreational boats in 2001 and commercial marine vessels earlier this year. The EPA said it expects those standards to be finalized early next year.

42. Survey Says US Voters Want Strict Greenhouse Gas Cuts

Three-fourths of voters surveyed want the U.S. government to require power plants and industry to cut emissions linked to global warming, and not rely on voluntary cuts endorsed by the White House, according to a poll released by an environmental group. The Zogby survey of 1,008 likely U.S. voters across the nation was commissioned by the Union of Concerned Scientists, a group that backs a Senate proposal for strict cuts in industrial emissions of carbon dioxide.

Some 76 percent of those surveyed said the U.S. government should set standards requiring power plants, oil refineries and other industries to cut

greenhouse gas emissions. Another 16 percent said they supported a voluntary approach, while 8 percent said they were undecided.

The Bush administration has proposed a plan that would require cuts in pollutants sulfur dioxide, nitrogen oxide and mercury by 2018, but would rely on voluntary action by industry to reduce emissions of carbon dioxide. A Senate proposal would mandate deeper cuts for all four pollutants by 2008.

The survey also showed 78 percent of respondents said they believe global warming is a serious problem now or will be in the future.

The Bush administration has rejected any cap on carbon dioxide emissions, contending that such a move would be too costly to U.S. industry. Last month, the administration quietly released a report that affirmed the probable harmful effect of greenhouse gases linked to industry, but President George W. Bush dismissed it as a product of the "bureaucracy."

The United States, the world's largest emitter of greenhouse gases, has refused to participate in the international Kyoto Treaty to curb carbon emissions.

43. Bush Power Plants Proposal Appears DOA

The Bush administration has finally sent its long-awaited plan to reduce power plant emissions to Congress, but prospects for its passage are questionable, especially in the Senate. President George W. Bush in February unveiled his so-called "Clear Skies" proposal to cut three harmful power plant emissions by 70 percent by 2018 through a cap-and-trade system to control smog, acid rain and soot. At the request of the White House, two Republican lawmakers, including Louisiana Rep. Billy Tauzin, have now

introduced the bill in the House of Representatives and Republican Senator Robert Smith of New Hampshire was set to introduce a companion bill.

The new measure would "do more to clean up emissions from power plants than ever before," Bush said in a statement. But it faces a fight from Democrats and environmentalists in the Senate for excluding heat-trapping greenhouse gases. Sen. Jim Jeffords, a Vermont Independent who chairs the Senate's Environment and Public Works Committee, has introduced a competing measure with more stringent caps than the Bush proposal and a first-ever U.S. limit on carbon dioxide emissions. Jeffords' legislation, approved by his committee in June, would cut carbon dioxide emissions by 23 percent by 2008.

The Bush administration's lack of action on greenhouse gases "is ignoring its own warnings on the devastating effects of global warming," Jeffords said in a statement.

44. Ford Backing Away From SUV Fuel Economy Goal

Ford captured the nation's attention in 2000 when it made the pledge to increase its SUV fuel economy, part of a strategy by Chairman Bill Ford Jr. to improve the automaker's environmental image. General Motors Corp. quickly followed by vowing to keep its SUVs more efficient than Ford's. Ford's pledge covered all SUVs it builds - including models from Land Rover, Volvo and Mazda-and would raise its average SUV fuel economy from about 16 miles per gallon to about 20 miles per gallon.

Late next year, Ford will begin building a version of its Ford Escape small SUV with a hybrid gasoline-electric powertrain, capable of achieving 40 miles (64 km) per gallon in city driving.

Cischke, Ford's environment chief, and Bill Ford both said that Ford would build as many hybrid Escapes as the market would demand, unlike the limited production of hybrid models by Honda and Toyota on sale now. But Cischke said a similar hybrid system that had been planned for the larger Ford Explorer in 2004 had been cancelled because it failed to meet the goal of improving efficiency by eight to 10 percent.

Ford's progress to date has been mixed. Last year's redesign of the Explorer increased fuel economy only on some versions, while the redesigned Ford Expedition and Lincoln Navigator use less fuel on some models and more gasoline-per-mile on others. The job has also been made more difficult by Ford's cost-cutting campaign, aimed at generating \$7 billion in annual pretax profits by mid-decade.

Ford did side with other automakers earlier this year in opposing increases in federal fuel economy standards, and also opposed a California law allowing state officials to reduce carbon dioxide and other greenhouse gas emissions from automobiles.

The Alliance of Automobile Manufacturers has said it will challenge the law in court, arguing California cannot supercede federal standards with its own rules. But Cischke said such a move may be premature, echoing comments from Bill Ford when he said he wanted to "lower the temperature" of the debate. Cischke noted that Ford had not joined a lawsuit filed by GM and DaimlerChrysler AG's Chrysler arm against California for mandating sales of electric vehicles. And she said Ford prefers that the industry works with regulators to set voluntary targets, just as Europe does.

45. Phillips To Build Sulfur Removal

Units At 2 Refineries

Phillips Petroleum has announced that it would build new sulfur removal technology (SRT) units at two of its refineries to comply with environmental fuel standards. Phillips will build its first "S Zorb-Diesel" unit at its Sweeny, Texas, refinery and its "second S Zorb-Gasoline" unit at its Ferndale, Wash., refinery, the company said in a statement.

Applications for the technology at other Phillips refineries are being reviewed, including plans for S Zorb-Gasoline units at the Sweeny, Texas, refinery and the Bayway refinery in New Jersey. Construction of both the S Zorb-Diesel unit at Sweeny and the S Zorb-Gasoline unit at Ferndale is expected to be completed in the fourth quarter of 2003.

S Zorb SRT was developed to help oil companies comply with the Environmental Protection Agency's (EPA) and the European Commission's sulfur regulatory levels. Beginning in 2004, gasoline sold in the United States will have sulfur content phased down to an average of 30 parts per million (ppm).

46. Exxon Mobil To Phase Out MTBE In California Early

Exxon Mobil Corp., the world's largest oil company, became the latest major refiner in California to set an early date for phasing out the fuel additive that has contaminated ground water. The Irving, Texas-based company said it would phase out methyl tertiary butyl ether (MTBE) and convert to ethanol by early 2003, nearly a year ahead of a deadline set by California Gov. Gray Davis in March.

In 1999, Davis banned MTBE after the suspected carcinogen was discovered contaminating groundwater supplies. Federal law requires that gasoline sold in the smoggiest regions in the country

include one of the two additives to help gasoline burn cleaner. In March, citing fears of possible supply disruptions and resulting prices spikes, Davis postponed his original phase-out deadline by one year to Dec. 31, 2003.

Earlier this year, major refiners BP, and Shell Oil Company announced they would switch additives ahead of Davis's mandated Dec. 31 cut-off. With Exxon Mobil's switch, more than half the state's gasoline will be affected.

With a daily consumption of 1 million barrels a day, California is the largest gasoline market in the U.S.

47. Denver Reaches Clean Air Goals

Denver, which once had some of the most polluted air in the United States, has become the first major metropolitan area to fully comply with federal air quality standards. The improvement, which brings relief to asthmatics and others with respiratory problems, came despite an economic boom and population growth over the past decade.

Air in the seven-county area that includes the city of Denver and its suburbs had been bad for at least 40 years with the state's first anti-smog bill going into effect in 1964. The following year a state law was passed requiring pollution control devices on cars and a few years later trash burning was banned in Denver. Pollution from automobiles today is about five percent of what it was in 1970.

Since 1970 federal standards have measured carbon monoxide, lead, nitrogen dioxide, ozone, particulate matter and sulfur dioxide, all of which harm human health.

48. New York Times Reports Bush Administration Cuts Clean-Up Funding

The Bush administration has cut the

funds necessary to clean up 33 toxic waste sites in 18 states under the Superfund cleanup program, according to a report to Congress by the inspector general of the Environmental Protection Agency, the New York Times reported. The cuts will likely mean work comes to a halt at some of the more polluted sites in the U.S., according to the paper, increasing uncertainty over when the work will proceed and who will pay for it.

Sites affected by the cuts include a manufacturing plant in Edison, New Jersey, where the herbicide Agent Orange, used in the Vietnam War, was produced, as well as several chemical plants in Florida and two old mines in Montana.

Two Congressional Democrats, Representatives John Dingell of Michigan and Frank Pallone Jr. of New Jersey, gave the report to the paper after asking the environmental agency's inspector general for a copy. The two congressmen represent states with heavy concentrations of Superfund sites.

The report is the first public listing by the environmental agency of where it intends to cut Superfund spending. The administration had indicated it would reduce spending from the special fund that pays for cleaning up sites where the original polluter has gone out of business or is otherwise unable to pay for remediation.

ASIA PACIFIC

49. Toyota Prius Passes 100,000 Mark

In the first quarter of this year Toyota passed the 100,000 mark in cumulative sales of hybrid vehicles, which combine conventional engines and electric power. The achievement means the Japanese manufacturer, which is the clear industry leader in hybrid sales, is

well on the way to its target of annual production of 300,000 hybrid vehicles around 2005.

In city driving conditions Toyota's Prius travels twice as far per liter of fuel as conventional cars of comparable size and performance, meaning it produces half the carbon dioxide emissions. As a SULEV (Super Ultra Low Emission Vehicle), it exceeds both California's stringent emission requirements and the Euro4 environmental standard.

The Prius went on the market in Japan in late 1997, when it was the world's first mass-production hybrid. The model debuted in North America and Europe during 2000 and is now sold in more than 20 countries. Last year sales reached almost 30,000.

Unlike some hybrids, in which the conventional engine powers the batteries, which drive the car, Toyota uses a combination of both sources to produce a continuously variable combination of electrical and gasoline power. The electric motor powers start-up and adds power during acceleration, while energy generated during braking and deceleration is captured in the batteries. The engine shuts off automatically when the car stops.

The range has been expanded with a 4-wheel drive minivan version (the Estima) and a "mild hybrid" saloon, which is a simpler and less expensive version of the Prius.

Hybrid technology can be adapted to fuel cell vehicles, and Toyota will start limited marketing of fuel cell hybrid (FCHV) sport utility vehicle (SUV) in Japan and the U.S. around the end of this year, much earlier than originally planned. (See below) Lowering cost and other issues remain, but the company believes that technology has been a solution, and will continue to be.

50. Numerous Fuel Cell Projects Are Underway in Japan

Japan's government has announced that it will work with automakers and energy firms in three-year projects to encourage the development of fuel cell technology for vehicles and households.

"The aim of the projects is to see what problems arise when using fuel cells and developing an infrastructure, to ascertain whether in total - including such things as maintenance - they are actually good for the environment," a government official said.

In one project, automakers including Toyota Motor Corp, Honda Motor Co and Nissan Motor Co, as well as General Motors Corp and DaimlerChrysler AG, will participate in road tests. Each automaker will provide one fuel cell vehicle for the tests. Five hydrogen supply stations in different parts of Japan will be set up to test different ways of refilling the hydrogen and examine safety issues. The Japanese government is keen to encourage the development of fuel cell vehicles, having set a (probably unrealistic!) goal of 50,000 fuel cell cars on the road in Japan by 2010.

In another project, energy and fuel cell development firms such as Nippon Oil Corp and Sanyo Electric Co Ltd will work on assessing fuel cells designed to power homes and businesses.

The Ministry of Economy, Trade and Industry has set aside 2.5 billion yen (\$21.50 million) in this fiscal year's budget for the projects.

As noted above, Toyota recently announced the launch by year's end of what is expected to be the world's first fuel cell-powered automobile, and it is now negotiating to lease about 20 vehicles in Japan and in California.

Toyota President Fujio Cho said at a July 2 news conference that the company decided to advance the fuel cell vehicle launch by almost one year with the hope of "capturing the global standard position with our technology." Toyota wants to help fuel cell technology replace fossil fuel-burning engines as the power train standard for motor vehicles, he said.

The auto giant stressed, however, that high costs meant its marketing efforts would be limited and it said only 20 vehicles would only be leased in the first 12 months to government bodies, research institutions and energy-related companies.

Toyota said it had brought forward a plan to begin marketing a fuel cell vehicle from 2003 after successfully road testing its FCHV-4 prototype for a year in Japan and the United States.

Toyota said the vehicles available from the end of the year would be offered only in Japan and the United States, in limited areas where the company had confirmed the availability of hydrogen supply and after-sales service.

Among Japan's seven passenger car manufacturers, Honda Motor Co., Mitsubishi Motors Corp. (a unit of DaimlerChrysler Corp.), and Mazda Motor Corp. (a subsidiary of Ford Motor Co.) also are competing to introduce fuel cell vehicles. All manufacturers expect fuel cell vehicle sales to be years away, probably not until 2008-2010. When sales reach a few thousand vehicles per month for each company, they can be sold at more competitive prices, automakers say.

Honda Motor Co. is testing a fuel cell car in Japan and the United States. It has built a hydrogen fueling station that produces hydrogen from solar power in California. Honda, Japan's second-

largest automaker, said it will likely put its first fuel-cell vehicle on the market by the end of the year, matching rival Toyota Motor Corp. "It will probably happen, though I can't say how many we will sell as we don't know how many potential customers are out there," Honda President Hiroyuki Yoshino said on the sidelines of a business group forum.

Fuel Cell Generators

Matsushita Electric Industrial Co. is testing a compact household-type fuel cell power generator with the hope of commercial launch in 2004. Other electrical/electronic makers, including Toshiba Corp. and Hitachi Ltd., also are developing fuel cell generators. Mitsubishi Heavy Industries Ltd. plans to commercially sell a household-type fuel cell unit in 2005 that uses natural gas as fuel; the price is expected to be about \$5,000-\$6,000. The maximum output of the unit is one kilowatt. The company estimates annual heating bill savings of about \$500 on average Japanese household use of heating units.

The Japanese government is supporting fuel cell vehicle development projects offering tax relief on research and development, equipment amortization, and the building of hydrogen supply stations in Tokyo, Osaka, and other large cities.

Government Testing Program

The government also is preparing to begin Japan's first comprehensive fuel-cell testing on the island of Hokkaido in late July. After initial preparations, METI, the Ministry of Land, Infrastructure and Transport, and the Ministry of Environment will commence operating experimental fuel cell air-conditioning units, called the FC HVAC systems, as well as road tests of fuel cell vehicles (which are expected to be leased from

Toyota) in the Hokkaido capital of Sapporo. The three ministries are building a hydrogen filling station for the fuel cell cars.

The three ministries chose Hokkaido, which is the coldest region in Japan, as their testing site because fuel cells generate far more heat than conventional fuels at time of use, and because of the easy availability of methane gas, the source for generating hydrogen. The three ministries plan to continue the experiment until 2005.

The project, which is being built in the Sapporo Satoland Park, will be open to the public on a limited basis, the official said.

METI officials said it is too early to estimate energy conservation and carbon dioxide emission reductions from fuel cell vehicle and generator projects, but that once they gain popularity, they would make a considerable contribution in stemming greenhouse gas emissions.

51. Singapore Establishes New Agency For Day-to-Day Environmental Operations

Singapore July 1 set up a new national agency to supervise the implementation of green policies such as air emission and industrial waste disposal standards, paving the way for closer government partnership with private companies, including foreign firms. The Ministry of the Environment's new statutory board, called the National Environment Agency (NEA), will do everything short of setting national environmental policies. It will also have one new arm--the Meteorological Services Division (MSD), which will track weather conditions including lightning, haze, and even earthquakes. The MSD used to be part of the Transport Ministry.

Environment Minister Lim Swee Say said July 1 that splitting the functions of

the Ministry of the Environment (ENV) would provide faster and more effective responses to environmental challenges.

"ENV will spend more time looking at long-term policy issues," he said, adding that a key function of the agency would be to nurture the growing environmental sector in the Southeast Asian nation. This would mean working closely with the private sector as well as developing new and better environmental products, which might then be exported to other countries.

"In terms of safe drinking water, solid waste management, clean energy, we believe all these could be areas where there could be demand beyond Singapore," Lim said.

The move to create a new body to handle daily operations, so that the ENV formed in 1972 could focus on environmental sustainability, has been in the works for at least a year.

Last October, Lim said, "If we don't focus on the short term, then we will have all fires getting out of control. If we don't focus on the long term, there will always be fires in the short term."

The NEA will operate the island state's four incineration plants and the off-shore sanitary landfill. In order to conserve energy resources and landfill space, the NEA will also implement programs to minimize waste generation and maximize recycling and energy conservation efforts.

The agency will also manage public health issues such as dengue-fever cases and the country's burgeoning crowd population. Additionally, it will take charge of waste management, public cleaning, and the upgrading of food centers and public toilets.

52. Officials Meeting in Japan Seek

Head Start In Preparation for Next Round of GHG Cuts

Officials from the United Nations and the Intergovernmental Panel on Climate Change (IPCC), along with representatives from both developed and developing countries, met in Tokyo July 17-19 to discuss the next round of greenhouse gas reduction targets for nations signing the Kyoto Protocol. At the informal meeting, hosted by Japan's Foreign Ministry, officials were gearing up for the next so-called Kyoto commitment period, with developed nations hoping to woo developing nations by 2005 into joining efforts to cut GHG emissions.

In addition, participants discussed the long-term GHG reduction policies and programs that countries party to the 1997 Kyoto pact will have to start discussing by 2005. The Kyoto Protocol to the U.N. Framework Convention on Climate Change calls on industrialized nations to collectively reduce GHG emissions 5.2 percent between 2008-2012--the first Kyoto commitment period--based on 1990 emission levels. The second Kyoto commitment period, which will incorporate a new round of GHG reduction targets, begins after 2012 and aims to include GHG reduction targets for developing nations.

53. Oil Giants Sign Up For \$20 Billion China Pipeline

China signed a deal with foreign oil giants to pipe gas from far western deserts to the eastern metropolis of Shanghai in a \$20 billion project to sate a thirst for energy and cut use of dirty coal. The 4,000-km (2,500-mile) pipeline will begin at the Tarim Basin in the deserts of the northwest region of Xinjiang, wind through eight regions and provinces and cross China's two largest rivers - the Yellow and the Yangtze - before reaching Shanghai's 13 million people.

The government hopes the project, as well as feeding a rapidly growing appetite for energy on the wealthy east coast, will wean millions of homes and businesses off coal responsible for clouds of choking smog over the country's cities. It has also been eager to boost investment in poor western areas, especially Xinjiang.

The pipeline could deliver the first gas to Shanghai as early as the end of 2003, according to PetroChina, China's biggest oil producer.

The project will eventually pump 12 billion cubic meters (424 billion cu ft) of gas a year and is a major part of China's plan to boost gas use from 2.5 percent of the energy it uses to around six percent by 2005.

Royal Dutch/Shell Group, joined by U.S. major ExxonMobil Corp and Russia's Gazprom, signed the pipeline agreement with PetroChina and Sinopec in Beijing's Great Hall of the People. While Shell had been considered the lead partner, each of the three foreign firms will hold a 15 percent stake in the pipeline. PetroChina will own 50 percent of the venture, with refining giant Sinopec Corp taking a five percent stake.

54. Japan, Kazakhstan Agree To CO2-Cutting Move

Japan has agreed to buy credits from clean-energy projects in Kazakhstan to help meet Tokyo's carbon dioxide reduction targets under the Kyoto Protocol. Japan will repair thermal power plants in Kazakhstan, reducing the amount of carbon dioxide they emit and allowing Japan to "buy" about 60,000 tons of the gas annually from 2008 through 2012, an official at the New Energy and Industrial Technology Development Organization (NEDO) said. It is Japan's first agreement using the Clean Development Mechanism

(CDM) of the Kyoto pact, which allows industrial nations to invest in environmentally friendly energy projects in developing countries in exchange for clear air credits.

Under the Kyoto Protocol, industrialized nations must cut emissions of greenhouse gases by an average of five percent over the period 2008 to 2012, compared with 1990 levels. The Japanese government ratified the pact recently and has pledged to cut its output by six percent. The six percent cut was estimated to amount to around 70 million tons based on Japan's greenhouse gas emissions of about 1.2 billion tons in 1990.

Japan is expected to seek similar agreements with other countries.

55. GM Reportedly To Mass-Produce Fuel-Cell Cars In 2008

General Motors Corp. plans to test an eco-friendly fuel cell car in Japan by the end of this year and mass-produce such cars starting in 2008, the Nihon Keizai Shimbun (Nikkei) said. The world's largest automaker, which sees Japan as a major market for next-generation vehicles, will be the second foreign automaker to carry out such tests in Japan following Germany's DaimlerChrysler AG, the paper said.

The giant automaker, which has been heavily investing in the technology, has said the first fuel cell-powered GM car for the retail market will not arrive until 2010. GM expects, however, to have market-ready fuel cells by mid-decade, with first applications outside the automotive industry, the paper said.

Japanese automakers like Toyota Motor Corp. and Honda Motor Co. are set to release such vehicles by the end of this year, and Mazda Motor Corp. has already carried out testing. GM plans to use the Zafira minivan of its German unit Adam Opel for the fuel-cell tests,

the paper said.

56. Beijing To Mix Conservation, Renewal For Olympics

Beijing's top planner said that the city plans to preserve additional neighborhoods in its ancient heart and ring the area with greenery in the run-up to the 2008 Summer Olympics. But a year after landing the Games, the city is still demolishing inner city homes and spending most of its money to widen clogged roads and tackle pollution, said Shan Jixiang, director of the Beijing Planning and Design Committee.

Beijing was already in the throes of a sweeping "beautification" drive to "internationalize" the capital's helter-skelter look when it was selected to host the Olympics. Under demolition plans that took effect in 1990, the bulldozers were to spare only around 600 of some 6,000 maze-like alleyways, or hutongs, in Beijing's dilapidated core. Now, planners have earmarked five new areas for conservation, increasing from 17 to 21 percent the protected area within the once-walled imperial capital. Still, 69,000 households would be displaced in 2002, according to a news release, about 10 times more than in 1990.

In the past year several neighborhoods have seen protests over forced evictions from the hutongs and over the amount of compensation offered by government-backed developers. About 2,100 people had to be moved to uncover a hidden stretch of Ming Dynasty wall which survived the demolition ordered after the Communists took power in 1949, said Shan.

Residents had donated 200,000 bricks to help restore the section of wall, which is to become the centerpiece of a new park. A buffer zone of parkland would surround the outer boundary where the rest of the wall once stood.

Construction of Olympic venues will begin in the second half of 2003, he said. Architects from 15 different countries and regions have submitted 91 proposals in open bidding for the two major Games sites to the north and west of the inner city. The public will be able to vote on them at an exhibit opening soon, and the city will announce the winners later this year.

Shan said Beijing would sink three-quarters of its urban improvements budget from 2001 to 2005, or some 135 billion yuan (\$16.3 billion), into environment and transportation. The city estimates its total Olympics tab will be around \$37.5 billion.

57. CSE Study Finds Supreme Court Ruling Will Halve Particulate Emissions From Goods Vehicles

A Centre For Science and the Environment (CSE) study shows that the Supreme Court ruling that prohibits the entry of polluting trucks into Delhi and mandates Euro II compliance for the city's trucks and goods vehicles will dramatically reduce particulate pollution levels in the capital. The recent Supreme Court ruling prohibits the entry of polluting trucks into Delhi and mandates Euro II compliance for the city's transportation fleet. More than 65,000 trucks and other goods vehicles will be barred from entering Delhi after the Court order is enforced. Immediately after the Court ruling, CSE estimated the impact of this move on emissions from truck sources into Delhi with the help of its newly developed computer simulated vehicular emissions load model. The results are dramatic.

The combined move of barring the entry of polluting trucks and other goods vehicles; allowing entry only to Euro II compliant vehicles; and mandating only a Euro II compliant city fleet will reduce particulate matter emissions from these

vehicles by a whopping 55 per cent. After the speedy conversion of the city's bus fleet to CNG, trucks and goods vehicles have emerged as the largest contributors of particulate matter emissions in the capital today -- emitting as much as 45 per cent of the total particulate emissions from vehicular sources.

An immediate emissions reduction of 55 per cent is expected on account of the removal of a sizeable number of incoming trucks and goods vehicles from Delhi's congested -- and polluted -- roads.

Over time however, the fleet of Euro II compliant trucks and goods vehicles that will replace the ageing truck fleet will increase and so will the emissions load. CSE therefore believes that this means Delhi will need a bolder road map for the future in order to sustain the immediate benefits of lower emissions.

The Supreme Court ruling of July 15, 2002 has also issued show cause notice to the Police Commissioner and the Delhi government for non-compliance with its earlier order of banning the entry of trucks and other goods traffics into Delhi. In its order of December 6, 2001, the Apex court had banned such entry effective from January 15 this year. The Delhi government was supposed to formulate a scheme to implement this order. These vehicles can enter only on payment of toll and tax for transportation of goods to and from Delhi. The Supreme Court also ruled that no corridor joining different highways should pass through Delhi.

58. China Wrestling With The Low Sulfur Issue

A. Background

Over the past 50 years, China has become the fifth largest oil producer in

the world and its refining system the world's fourth largest. The technical foundation of the industry was initially adapted to handle the quality of Chinese crude, most of which is heavy, low-sulfur and waxy, and to the need to provide substantial quantities of fuel oil to industry. China's oil industry entered a new era in the 1990s as accelerating domestic demand for oil eroded the exportable surpluses of the 1980s. By 1993, China had become a net oil importer. In addition, growing concern over the environmental impact of rising oil consumption led to investments in new refining technologies and the revision of product specifications. Among the earliest policy targets was the elimination of 66 and 70 MON specification for gasoline, raising the new minimum to 90 RON (Research Octane Number) and eliminating alkyl-lead additives for octane enhancement through the increased use of alkylates, reformate, and MTBE and other oxygenates in gasoline blending. New unleaded specifications for 93 and 97 octane (RON) gasoline were added as well.

B. Current Fuel Challenges

China is committed to increasing the quality of petroleum products, but the industry faces two broad challenges to achieving this goal. One broad area of challenge is the near-term feedstock and technology issues related to tightening specifications on products produced from China's 'traditional' crude slate of heavy, low-sulfur domestic crudes. The second, longer-term area of challenge is the technology and feedstock issues related to the maintenance or further tightening of product quality standards—particularly sulfur—in the face of the inevitable rise in the proportion of higher-sulfur imported crudes in China's processing slate.

To deal with the problems of air pollution, China has initiated a motor vehicle pollution control effort. China has moved quickly to eliminate the use of leaded gasoline and recently introduced EURO 1 standards for new cars and trucks. It has also been decided to introduce the EURO 2 standards in 2004 (2003 in Beijing). However, in spite of this, the emissions requirements for new vehicles lag those of the industrialized world by

approximately a decade. In the current 10th Five Year Plan, however, China stated its goal to eliminate this gap by 2010. To achieve this goal, China will need to substantially upgrade fuel quality as the quality of fuels is inextricably linked to the emissions regulation of vehicles.

With regard to product quality and specifications, the system faces a number of challenges, as summarized below.

Comparison of EU reference fuels with China's fuels

Petrol							
Parameter	Unit	EU-III, IV		EU-I, II		GB 17930	
		Min.	Max.	Min.	Max.	Min.	Max.
Research octane number		95.0		95.0		90, 93, 95	
Reid vapor pressure	kPa	56.0	60.0	56	64		88 ⁽¹⁾ 74
Distillation:							
- initial boiling number	□	24	40	24	40		
- evaporated at 100□	% v/v	49.0	57.0				
- evaporated at 150□	% v/v	81.0	87.0				
- 10% vol point	□			42	58		70
- 50% vol point	□			90	110		120
- 90% vol point	□			155	180		190
- final boiling point	□	190	215	190	215		205
Residue	□		2		2		2
Hydrocarbon analysis							
- olefins	% v/v		10		20		35
- aromatics	% v/v	28.0	40.0		40 ⁽²⁾		40
- benzene	% v/v		1.0		5.0		2.5
- saturates	% v/v	balance		balance			
Oxidation stability	min.	480		480			
Oxygen content	% m/m		2.3		⁽³⁾		
Existent gum	Mg/ml		0.04		0.04		0.05
Sulphur content	Mg/kg		100		400		800
Lead content	G/l		0.005		0.005		0.005
Phosphorous content	G/l		0.0013		0.001		
Diesel fuel							
Parameter	Unit	EU-III, IV		EU-I, II		GB 252	
		Min.	Max.	Min.	Max.	Min.	Max.
Cetane number		52.0	54.0	49	53		45
Distillation:							
- 50% point	□	245		245			300
- 90% point	□			320	340		355

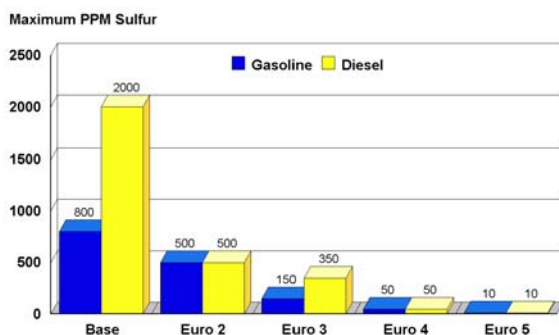
- 95% point	□	345	350			365
- final boiling point	□		370		370	
Flash point	□	55		55		
Sulfur content	mg/kg		300		500	2000
Oxidation stability	mg/ml		0.025		0.025	
(1)	88 is applied from 16 th , Sept. to 15 th , March, and 74 is applied from 16 th , March to 15 th , Sept.					
(2)	Including max. 5% v/v benzene.					
(3)	Addition of oxygenates prohibited.					

Solutions to many of these technical challenges are achievable though increased investment in the sector. Since becoming a net importer of oil in 1993, imports of crude oil alone have risen dramatically, and are projected to reach at least 1.9 million b/d by 2005, and 2.16 million b/d or more by 2010.¹ In recognition that long-term supply stability requires dependence on the major Middle Eastern producers, China has begun to convert selected coastal refineries to process higher-sulfur grades, including refineries at Maoming, Guangzhou, Zhenhai, Shanghai, Jinling, and Qilu. Currently, total capacity to process higher sulfur crudes is about

The Energy Foundation has recently funded a study to examine what needs to be done with China's refineries to provide the necessary fuel quality.² This project examined China's current plans for upgrading its coastal refineries to handle higher-sulfur crudes, and on the basis of current investment plans, assessed the incremental costs of upgrades and measures that would be needed to produce cleaner-burning fuels under a variety of product specification scenarios.

The Figure to the left illustrates the various fuel sulfur levels analyzed. As noted earlier, the intention was to start from the current requirements, the so-called base case, and then to track the requirements that are being phased in across the EU.

Fuel Sulfur Levels Analyzed



370,000 b/d, and 200,000 b/d of higher sulfur crudes were actually processed in 1999.

C. Where Things Stand

In addition to the Base case, eleven alternative fuel scenarios were analyzed, as shown in the Figure below. Scenarios A, B (both phased in by 2005), C, D and E (by 2010) consisted of a **complete** shift to Euro 2, Euro 3, Euro 4 or Euro 5 fuels. Scenarios F, G (both by 2005), H (by 2008 to coincide with the Beijing Olympics), I, J and K (by 2010) involved partial phase in schemes in

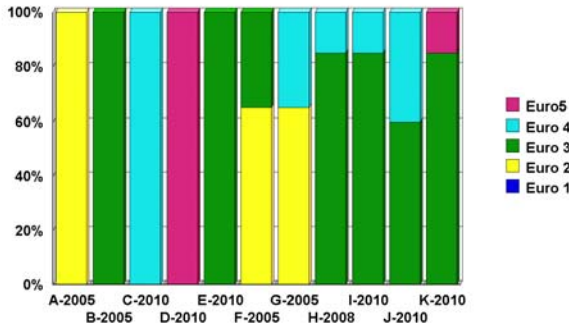
¹ By 2010, Middle East higher sulfur crude is expected to account for 68% of imports.

² "Improving Transport Fuel Quality in China: Implications for the Refining Sector", DRAFT REPORT, 16 May 2002, Trans-Energy Research Associates, Seattle, WA, China Petrochemical Consulting Corporation, Beijing, Lawrence Berkeley National Laboratory, Berkeley, CA

which the cleaner fuels are initially delivered to one or major urban areas.

less than \$0.01 per gallon for gasoline and less than \$0.02 per gallon for diesel. Scenarios F and G which mix 65% Euro 2 fuel with 35% Euro 3 or Euro 4, respectively, cost only slightly more than 100% Euro 2; in fact, complete conversion to Euro 3 (Scenario B) fuel is also considered feasible and only slightly more costly.

Different Fuels Scenarios Which Were Analyzed



The costs of producing the various fuels were calculated both in terms of capital investment and per gallon with the results summarized below.

Converting to Euro 2 fuels (500 PPM maximum sulfur) across the entire country by 2005 (Scenario A) is seen to be feasible and relatively low in cost,

Incremental Cost Per Gallon Of Going Beyond 100% Euro 2 In 2005

	Gasoline	Diesel
35% Euro 3	\$0.0002	\$0.0003
35% Euro 4	\$0.0004	\$0.0004
100% Euro 3	\$0.0029	\$0.0012

If Euro 3 fuel is introduced across the country by 2005, the next question is what is the incremental cost of going beyond that in 2008 or 2010. These costs are summarized in the table below.

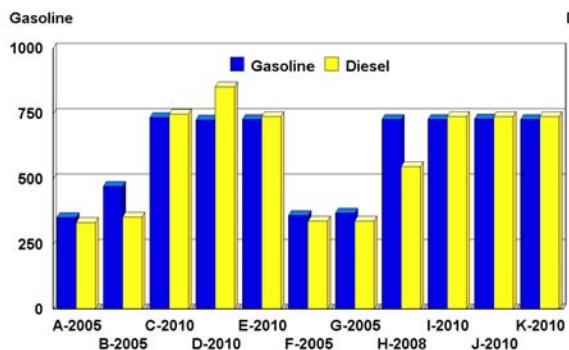
	Gasoline	Diesel
15% Euro 4^a	\$0.00260	\$0.0059
15% Euro 4^b	\$0.00398	\$0.01107
40% Euro 4	\$0.00402	\$0.01107
15% Euro 5	\$0.00398	\$0.01108
100% Euro 4	\$0.00412	\$0.01151
100% Euro 5	\$0.00394	\$0.01595

A= 2008
B= 2010

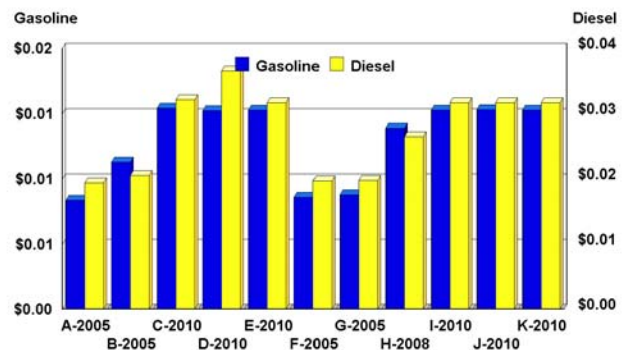
As these results indicate, continuing beyond Euro 3 to Euro 4 or 5 fuels by

2010 would involve less than one-half cents per gallon for gasoline and about

Cost of Each Scenario \$000/Day



Cost Per Gallon of Each Alternative Fuel Scenario



one cent per gallon for diesel.

D. Workshop

In order to discuss the fuels problem in China and the results of the low sulfur cost analysis, a one-day workshop was held on July 23rd in Beijing. At the workshop there was general agreement that low sulfur fuel will be necessary if China is to achieve its goal of attaining parity with EU standards by 2010. In addition, there were no concerns raised regarding the cost study or its methodology or its results.

PetroChina indicated that it would not be difficult for them to produce gasoline meeting 200-300 PPM sulfur and 500-PPM diesel. Sinopec indicated the challenge for them would be greater but that they could produce 500 PPM gasoline and, at least for on road vehicles, 500 PPM diesel fuel. Achieving Euro 2 and Euro 3 levels would be possible for China with technologies which already exist and which have been commercialized. They also indicated a thorough understanding of the technologies necessary to achieve Euro 4 or Euro 5 levels. While some additional technology advances were necessary and anticipated, both oil companies responded yes when asked if they could achieve these levels by 2010 if asked by the government. RIPP indicated that it is confident these levels could be achieved in this timeframe.

59. Bangladesh Bans Polluting Three-Wheelers; CNG Tuk Tuks Step In

Bangladesh has announced that it will institute a ban on three-wheeled vehicles with two-stroke engines on the streets of the capital Dhaka as early as next month to cut down on air pollution. Environment Minister Shahjahan Siraj said the government had already banned imports of the diesel fueled three-wheelers, used mostly as cheap

taxis and responsible for much of the air pollution in Dhaka.

Siraj said all the parameters of air pollution were on the up trend and had mostly exceeded the permissible limit in heavy traffic areas. The city's air pollution levels are considerably higher than the Bangladeshi standard set by the World Health Organization (WHO) guidelines for residential areas. The World Bank, which is financing a \$5 million Bangladesh air quality management project, has said the exposure of the public to air pollution in Dhaka is estimated to cause 15,000 premature deaths and several million cases of sickness every year.

Dhaka has an estimated 10 million people, 30 percent of whom live in slums. Officials blame Dhaka's 17,000 registered three-wheelers for the city's deteriorating air quality.

The tuk-tuks, the popular three-wheeled vehicle widely used in Thailand, almost simultaneously made its debut as a replacement for the baby taxis. Bangladeshi company International Project Support Services System Limited (IPSSL) imported the Thai vehicle, which runs on compressed natural gas (CNG). IPSSL would import 1,000 tuk-tuks by next month from Thai manufacturer Nattachote Industries Company Limited (NICL).

Bangladesh, which has 15 trillion cubic feet of natural gas in reserves, has already started converting the engines of cars and other vehicles to run on CNG.

60. Korea Seeks to Improve Air Quality By Reducing Automotive Emissions

The South Korea Ministry of Environment released July 26 a new 10-year plan to improve air quality in the densely populated and heavily

developed region in and around Seoul by focusing on reducing automotive sources of air pollution. Under the new plan, the ministry aims to achieve a 40-percent reduction in airborne particulate matter, a 50-percent reduction in nitrogen oxides, a 60-percent reduction in sulfur oxides, and 70-percent reduction in volatile organic compounds from 2000 emission levels over a ten-year period through 2012.

The numerical targets will apply collectively to Seoul, 20 other cities around the capital, and four power plant complexes and one large industrial park located close enough to the capital region that migration of air pollutants occurs.

In addition, the ministry will expand its current twice-a-year surcharge on diesel-powered vehicles to all motor vehicles.

The ministry plans in August to draft a "special law on the improvement of air quality in the capital region" to implement the plan and submit the bill to the National Assembly before the end of this year. The proposed legislation calls for the establishment of a special air quality management committee to formulate and enforce emissions regulations in the region.

The ministry will introduce an emissions trading market for the four targeted air pollutants in the region on a gradual basis from 2005 to help industrial companies meet emission reduction targets set by the special committee. This will be developed in line with the Ministry of Commerce, Industry, and Energy's own initiative to push for an emissions trading in the power, steel, and petrochemical industries from 2004.

Under the Commerce Ministry's version, a mock emissions trading market will be launched as early as August and first

run by power utility companies. Manufacturers of steel and petrochemical products will join the pilot program next year. Real trading in emissions trading rights will begin in 2004 in the power, steel and petrochemical industries with more industries to be covered after 2004. An emissions reduction registration program will also be developed between 2002 and 2004 to track and verify emissions reductions by companies participating in emissions trading. No special legislation will be required, the ministry said.

Meanwhile, the Environment Ministry's proposal is aimed at giving companies located in the capital region and affected by the new regional emissions standards a choice of emissions trading to meet the standards. While the Commerce Ministry's plan broadly targets greenhouse gas emissions, the Environment Ministry's proposal focuses on the four types of air pollutants: airborne particulate matter, nitrogen oxides, sulfur oxides and volatile organic compounds. The environment ministry said its plan would be included in the proposed special legislation.

Much of the regulatory impact from the new 10-year plan will be felt by the automotive sector. In 2006, the emissions standards for new gasoline-powered vehicles will be strengthened to California's Ultra Low Emission Vehicle (ULEV) standard, and those for new diesel-powered vehicles will be strengthened to the Euro IV standard--another in the series of progressively tougher emissions standards being phased in both in the European Union and other nations worldwide. New standards twice as stringent as these international standards will be implemented in 2010. South Korea's diesel emission limits are currently aligned with the less stringent Euro II standards.

The emissions standards for bulldozers, forklifts, excavators, and other off-road, diesel-powered equipment will be set at levels equivalent to the U.S. Tier 1 federal standard from 2003 and the Tier 2 federal standard from 2005. The U.S. Environmental Protection Agency's Tier 1 standards were phased in from 1996 to 2000 for engines with more than 302 horse power. A more stringent Tier 2 standard for all engine sizes takes effect from 2001 to 2006. Finally, Tier 3 regulations are scheduled to go into effect in 2006, with a particular emphasis on controlling nitrogen oxide emissions.

More stringent sulfur content standards will apply to gasoline and diesel fuel, and pollution reduction devices will become mandatory for trucks from sometime in the 10-year period.

The 10-year plan also envisions 150,000 gasoline-electric hybrid cars and 100,000 electric cars on the road, and most fleets of city buses running on natural gas engines in 2012.

The ministry's plan will cost an estimated 5 trillion to 6 trillion won (about \$4.2 billion to \$5 billion). To help meet the funding needs, the ministry plans to expand the existing environmental surcharge program from diesel-powered vehicles to all motor vehicles. Currently, the "air quality improvement" surcharge of less than \$100 is levied semiannually--in March and September--on diesel-fueled vehicles only. The amount payable is indexed for inflation and tied to the age and pollution weighting of the vehicle. Funds collected from the surcharge are placed in a special Environment Ministry account and used to finance various environmental policy programs.

61. Nissho, Mitsubishi Heavy In Indonesian CO2 Project

Japanese trading house Nissho Iwai Corp and Mitsubishi Heavy Industries Ltd plan to build a large plant in Indonesia to recycle carbon dioxide (CO2) collected from liquefied natural gas (LNG) and power production facilities, a Nissho spokesman has announced. The two firms have agreed with an oil and gas research center affiliated with Indonesia's Ministry of Mining and Energy to start a feasibility study in September with a view to building a gas-collection plant in Kalimantan, on Borneo island. The total cost, including a construction, was estimated at 100 billion yen (\$836.4 million).

The plant would be built by the end of 2004 with the aim of starting the operation by 2006. The partners plan to recover 30,000 tons of CO2 per day and to sell the gas to operators of oil fields in the Badak region. Injecting CO2 into oil fields can increase production by some 50 percent. During the injection process, gas is absorbed into the ground, enabling CO2 emissions to be reduced.

The technology to inject CO2 into oil fields is already commercialized in the United States, where about 22 million tons of CO2 are recovered annually.

GENERAL

62. Pope Says Environmental Protection Is 'Moral Duty'

In a rare statement on a completely secular issue, Pope John Paul II signed a statement saying that protecting the environment is a "moral and spiritual duty" to Christians. The pope signed the statement June 16 during a special video link with Ecumenical Patriarch Bartholomew I, the spiritual leader of the world's Orthodox Christians, who also signed the document. According to

Vatican archives, the statement was the first from the Holy See specifically regarding the environment during John Paul II's 24-year papacy. The statement the two leaders signed said they were "concerned about the negative consequences for humanity and for all creation resulting from the degradation of basic natural resources such as water, air, and land, brought about by an economic and technological progress which does not recognize and take into account its limits."

63. Record Sea Temperatures Threaten Great Barrier Reef

Sea temperatures at Australia's Great Barrier Reef last summer were the warmest on record and this year's El Nino event means the risk of mass coral bleaching has increased considerably, scientists have reported. The Australian Institute of Marine Science (AIMS) has just completed an atlas of sea temperatures over the past decade and amalgamated it with historical data to show 2002 was the warmest year for water temperatures off northeast Australia since 1870.

The rise in temperatures around the world's largest living organism coincided with mass bleaching earlier this year that affected around 60 percent of the Great Barrier Reef's 345,400 square km (133,300 square miles) of coral. "Unless the corals can adapt and become acclimatized then obviously the long-term future for the coral is at risk," said AIMS oceanographer Craig Steinberg.

"The outlook isn't good. If coral can't adapt then they're going to bleach and you get mass mortality."

The sea temperature over the last century has risen by just half a degree Celsius. But corals tend to live within one to two degrees of their maximum temperature threshold and a tiny increase is therefore enough to ensure a

major impact. Bleaching occurs when coral becomes stressed. It involves a breakdown in the symbiotic relationship between the coral and algae and in severe cases the coral will die.

The last time the reef's coral bleached because of higher than normal temperatures was in 1998, when the El Nino weather phenomenon warmed the waters of the Pacific, bringing drought to eastern Australia and floods to parts of Latin America.

Coral can recover after mild bleaching but researchers fear that its ability to overcome heat stress may be weakened as high temperatures become more common. AIMS researchers are trying to establish whether coral has the ability to adapt quickly to changing temperatures. There is evidence that they can over long periods of time, but so far no indication of any short-term ability to acclimatize.