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CAR LINES

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EUROPE

1. EU Proposes Emission Standards For Small Utility Engines

The European Commission (EC) has adopted a proposal on emission standards from small machinery equipped with gasoline (petrol) engines. The types of engines covered are used in for instance lawn movers, chain saws, bush cutters, trimmers and snow removal equipment. Emissions from small utility engines are currently not regulated in the European Union. The proposal includes two stages of limit values, the first to be met 18 months after the regulation is in force and the second one between 2004 and 2010, depending on the engine category.

The proposed standards have been developed in co-operation with the US EPA with an intention of a world-wide standard harmonization. This would streamline the engine development process for the manufacturers and allow the possibility to market one engine concept world-wide.

The adopted proposal, COM (2000)840, will amend and become a part of the Directive 97/68/EC, which regulates emissions from non-road diesel engines.

2. EU Lawmakers Set 10-year Plan For Environment

The European Commission has launched an environmental action plan which will guide its policies for the next 10 years. The Commission - the body which drafts all European legislation - has identified four main areas where it needs to concentrate its efforts: fighting global warming, protecting nature, improving health and the environment, and preserving natural resources.

The strategy contains few new initiatives but

is seen as a road map on the direction EU policies will take in the foreseeable future. About 80 percent of national environmental measures in the EU are based on EU laws. A key element of the strategy, entitled "Environment 2010: our future, our choice", is an emphasis to work with industry and consumers to make production and consumption patterns less environmentally damaging.

"In order to meet our objectives, legislation won't do it all for us - we have to convince business that there's a win-win situation also for them," EU Environment Commissioner Margot Wallström told a news briefing.

The strategy foresees greater use of voluntary initiatives to encourage industry to improve its environmental performance and reward the better companies with, for example, streamlined permitting procedures. The paper, which marks a move away from the traditional approach of limiting emissions from chimneys and outlet pipes, puts great emphasis on using market-based mechanisms to promote greener products, such as increasing use of "eco-labels" and ecological audits for companies.

"(Environmental protection) is not about denying prosperity for people, it's about policy making that seeks to de-couple growth from environmental impacts," Wallström said.

However, the Commission's paper also recommends some tougher policy instruments as ways of influencing the market - legal liability for environmental damage and environmental taxes where politically feasible. The Commission said it would make more effort to ensure countries implement existing legislation, but it also identified certain business sectors as the focus for tougher environmental regulation.

The chemicals industry will be confronted by the Commission's quest for a "non-toxic environment" and its aim to test and better control hazardous substances. Pesticides are particularly singled out for special attention. The Commission also intends to draft measures to tackle noise pollution and protect soil quality - two areas EU policy has barely touched on up to now.

The paper contains no cost estimates for the measures proposed and few deadlines. It was immediately criticized by green groups for being too vague.

The strategy will be discussed by national EU governments and the European Parliament which will agree a final version.

3. Environment A High Priority for EU President Sweden

Concern about the environment is growing after a year which saw floods from Africa to Europe and the failure of global climate talks. For Sweden, determined to put environmental issues at the center of its stewardship of the European Union, the heightened awareness - driven home by torrential rain and disastrous floods in Sweden in late summer and early winter - is both a challenge and an opportunity.

The environment is one of the "three E's" - together with enlargement and employment - that Sweden has set as its priorities while it holds the rotating EU presidency for the first six months of this year. Sweden is keen for the 15-member union to make progress on taking in the dozen candidate countries, mainly from Eastern Europe, but it also wants to make sure the new members observe the same environmental standards as the present EU.

Targeting the environment shows politicians

have started to realize that change is needed, said Bert Bolin, professor of meteorology at Stockholm University and former chairman of the United Nations panel on climate change. "The economic and political costs of natural disasters caused by pollution are getting bigger and bigger as the ecological system loses equilibrium," he said.

For instance heavy use of fossil fuels is creating greenhouse gases such as carbon dioxide (CO₂), which boost temperatures, melting ice at the poles and raising sea levels, threatening low-lying countries. Scientists are not certain that there is a direct link between greenhouse gases and last year's floods in Africa, Asia, Australia and Europe. But most say the emissions aggravate climate conditions, as wet regions became wetter and dry areas dry up, leading to problems with water supplies and food. Governments around the world have agreed in principle to cut these emissions.

"If we don't start working to curb global warming now we will see a lot of people having to move which will be very costly," Bolin said. "It will take 20-50 years to make a change once we've started to reduce greenhouse emissions."

Global climate talks deadlocked in December when the United States and Europe disagreed on how to carry out reductions in emissions of greenhouse gases agreed in Kyoto, Japan, in 1997. The United States, which is backed by Canada, Australia and Japan, wants to allow developed countries to count carbon dioxide soaked up by forests in its targets for cutting emissions. It also wants maximum flexibility for countries to trade emissions credits. The EU wants them to meet most of their targets by cutting emissions at home.

If the talks are not restarted by the end of Sweden's presidency in June, one opportunity

to discuss the issue will be an expected visit by George W. Bush to meet EU leaders that month, the first visit by a US president to Sweden.

At home, Sweden wants to cut emissions by encouraging rail transport, and will construct a new line between Stockholm and the northern city of Umea. "To cut CO2 emissions we'll initiate a campaign to move people and transport from road to rail," said Swedish Environment Minister Kjell Larsson.

Another way to cut emissions is to encourage the transition from fossil fuels to renewable energy such as wind, solar, biomass and small hydropower and support new technology for more efficient energy use. But Swedish officials say that measures such as these will not suffice to curb emissions.

"The only two real alternatives to curb the greenhouse gases are higher taxes and trade of emission quotas," said former environment minister Olof Johansson, who heads the government's climate committee.

The focus on environmental issues will also help a Swedish government facing strong voter scepticism about the EU. An opinion poll last month showed 43 percent of Swedes oppose membership of the EU, which Sweden joined in 1995, while only 37 percent were in favor.

The environmentalist Greens, and ex-communist Left Party, which both support the minority Social Democratic government in parliament, combine an anti-EU stance with tough environment policies.

"We hope the EU will become more attractive by showing how important we consider the environment to be," said Larsson.

And Sweden is determined not to let concern

about environmental problems on the other side of the Baltic undermine public support for enlargement of the EU. "Applicants should understand they can't wait with shaping up their environment and that it is central for the negotiations for membership," said Larsson.

Lithuania's Chernobyl-style two-reactor nuclear power plant in Ignalina will not be an obstacle to membership for the Baltic state as it has agreed to close one reactor by 2005 and will decide the fate of the other in 2004.

Sweden, which closed its first reactor in 1999 under plans to phase out nuclear power, has invested about one billion crowns (\$106 million) since the beginning of the 1990s to clean up the Baltic Sea. But it wants to involve an even greater neighbor in improving the environment of the Baltic region.

Sweden is keen to help Russia's Baltic enclave of Kaliningrad, squeezed between EU candidates Lithuania and Poland, which suffers from nuclear waste and other pollution. And it is concerned about nuclear safety in Russia's northern port of Murmansk, where a floating cemetery of more than 100 discarded nuclear submarines drifts in the Barents Sea. "I hope that Russia won't see this as only an EU issue," said Larsson.

4. Sweden Sets Tougher Goal For CO2 Emissions

Sweden said it had set a tougher goal for reduced carbon dioxide (CO2) emissions and was considering tax hikes to set an example for global efforts to curb harmful climate change. Environment Minister Kjell Larsson said that Sweden now plans to cut CO2 emissions by two percent during 1990-2010. It had previously set unchanged output as a target for this period.

"The government has raised its awareness of

climate change after the floods last summer and autumn and has understood we need to shift to a higher gear in our climate policy," he said.

Sweden, which has set the environment high on the agenda during its presidency of the European Union in the first half of this year, is allowed to increase its CO₂ output by four percent according to a global plan to cut emissions of greenhouse gases, the Kyoto Protocol. A fresh report from the United Nations' International Panel on Climate Change, IPPC, linking emissions of CO₂ from humans with rising temperatures and climate change, has made it more urgent to reduce emissions, Larsson said. But he added Sweden needs an ambitious goal for reduced emissions to inspire other European countries as well as those applying for EU membership.

"I hope this will serve as a carrot for others to reduce their emissions," he said.

Sweden already has one of the lowest emission levels of CO₂ in the EU of 6.4 tonnes per capita, compared with the European average of 9.0 tonnes.

The government is likely to raise taxes on fossil-based energy over the next 10 years, although an increase is unlikely this year, Larsson said. Other possible measures would be subsidies to encourage switching from fossil fuels for heating and power to renewable energy such as solar, wind, biomass and small hydropower, he added.

5. MEPs Kick-start Debate on Motorbike Emissions

The European Parliament's environment committee has voted to tighten a draft EU directive to control polluting emissions from motorcycles by introducing a second round of stricter emission limits three years after those

already foreseen in a European Commission proposal. Despite accounting for only 2-3% of total traffic volume in Europe, motorcycles are expected to account for 15% of transport hydrocarbon emissions in 2010, the EU's second Auto/Oil program revealed. To counter the trend and bring emission limits closer to those of passenger cars, a 1997 directive on two and three-wheel motor vehicles is now being revised.

The committee endorsed the Commission's proposals for new limit values to be introduced in 2003 for carbon monoxide (CO), hydrocarbons (HC) and nitrogen oxides (NO_x), affecting motorcycles, tricycles and quadricycles. But it added a second set of tighter limits to be met from 2006 rather than scheduling a later review. For motorcycles, the main group targeted by the legislation, the 2006 targets suggested by the committee are as follows:

For bikes with engines under 150 cubic centimeters (cc) they are 2 grams per kilometer (g/km) CO, 0.8 g/km HC and 0.2 g/km NO_x.

For bikes with engines over 150cc they are 2 g/km CO, 0.2 g/km HC and 0.15 g/km NO_x.

MEPs also supported German social democrat rapporteur Bernd Lange's insistence on adding limits on particulate matter for diesel-engined tricycles and quadricycles. This should be 0.1 g/km from 2003.

Mr Lange endorsed the "carrot-and-stick" approach of the regulation, which allows member states to give tax breaks to manufacturers producing vehicles exceeding the targets. "Clear signals need to be given...[to] encourage the development of new technologies," he said.

The European Environmental Bureau hailed

the committee's vote, welcoming in particular the introduction of "in-use" checks to prevent high emissions caused by bikers "tinkering" with engines.

6. Swedish Study Says Rapeseed Emissions More Polluting Than Diesel

Rapeseed oil used as a green alternative to conventional vehicle fuels can produce 10 times more cancer-causing emissions and pollutants than diesel according to a new Swedish research report. Rapeseed oil or rapeseed methyl ester (RME) had been considered one of the best alternatives among bio-diesels. Its use as a green alternative was rising in Europe, especially in Germany, said Associate Professor Jim Olsson at the Department of Physical Chemistry at Chalmers University of Technology in Gothenburg.

In the study, scientists burned rapeseed oil at temperatures equivalent to those in a combustion engine and compared the emissions with those formed when burning a superior grade of diesel oil, SEC1.

"Rapeseed oil and RME produced factor 10 more 1-alkenes, dienes and benzene in comparison with diesel SCE1," the report said.

"The reactive intermediate organic compounds produced during oxidation of rapeseed oil and RME have strong ozone forming potentials. Subsequently they can promote formation of organic smog," it said.

Some of the rapeseed products such as alkene, 1,3 butadiene and benzene are also considered to be carcinogenic, it added.

"When it comes to alternative fuels people often advocate the advantages and overlook

the disadvantages. I think this is a disadvantage which has been overlooked," Olsson said.

Somewhat lower and less dangerous emissions could be achieved if engines were optimized for rapeseed oil but this would only reduce, not eliminate, the disadvantage compared with diesel, he said, adding: "People tend to use them (rapeseed oils) in ordinary diesel engines, and that is a problem."

7. Energy Taxes Must Rise To Save Climate Says EU's Wallström

The only way to persuade consumers and industry to reduce their reliance on the fossil fuels blamed for climate change would be to steadily increase energy taxes, EU Environment Commissioner Margot Wallström told a conference in Berlin. "Increasing energy prices is of course something that we should not leave to the oil producing countries. A well planned policy for energy taxation is the way forward," Wallström said.

Carbon dioxide from fuel use is one of the main contributors to the "greenhouse effect" that scientists say is warming the earth's temperature which will have devastating environmental consequences over the next 100 years. Under a United Nations pact forged in Kyoto in 1997, the EU promised to reduce its greenhouse gas emissions by eight percent of 1990 levels by 2010. But without more radical policies, the Commission estimates emissions will rise by seven percent.

Wallström said policy makers now had to face the politically unpopular reality that to reduce the demand for energy, prices have to rise. "How can we expect electricity users to invest in more efficient machines, appliances

or lighting systems when electricity is getting cheaper?" she said.

As the EU's on-going power market liberalization process was bringing energy bills down, only a common EU approach to increasing tax could ensure prices go up, Wallström said. Previous attempts by the Commission - the EU's executive arm - to harmonize Europe's varying energy taxes failed because of the resistance by some governments, particularly Spain and Britain, to relinquish this key area of national sovereignty.

As getting all 15 EU members to agree to harmonizing their energy taxes looked impossible, Wallström said a core of EU countries should push ahead with tax harmonization and let the others catch up. "Those member states that currently resist higher energy taxes may soon come to understand that without them they will have difficulties to achieve their Kyoto targets," she said.

The bitter pill of energy tax increases could be sweetened by reducing other taxes and by earmarking revenues for environmentally friendly investments such as public transport, she added.

The cost to industry of reducing their emissions over the next 10 years could be slashed by one third by allowing companies to buy and sell the right to pollute via an emissions trading scheme. Wallström said this could cut the climate change bill to six billion euros (\$5.64 billion) from an estimated nine billion.

8. New Study Indicates That UK Will Miss Kyoto Target by 20 Percent; Transportation Big Laggard

Britain is set to miss by a considerable

margin its target of reducing carbon dioxide emissions by 20 percent between 1990 and 2010, according to an independent study. "On our forecast, carbon dioxide emissions will increase over the next decade and in 2010 will be only 6.5 percent lower than in 1990," said private economic forecaster Cambridge Econometrics (CE).

CE said the UK government would miss its emissions target despite significant reductions in some sectors of the economy. Emissions from power generation would by 2010 be down 23 percent on 1990 levels thanks to a switch to gas-fired power stations. Emissions from manufacturing would be down 15 percent due to fuel switching and greater energy efficiency.

But emissions from commerce would drop by just one percent, while those from road transport would rise by four percent and emissions from households would climb 14 percent by 2010, CE said.

9. Ford Foresees Potential End of the Internal Combustion Engine

Non-polluting hydrogen-powered car technology could replace conventional oil-fueled vehicles within a generation, Ford of Europe Chairman Nick Scheele told a conference in Brussels where Ford was presenting a range of environmentally friendly cars.

Ford will be road testing a fleet of the fuel cell cars within the next two years, Scheele said. "We believe that fuel cell cars have the potential in our life-time to end the 100-year reign of the internal combustion engine,"

The head of the European Union's energy and transport policy, EU Commissioner Loyola de Palacio, test drove a prototype fuel cell Ford Focus and gave her seal of approval to the

technology. "Developing the use of hydrogen as a fuel would allow us to reduce road transport's impact on air quality and help reduce our reliance on oil products," de Palacio told the conference.

Car makers say it will be many years before fuel cell cars are widely available because of the high cost to make them and the difficulties of distributing and storing hydrogen.

Ford plans to launch its Think City cars - small battery-powered vehicles with a body made largely of plastic - in Europe, and an ethanol-powered Ford Focus on to the Swedish market later this year.

10. Metals Vie For Car Battery Dominance

Lead and nickel are battling it out for a winning battery configuration for a promising car of the future - the hybrid electric vehicle (HEV). Nickel seems to have gained the initiative for the moment, but lead also has its advantages as it is cheaper, more recyclable and the industry is set up to produce high volume.

Nickel metal hydride is the battery of choice for both Honda Motor Co. and Toyota Motor Corp. in their HEVs, which have a small internal combustion engine and a battery pack. Toyota's Prius model, the first hybrid on the market, has worldwide sales of about 50,000.

The next generation of HEVs from US car producers might also opt for this nickel technology, said Gerry Woolf, head of the Electric Vehicle Association of Great Britain. But, in the end, he thought lead-acid batteries would emerge the victor. "I don't see the nickel industry geared up to produce in volume," he said.

The technology is around 10 times the cost of

lead-acid, and nickel prices would inevitably rise as demand grew. The three-month lead price is currently trading at around \$500 per tonne on the London Metal Exchange, while nickel is at more than \$6,500 a ton.

Last March, CSIRO Energy Technology announced the launch of the first hybrid using lead-acid battery technology in Australia.

Potentially, lead has much to lose in the battle, as lead-acid batteries, mainly automotive, account for about three-quarters of global annual demand of 6.0 million tonnes. Lead accounts for 90 percent of the weight of existing lead-acid batteries. Developers are looking at bigger, heavy-duty higher-voltage batteries. But lead content might fall.

11. German Renewable Power Use Has Grown by 18 Percent According To VDEW

German renewable energy power production grew by 18 percent last year, increasing its share in the electricity mix from six to seven percent, the German electricity suppliers association VDEW has announced. "Power suppliers and private producers increased production from renewable energy in 2000 by 18 percent to 34.3 billion kilowatt hours, up from 29.1 billion in 1999," VDEW said in a statement.

"The share from hydro, wind, biomass, waste and solar energy sources climbed from six to seven percent of net electricity production," it added.

The main reason for the increase is the above-average increase in annual hydro power production and in the surge of wind power projects, VDEW said. Hydro power accounts for the biggest share of eco-power in Germany at 20.5 billion kWh, up from 19.7 billion kWh in 1999.

Wind power follows with 9.2 billion kWh, up from 5.5 billion kWh, biomass and waste produce 4.5 billion kWh, and solar generates 0.05 billion kWh.

German power suppliers produced a total of 500 billion kWh of energy in 2000.

12. German Economics Minister Optimistic On Power Industry CO2 Plan

German economics minister Werner Mueller has said he would give the green light for power industry proposals to voluntarily cut greenhouse gas emissions if an acceptable agreement was presented to the government by end-March. "If this can be achieved before the end of March, I would prefer such voluntary obligations over a law on quotas for combined heat and power production (CHP) plants," a speech manuscript distributed by the ministry quoted him as saying at the Cologne Chamber of Commerce.

The statement came within the context of a complicated debate about how Germany can best meet its commitments to lower CO2 emissions under international climate protocols. The Green Party, the junior partner in government coalition, wants to achieve CO2 emission cuts of 23 million tonnes a year by 2010 by promoting CHP plants, which are environmentally friendly, but expensive to operate. Opponents argue the draft law setting quotas for the mandatory minimum usage of CHP-generated power is flawed, because it may interfere with the market, conflict with EU laws, lead to heat wastage and subsidize some inefficient plants.

The industry presented Mueller with updated proposals for voluntary measures to cut CO2 emissions through efficiency drives and with the help of publically-funded schemes, which it hopes will avert quotas. The industry had

offered CO2 emission cuts of a total 45 million tonnes by 2010, of which 18-20 million tonnes would be derived through CHP plant expansions and new projects, he said.

This was much improved from a January 26 offer by the industry, which implied cuts in CO2 emissions of 13 million tonnes.

The latest offer needed to be "put into a concrete and verifiable form (by April 1)," Mueller said.

13. Climate Change Talks May Resume in Late June, Early July

International talks to limit the pollution that causes global warming will restart in late June or early July, the Dutch Environment Ministry said in a statement. However, no specific date or place for the new negotiations has yet been set, the ministry said.

The latest round of UN talks in The Hague, chaired by the Dutch, broke down in November after US and European Union negotiators failed to forge a compromise on how to meet targets to cut greenhouse gas pollution set out in Kyoto in 1997.

US and EU negotiators had met in Canada shortly after the failed Hague conference, but were unable to make progress.

Since then, a UN scientific body has said global temperatures are likely to rise by 1.4-5.8 degrees Celsius (2.5-10.4 degrees Fahrenheit) by 2100 and sea levels could rise by as much as 88 cm (34.6 inches). Such a dramatic change, brought on at least partially by the burning of fossil fuels, is expected to lead to increased incidence of extreme weather and flooding and force tens of millions of people to flee from low lying areas, according to the UN body.

But Dutch environment minister Jan Pronk said that governments were still interested in seeking an agreement to cut greenhouse gas emissions. "The political momentum is still present," Pronk, who was at the United Nations in New York, said in the statement. Pronk is the current president of the UN's sixth annual Conference of Parties (COP6) on climate change. He will direct the talks until a new president is selected in Morocco in November.

The United States had asked that talks be postponed from a tentatively scheduled May meeting to July in order to give the new US administration time to review its policies.

Key stumbling blocks remain in implementing the Kyoto agreement, which calls for industrialized nations to trim carbon dioxide output by about five percent by 2010. The US has favored allowing states failing to meet targets to buy credits from countries that have met their goals, as well as counting carbon sucked up by forests and farms. The EU has opposed both proposals, arguing that nations must make real cuts to greenhouse gas pollution.

NORTH AMERICA

14. Oil Refiners Announce Their Intention To Sue EPA Over Diesel Rules

US oil refiners announced that they will sue the Environmental Protection Agency (EPA) to change new green diesel rules they say are too strict and threaten consumers with shortages and high prices. The rules released last month are aimed at lessening particles spewed by diesel trucks and cleaning air for children, the elderly and people with respiratory ailments. They are to take effect in 2006. Under the rules, refiners would have to cut sulphur in diesel fuel to 15 parts per

million (ppm) compared to current levels of 500 ppm.

The National Petrochemical and Refiners Association (NPRA), the leading refiners association, said it is suing in order to prevent future diesel shortages. "We think it's a bad rule and we need to pursue every avenue in trying to improve it," said NPRA's Bob Slaughter.

This month, independent refiner Premcor USA Inc. shut its 80,000 barrel per day Blue Island, Illinois, refinery saying it did not generate the capital needed for investments needed to make cleaner-burning fuels.

"We fear that this announcement is just the beginning of refinery closures and reductions of petroleum product supplies including heating oil, gasoline and jet fuel," said NPRA's President Urvan Sternfels.

The group says high diesel prices will affect all consumers because trucks transport the majority of US products.

The NPRA has 60 days to file a suit following the publication of the new rules in the Federal Register. The group said it would file the suit in the US Court of Appeals for the District of Columbia circuit.

Christine Todd Whitman, EPA's new chief who was appointed by President George W. Bush, told senators she would review Clinton's diesel rules to see if changes are needed.

15. Clean Air Scientific Advisory Committee Approves EPA's Health Assessment Document for Diesel Exhaust

The Clean Air Scientific Advisory Committee (CASAC) of the EPA Science Advisory Board,

supplemented by expert consultants, met on October 12-13, 2000 to review the July 2000 draft document, *Health Assessment Document for Diesel Exhaust*, in a public meeting in Alexandria VA. This draft document was prepared by EPA's National Center for Environmental Assessment (NCEA), Washington, DC

An SAB Subcommittee conducted an initial review of the diesel topic in 1990. Subsequently, CASAC reviewed drafts of the diesel health assessment document in 1995 and 1998, finding in both cases that the document was not yet scientifically adequate for making regulatory decisions. A consultation between the Panel and NCEA Staff was held on June 10, 1999 regarding the development of the next draft. On December 1, 1999, CASAC reviewed the draft document and found it improved, but not sufficient to warrant closure.

During the October 2000 meeting, numerous suggestions were offered for additional revisions to improve the document's accurate and complete portrayal of current knowledge. Several key issues were discussed, and agreement between the Committee and Staff was reached on approaches to be taken to making changes addressing all key issues. Two issues engendered extended discussion.

It was agreed that two approaches would be taken to characterizing the level of long-term environmental exposure considered acceptably free from significant non-cancer health risk. A reference concentration (RfC) would be derived as before, but would include an interspecies uncertainty factor resulting in a value of approximately 5 g/m^3 . It was agreed that linkages between risks from diesel particulate matter (DPM) and ambient particulate matter (PM) would also be discussed, concluding that an annual national ambient air quality standard (NAAQS) for

$\text{PM}_{2.5}$ would be considered adequately protective for long-term exposures to ambient DPM.

The inclusion of a range of cancer risk values to provide a perspective on the possible range of lung cancer risk from environmental exposures was strongly debated. There were concerns for the conflict between inclusion of a range and the decision not to adopt a unit risk value for cancer, and for the likely misuse of the values despite Agency disclaimers. It was agreed that the range would be included, but accompanied by clear caveats and disclaimers concerning the uncertainty of the risk values, the use of the values, and the fact that the possible lower end of the risk range includes zero.

With mixed recommendations from its consultants, the Committee reached unanimous closure on the document on October 13th, based on assurances by Agency staff that key revisions would be made as agreed and attention would also be given to the numerous more minor issues raised by the Panel.

16. US MSHA Adopts Two Final Diesel Rules For Underground Mines

The Mine Safety and Health Administration announced two final rules to protect underground miners from emissions of diesel particulate matter (DPM). One of the rules regulates PM emissions in coal mines, the other in metal/nonmetal mines (i.e., noncoal mines). Both rules were published in the Federal Register on January 19.

Many underground miners are exposed to DPM levels that are many times higher than those encountered in any other occupational environment. According to MSHA, the new rules will ensure that miner exposures do not exceed those of other groups of workers

regularly exposed to diesel exhaust, such as truck and bus drivers. The new diesel regulations will affect 145 underground coal mines employing nearly 15,000 miners and 196 underground metal and nonmetal mines employing nearly 19,000 miners.

The regulations take different approaches to reduce DPM exposure in coal and in noncoal mines, as follows:

Metal/nonmetal mines: The final rule to protect underground metal and nonmetal miners will establish an "interim" DPM concentration limit of 400 microgram/m³ (micrograms per cubic meter of air) and, after five years, that level must be reduced to 160 microgram/m³. For the purpose of ambient sampling (according to NIOSH method 5040), DPM is defined as total carbon (TC), i.e., it includes elemental and organic carbon, but excludes metal ash or sulfates. Considering the current level of DPM exposure in North American mines, which typically ranges between 200 and 500 microgram/m³, but significantly higher levels are measured at some locations, the adopted regulations will force a widespread use of diesel particulate filters. The rule also introduces 500 ppm sulfur diesel fuel for metal/nonmetal mines (which has been already in effect in coal mines).

Coal mines: In underground coal mines, the new rule sets a specific emission limit of 2.5 g/hr (grams per hour) of DPM for permissible and non-permissible equipment. This emission limit replaces the explicit requirement to install 95% efficient particulate filters, which was criticized during the public discussion on the

proposed rules. These limits will be phased in for an operation's existing equipment inventory over a 48-month period (with an interim limit of 5 g/hr for non-permissible equipment), but new equipment must meet the emission limits sooner. Coal mine operators may use a combination of controls to comply with the emission limit but it is expected that, in most cases, meeting the limit will require the use of particulate filters. Only the smallest engines will be able to meet the 2.5 g/hr limit with no emission aftertreatment. Permissible vehicles, which are equipped with water scrubbers or heat exchangers, are expected to use disposable, paper-based particulate filter cartridges, while non-permissible equipment would use catalytic particulate filters.

17. EPA Issues Air Toxics Rule

On December 20, 2000, the US EPA signed another final regulation – the Rule to Control Emissions of Hazardous Air Pollutants from Mobile Sources, commonly known as the "Air Toxics" rule. The action addresses emissions of hazardous air pollutants (HAPs) from motor vehicles and their fuels.¹ Motor vehicles are significant contributors to national emissions of several hazardous air pollutants, notably benzene, formaldehyde, 1,3-butadiene, acetaldehyde, and diesel particulate matter and diesel exhaust organic gases.

In the rule, EPA lists 21 compounds emitted from motor vehicles that are known or suspected to cause cancer or other serious health effects. The Mobile Source Air Toxics

¹ Hazardous air pollutants refer to a range of compounds that are known or suspected to have serious health or environmental impacts.

(MSAT) list includes various volatile organic compounds (VOCs) and metals, as well as diesel particulate matter and diesel exhaust organic gases (collectively DPM + DEOG). The selection methodology we used to develop this MSAT list, which may be used to add compounds to or remove compounds from the list in the future as new information becomes available, is also described. In the rule, EPA also examines the mobile source contribution to national inventories of these emissions and the impacts of existing and newly promulgated mobile source control programs, including the reformulated gasoline (RFG) program, the national low emission vehicle (NLEV) standards, the Tier 2 motor vehicle emissions standards and gasoline sulfur control requirements, and the heavy-duty engine and vehicle standards and on-highway diesel fuel sulfur control requirements. Between 1990 and 2020, EPA projects that these programs will reduce on-highway emissions of benzene, formaldehyde, 1,3-butadiene, and acetaldehyde by 67 to 76 percent, and will reduce on-highway diesel PM emissions by 90 percent.

The rule also finalizes new gasoline toxic emission baseline requirements which require refiners to maintain current levels of over-compliance with toxic emissions performance standards that apply to federal reformulated gasoline (RFG) and anti-dumping standards that apply to conventional gasoline (CG). Because the new baseline requirements do not require refiners to install new equipment or use technologies beyond what they were using in the baseline period (1998-2000), EPA projects that this program will impose only negligible costs. The new baseline requirements are designed to prevent backsliding and to ensure that existing overcompliance with current standards continues. EPA is not setting additional vehicle-based air toxics controls at this time

because the technology-forcing Tier 2 light-duty vehicle standards and those standards being developed in response to the heavy-duty engine and vehicle standards represent the greatest degree of toxics control achievable at this time considering existing standards, the availability and cost of the technology, and noise, energy, and safety factors, and lead time.

Finally, because of EPA's continuing concern about the potential health impacts of public exposure to air toxics, the toxics rule also describes a Technical Analysis Plan through which EPA will continue to improve its understanding of the risk posed by air toxics to public health and welfare. It will also allow EPA to evaluate the need for and appropriateness of additional mobile source air toxics controls for on-highway and nonroad sources, and their fuels. Based on the information developed through this technical analysis plan, EPA will conduct a future rulemaking, to be completed no later than July 1, 2004.

18. 21st Century Truck Program Releases Technology Roadmap

The 21st Century Truck Program, a new U.S. multi-agency and industry partnership, released a "technology roadmap" for developing commercially viable technologies to increase energy efficiency, reduce pollution and improve safety in the nation's trucking industry. The 21st Century Truck Technology Roadmap establishes technical targets and fuel efficiency goals for 2010, along with safety-relevant performance targets.

The 21st Century Truck Program was announced on April 21, 2000, at a gathering of U.S. truck and supporting industries, concerned environmentalists, and federal agency representatives. The program's goals and research objectives are to improve fuel

efficiency, reduce emissions, enhance safety, reduce total owning and operating costs, and maintain or enhance performance.

According to the roadmap, the partnership will support research aimed at developing production prototype vehicles that achieve all of the following objectives:

- Improve fuel efficiency of heavy-duty trucks and buses:
 - specifically, double the Class 8 line-haul truck fuel efficiency, triple the Class 2b and 6 truck (delivery van) fuel efficiency, and
 - triple the fuel efficiency of heavy-duty transit buses.
- Reduce emissions.
- Enhance safety.
- Enhance affordability.

19. ARB Holds to ZEV Mandate; Increases Early Flexibility In Return For Ramping Up Out Years

California is holding firm to its zero emission vehicle (ZEV) mandate, directing automakers to produce between 4,450 and 15,450 electric cars starting in 2003. At its January 25th hearing, the California Environmental Protection Agency's Air Resources Board (ARB) voted to keep the 10-year-old ZEV Mandate in place, while making modifications giving automakers additional options in meeting their ZEV requirements.

"This action keeps us steadily moving along the road to an ever-increasing number of zero emission vehicles," said ARB Chairman Dr. Alan Lloyd. "We envision a future where consumers have an expanded range of clean-car choices when they shop for an automobile," he added.

The modifications enacted at the hearing

require automakers to begin putting new ZEVs on California roads by 2003. The number of ZEVs in 2003 can vary from 4,450 to 15,450, depending on the type of ZEVs the individual automakers chose to bring to market. Meanwhile, the Board's action also requires about 100,000 other highly clean vehicles in 2003 with this number increasing to more than 400,000 by 2006. The Board also decided to begin in 2007 including heavier sport utility vehicles, pickup trucks and vans in the sales figures used to calculate the number of ZEVs each automaker is required to sell in California. This will increase the number of vehicles used to calculate ZEV requirements from just under 1 million to more than 1.5 million. "More SUV sales will mean more ZEV sales," Dr. Lloyd said.

The ARB's meeting saw a major automaker for the first time voice acceptance of the ZEV Mandate. A spokesman for Ford addressed the Board, saying the automaker is prepared to fulfill its share of the ZEV requirement in 2003.

ARB's ZEV mandate is meeting its goal of spurring automakers to develop not just battery-powered electric vehicles but also other new clean-car technologies, including fuel cell vehicles, electric-gasoline hybrids and super clean gasoline vehicles.

Dr. Lloyd pointed out that automakers get incentives for introducing ZEVs prior to 2003. "We could start seeing new electric vehicles on California's roads as soon as next year," the ARB Chairman said.

In spite of the added flexibility provided by CARB, General Motors announced on February 23rd that it was taking the Board to court over the issue. Ignoring the impact that the ZEV mandate has had on stimulating a wide variety of advanced technologies including hybrid electrics and fuel cells along

with straight battery electrics as well as the impact the ZEV mandate has had on stimulating advances in conventional vehicle emissions controls, GM argues that because ZEVs are expensive to build in the short term, new car sales will be hurt sufficiently that air quality will actually be worse than it would otherwise have been.

20. Detroit Auto Show Highlights Emissions

Automakers focused on the environment at the motor show in Detroit this year.

General Motors Corp. outlined plans to offer high-mileage, cleaner-burning hybrid gasoline-electric engines in a variety of cars, trucks, city buses and other vehicles, beginning with a new sport utility vehicle (SUV) in 2004. GM said its new ParadiGM hybrid system, which will mate either a V-6 or inline four-cylinder gasoline engine with a pair of electric motors and a battery pack, will go on sale for only a slightly higher price than vehicles with traditional engines.

Honda Motor Co. Ltd.'s Insight and Toyota Motor Corp.'s Prius already offer consumers a hybrid system, but at a cost of thousands of dollars more than similarly packaged vehicles. And both automakers lose money on those cars.

Other manufacturers have announced more modest plans to introduce hybrid gas-electric engines to a limited number of vehicles in 2003.

DaimlerChrysler AG intends to introduce the first fuel cell buses in 2002 and the first fuel cell cars in 2004. Fuel cell vehicles provide an environmentally friendly alternative to regular combustion engine vehicles because they generate electrical power from hydrogen and atmospheric oxygen. The vehicles are more

efficient and emit lower levels of air and noise pollution.

Ford announced plans for an integrated starter-generator (ISG) on its Explorer SUV which will automatically turn the engine off at stop lights, saving fuel. The engine immediately starts up again when the vehicle moves. Ford truck vice president Gurminder Bedi said ISG feature will offer better fuel efficiency without compromising power, off-road capability or roominess. Ford plans to migrate this technology across other vehicles.

Ford has previously announced plans for a gasoline-electric hybrid power train for its Ford Escape compact SUV in 2003.

French manufacturer Renault SA warned that long-term growth in the world car business could be jeopardized if problems of fuel consumption and environmental damage are not addressed. In an interview at the Detroit car show, Louis Schweitzer, President of Renault, said the US automotive industry had been particularly slothful.

Schweitzer said the automotive business attitude to environment will determine its long term growth potential. "The future of car companies very much depends on how well they address the fuel crisis and climate change. You see today very different standards. The Europeans are working hard to reduce fuel consumption; you can say fairly that nothing is happening in the US

"I believe that if the car industry as a whole does not address the climate change issue over the next 10 years then the growth of the car industry as a whole will be inhibited," Schweitzer said.

21. Broad Coalition Tells Bush, Whitman of Support For Diesel Rule

A broad coalition of clean air groups and vehicle manufacturers called for an immediate end to delays by the Bush administration in finalizing a rule to make heavy trucks and buses 95 percent cleaner by 2007. The coalition asked US Environmental Protection Agency (EPA) Administrator Christine Todd Whitman to make clear that the new administration did not intend to rewrite the EPA's diesel rule published in January.

President George W. Bush issued an order on January 20 - his first day in office - to block some last-minute executive orders and rules laid down by outgoing President Bill Clinton. Bush also issued a 60-day stay on regulations that were published in the Federal Register - including the diesel rule - but had not yet taken effect. Some of the rules issued by Clinton in his last days in office angered Republicans.

Clean air activists said delays in the rule would extend health problems - like asthma and lung cancer - to more Americans which result from breathing air polluted by belches of smoke commonly seen from 18-wheeler highway trucks and city buses.

Manufacturers said they want the rule so they can plan for the future, and build cleaner machines to use cleaner diesel.

Environmentalists are wary of the Bush team's approach to their causes, like clean air and protecting wilderness, but pointed out repeatedly that the diesel rule was supported by more than just green groups.

"The American Lung Association and the Alliance of Automobile Manufacturers never before have stood together supporting the same rule," according to Frank O'Donnell of the Clean Air Trust.

Late last year, the Clinton administration unveiled the diesel rule, which they started working on in 1998. It aimed to cut emissions from both diesel engines and the levels of sulphur in the fuel, similar to a previous rule to cut passenger vehicle tailpipe emissions by twinning reductions in engine and gasoline pollution.

Proponents say the rule would prevent 8,300 premature deaths each year, 5,500 cases of chronic bronchitis and some 360,000 asthma attacks.

Trucks and buses would be up to 95 percent cleaner than models now used, making future vehicles as clean as those which run on natural gas today.

The refining industry has balked at both the timing and the extent of a requirement to cut sulphur in diesel to 15 parts per million (ppm), 97 percent below current levels.

The National Petrochemical & Refiners Association (NPRA) filed a lawsuit on February 9 to force changes to the rule. The Alliance of Auto Manufacturers has indicated it would enter the case in support of EPA.

22. FedEx Seeks Fuel Efficient Trucks

FedEx Express wants manufacturers to submit proposals for the design and development of a delivery truck that will increase fuel efficiency by 50 percent and reduce emissions by 90 percent, the company said in a statement. FedEx Express, part of FedEx Corp, and the Alliance for Environmental Innovation, an advocacy group, are working together on this project, FedEx said.

Since the spring of 2000, FedEx Express and the Alliance have worked to get cleaner, more economically fuel-efficient delivery trucks on

the road.

This request for proposals calls for design and development of a commercial delivery truck that will eventually replace the present FedEx Express truck, the company said.

The proposed truck would work as well as the present fleet and cost about the same over the vehicle's lifetime.

The joint project wants the trucks to deliver major reductions in pollution, fuel consumption and use of resources, the company said.

The project also wants to accelerate the time to market of full production-scale environmentally friendly vehicles sooner than regulations require.

23. Soot Is Emerging As A Big Factor in Global Warming According To A New Study

Researchers at Stanford University in California believe that soot, the black dust emitted from fireplaces, diesel engines and jet engines, is a major cause of global warming, second only to carbon dioxide, and may cause as much as 30 percent of the climate change, also known as the greenhouse effect. But so far, the deposit has not been part of international talks to control climate change.

Until now, experts on global warming have not considered soot a major player and have placed most of the emphasis on reducing carbon dioxide, methane and other greenhouse gases. But research leader Mark Jacobson, a professor of civil and environmental engineering, believes they should also be concentrating their efforts on reducing soot worldwide to combat global warming, cut pollution and to improve health.

His team found that soot and carbon dioxide cause warming in different ways. "Carbon dioxide absorbs the Earth's infra-red radiation whereas soot absorbs solar radiation directly," added Jacobson.

In a study published in the science journal Nature, Jacobson and his colleagues used a computer model to show how soot mixes with other particles in the atmosphere to contribute to global warming. Most previous studies had assumed soot never mixes with other particles. But the Stanford team showed that soot combines with particles such as dust, sea spray, sulphate and other chemicals within five days after entering the atmosphere.

When the researchers programmed the computer to show the effect of millions of tons of mixed soot on climate they were amazed by the results. "These black carbon mixtures turn out to be one of the most important components of global warming," Jacobson said.

The study raises questions regarding the overall benefits of diesel technology for reducing the risk of climate change. While diesel engines are more fuel efficient than gasoline engines and emit less carbon dioxide per mile driven they continue to emit much more soot.

24. Children At Risk in Diesel School Buses According To NRDC Report

US environmentalists have released a report showing that children who ride to school on diesel-powered buses may be exposed to as much as four times more toxic exhaust than if they traveled in passenger cars. The report from the Natural Resources Defense Council (NRDC) and Coalition for Clean Air said more than 23 million children in the United States ride a bus to school.

The report said nearly 20 hours of sampling results on four school buses produced dramatic results. Assuming bus rides totaling one or two hours per day, 180 days per year for 10 years, the groups estimated the diesel exhaust exposures are likely to result in an additional 23 to 46 cancer cases per million children exposed.

This level of cancer risk is 23 to 46 times the level considered to pose a significant cancer risk by the Environmental Protection Agency under the federal Clean Air Act and the Food Quality Protection Act. Under California's Safe Drinking Water and Toxic Enforcement Act, it also could trigger an obligation to provide warnings to children that they are being exposed to a cancer-causing chemical.

The report, entitled "No Breathing in the Aisles: Diesel Exhaust Inside School Buses," said the excess exhaust levels on the buses were more than eight times the average levels found in the ambient air in California.

Researchers from NRDC, the U.C. Berkeley School of Public Health and the Coalition for Clean Air rode rented school buses along elementary school bus routes in the Los Angeles area. They compared air quality inside the front and back of the bus and with windows open and closed. They also tested air quality outside the bus and in a passenger car traveling ahead of it. Buses were tested while idling, climbing or descending hills, and traveling slowly with frequent stops.

NRDC said the vast majority of the nation's school bus fleets still run on diesel fuel, but said there were other options for school districts to consider, such as buses fueled by natural gas or propane.

Short-term fixes include keeping the windows open on the bus when possible and seating children closer to the front of the bus before

seating children in the rear.

25. Study Shows Reduced Traffic During Olympics Reduced Asthma Risks

Vehicle exhaust is a major source of ozone precursors and other air pollutants. Although high ground-level ozone pollution is associated with transient increases in asthma morbidity, the impact of citywide transportation changes on air quality and childhood asthma has not been studied. The alternative transportation strategy implemented during the 1996 Summer Olympic Games in Atlanta, Ga, provided such an opportunity. A study has been carried out² comparing the 17 days of the Olympic Games (July 19–August 4, 1996) to a baseline period consisting of the 4 weeks before and 4 weeks after the Olympic Games.

Children aged 1 to 16 years who resided in the 5 central counties of metropolitan Atlanta and whose data were captured in 1 of 4 databases were included in the study.

During the Olympic Games, the number of asthma acute care events decreased 41.6% (4.23 vs 2.47 daily events) in the Georgia Medicaid claims file, 44.1% (1.36 vs 0.76 daily events) in a health maintenance organization database, 11.1% (4.77 vs 4.24 daily events) in 2 pediatric emergency departments, and 19.1% (2.04 vs 1.65 daily hospitalizations) in the Georgia Hospital Discharge Database. The number of nonasthma acute care events in the 4 databases changed –3.1%, +1.3%,

²"Impact of Changes in Transportation and Commuting Behaviors During the 1996 Summer Olympic Games in Atlanta on Air Quality and Childhood Asthma", Michael S. Friedman, MD; Kenneth E. Powell, MD, MPH; Lori Hutwagner, MS; LeRoy M. Graham, MD; W. Gerald Teague, MD

-2.1%, and +1.0%, respectively.

In multivariate regression analysis, only the reduction in asthma events recorded in the Medicaid database was significant (relative risk, 0.48; 95% confidence interval, 0.44-0.86). Peak daily ozone concentrations decreased 27.9%, from 81.3 ppb during the baseline period to 58.6 ppb during the Olympic Games ($P < .001$). Peak weekday morning traffic counts dropped 22.5% ($P < .001$). Traffic counts were significantly correlated with that day's peak ozone concentration (average $r = 0.36$ for all 4 roads examined).

Meteorological conditions during the Olympic Games did not differ substantially from the baseline period.

The authors concluded that efforts to reduce downtown traffic congestion in Atlanta during the Olympic Games resulted in decreased traffic density, especially during the critical morning period. This was associated with a prolonged reduction in ozone pollution and significantly lower rates of childhood asthma events. These data provide support for efforts to reduce air pollution and improve health via reductions in motor vehicle traffic.

26. Canada To Spend C\$120 Million To Fight Pollution

Canada has pledged to spend C\$120 million (\$78 million) over the next 10 years to cut emissions from automobiles and industrial plants in the wake of an agreement signed in December with the United States.

"Our goal is simple. To meet or exceed the standards that the US government is bringing in - standards that are recognized as amongst the toughest in the world," Environment Minister David Anderson said.

"Clean air is a national issue. Canadians continue to point air pollution as their biggest environmental health concern," said Anderson.

Canada and the United States signed the Air Quality Agreement in December, committing themselves to cutting pollutants that cause ground-level ozone. The agreement also includes commitments on monitoring and reporting.

Ottawa will spend C\$48.4 million to align Canada's auto emission standards with tighter US standards by 2004, notably by imposing a cap on sulphur content in gasoline starting in 2005.

The federal government also plans to spend C\$19.8 million over five years to cut industrial emissions, especially in the sectors of electricity generation, oil refining and industries producing or using large amounts of solvents.

Another C\$2.7 million will be aimed at cutting emissions from fossil-fueled electrical generators in Ontario and Quebec - Canada's industrial heartland.

Ottawa will also spend C\$29 million over five years to improve its pollution monitoring and reporting network.

MIDDLE EAST

27. Saudi Arabia To Introduce Unleaded Fuel From New Year

Saudi Arabia has announced that it will introduce unleaded gasoline from January 1 to combat air pollution in the oil-rich kingdom. The official Saudi press agency quoted officials at state-owned Saudi Aramco as saying that the kingdom's four domestic refineries at Ras Tanura, Riyadh, Jeddah and

Yanbu would start producing only unleaded gasoline from January 1, 2001.

"Despite the extra costs incurred by Aramco from switching to unleaded fuel all over the kingdom, our commitment to protecting our children's health and preserving our environment is worth all that is being spent," Aramco's vice president in charge of refining and distribution, Saed al-Shaifan, said.

Saudi Arabia is the world's largest exporter of crude.

SPA said service stations would continue to sell leaded fuel until the end of the year when supplies are expected to run out.

Saudi Arabia's gradual switch from leaded to unleaded fuel had been moved one year in advance of the January 2002 target date set by the Gulf Cooperation Council, which also includes Oman, Qatar, Bahrain, Kuwait and the United Arab Emirates.

ASIA-PACIFIC

28. Viet Nam Decides to Go Unleaded

In late November, the Deputy PM of Vietnam, Nguyen Tan Dung, signed a Government Directive on switching to unleaded gasoline (ULG). The switch will take place on July 1, 2001. The Ministry of Transport (MOT) is in charge of the implementation of the Directive, which has assigned MOT to submit to the PM a comprehensive implementation program by Jan 31, 2001.

29. Cars May Be Banned From Central HK To Cut Pollution

Hong Kong plans to turn parts of its busy Central commercial district into traffic-free zones in a drive to improve its deteriorating air quality. The proposal would see the closure of

several major roads in Central to vehicles, and transport authorities have recommended limiting them to pedestrians only from later this year. The plan would cover popular night-time districts Lan Kwai Fong and SoHo as well as part of Central's busy Queen's Road, and will be discussed in the local district council this week.

Air pollution in Hong Kong has stirred much concern in recent years. On bad days, a thick blanket of choking haze shrouds the famous Victoria harbor, sharply reducing visibility. In early January, the air pollution index (API) reached a very high level in dense districts of Central, Causeway Bay and Mongkok, with readings exceeding 140 in all three districts.

The Hong Kong government issues a standard warning urging people with respiratory and heart problems to stay indoors whenever the index rises above 100.

The government has made repeated pledges to combat the problem. Last November, the 60-member legislature decided by majority to raise the fixed penalty on smoky vehicles from HK\$450 (US\$58) to HK\$1,000 (US\$128).

In another step, Hong Kong customs authorities said they arrested 22 drivers and compounded 24 mud-loading trucks for using illicit oil as fuel in their largest such operation to date.

"Following a three-week-long investigation, 116 officers ... intercepted 120 mud-loading trucks. Twenty-four were found using suspected marked oil or detreated oil as fuel," the government said in a statement.

The statement did not say where the contraband oil came from, but many in Hong Kong believe there is some smuggling from China.

The officers of the Marine and Land Enforcement Command stopped the vehicles in the area of Sha Tin in the New Territories mainland portion of Hong Kong.

In the statement, the government warned that anyone convicted of using illicit oil as fuel would have a criminal record. The maximum penalty for the offence is a fine of HK\$1 million (US\$128,000) and two years' imprisonment. The government said in the statement that any light diesel oil in the fuel tank of a vehicle would be presumed to be dutiable goods if the diesel has a sulphur content higher than 0.035 percent by weight, starting February 1.

30. Indonesia To Force Buses, Taxis To Use Natural Gas; Will Introduce Unleaded Gasoline

Indonesia will force new public buses and taxis to use compressed natural gas to cut down on pollution, a Mines and Energy Ministry official announced recently. "We need fuel that is good for the environment," the official said. "The government will gradually force buses and taxis to use gas and will start with the capital city of Jakarta and surrounding cities."

He gave no timetable.

Buses and taxis already in operation would not be forced to change, the official added.

This coincides with reports that Indonesia has also decided to phase out the use of lead in gasoline. It has evidently been decided that, starting from July 1st, 2001 Pertamina, the major Indonesian oil company, will provide unleaded gasoline for Jakarta. Pertamina will produce unleaded gasoline at Balongan plant and deliver it to Jakarta through the same pipeline that has previously carried leaded gasoline. Therefore, for some time "unleaded gasoline" in Jakarta will still contain some lead

contamination from the pipeline. To assure completely unleaded by July, Pertamina will reduce the TEL content starting in April 2001. For the entire country of Indonesia, Pertamina intends to shift to unleaded gasoline by January 2003, but this will require significant effort and many stakeholders are still not sure that Pertamina will be able to do so.

31. Developments in China

The State Council, China's cabinet, announced earlier this week its decision to dissolve nine of its sub-ministry level industrial administrations, including the State Administration of Machinery Industry, the government arm supervising the country's automobile and motorcycle industry. The government function of these nine bureaucracies will be assumed by the State Economic and Trade Commission. This is the most recent step on the part of the Chinese government to streamline the bureaucracy in an effort to increase efficiency and move further into a market-oriented economy.

China is terminating the current motor vehicle certification procedure of publishing a national vehicle catalogue, according to a senior official in charge of industrial policy at the State Economic and Trade Commission (SETC). Along with the demise of the State Administration of Machinery Industry, the National Catalogue of Automobile, Refitted Civil Vehicles and Motorcycles Manufacturers and Their Products will no longer be published after its 15th and final edition scheduled for February 2001. Before a new vehicle certification system is established in line with international practice, the SETC official said that an interim administrative system should be created according to the following four principles:

1. A strong legal basis;
2. Conformity with international practice;
3. Open and equal competition; and

4. Enterprise independence and self certification.

China stopped producing leaded gasoline as planned, according to a CCTV report based on a nationwide inspection conducted in January jointly by the State Environmental Protection Agency, the State Economic and Trade Commission and the State Quality and Technology Supervision Bureau. Up to now, 99 percent of gasoline products have reached the national standard of lead reduction.

The State Development Planning Commission cut the prices of gasoline and diesel products by 4.7 to 6.1 percent earlier this month, according to a report in Labor News.

GENERAL

32. UN Study Concludes Global Warming Occurring More Rapidly With Humanity Responsible

The earth's atmosphere is warming faster than expected, evidence is mounting that humans are to blame and tens of millions of people may be forced from low-lying areas as seas rise, the UN announced at a meeting in Shanghai in January. "We see changes in climate, we believe we humans are involved and we're projecting future climate changes much more significant over the next 100 years than the last 100 years," said Robert Watson of the UN's Intergovernmental Panel on Climate Change.

A warmer climate would raise sea levels as ice caps recede and could force tens of millions of people to flee low lying areas like China's Pearl River Delta, Bangladesh and Egypt, the IPCC chairman told a news conference in Shanghai.

Klaus Toepfer, the head of the United Nations

Environment Program which part sponsors the IPCC, said the report should ring alarm bells everywhere. "The scientific consensus presented in this comprehensive report about human-induced climate change should sound alarm bells in every national capital and in every local community," he said in a statement.

"We must move ahead boldly with clean energy technologies and we should start preparing ourselves for the rising sea levels, changing rain patterns and other impacts of global warming."

The IPCC report, which runs to more than 1,000 pages, was written by 123 lead authors around the world who drew on 516 contributing experts and is one of the most comprehensive produced on global warming. A draft summary for policy makers said the report projects the earth's average surface temperature will rise 1.4 to 5.8 degrees Celsius (2.5 to 10.4 degrees Fahrenheit) between 1990 and 2100, higher than its 1995 estimate of a one to 3.5 degree C rise (1.8 to 6.3 degrees F). Sea levels were likely to rise between nine and 88 cm (3.54 and 34.64 inches) over the same period, it said.

"The decade of the 1990s was the hottest decade of the last century and the warming in this century is warmer than anything in the last 1,000 years in the Northern Hemisphere," Watson said.

"We will see a drier summer in arid and semi-arid areas which will make water management much more difficult in the future," he said. Ecosystems such as coral and forests will suffer.

The earth's temperature had already risen 0.6 degrees C (1.08 degrees F) over the last 100 years and it has seen more floods and droughts around the world in the last decade.

Land areas had warmed close to one degree, more than oceans, the IPCC said.

Watson said the main reason behind expectations of faster global warming is an anticipated fall in cooling agents such as sulphur dioxide. Sulphur emissions are expected to ease due to concerns they cause acid rain and deposits, he said. Greenhouse gases such as carbon dioxide prevent heat from leaving the earth, therefore warming the earth's atmosphere, whereas sulphur dioxide tends to cool it.

Watson said the implications of global warming on human health included increases in heat stress mortality in the summer and diseases such as malaria and dengue fever. It could also hit agriculture and water resources, which many experts believe will be a major issue in coming years.

Watson said industrialized nations had to help curb global warming, but developing countries must become more energy efficient and getting the right technologies in place everywhere was critical.

"Governments can play a critical role in placing the right enabling framework to facilitate the transfers of technology," he said. "It's not just hardware, it's information and knowledge."

33. Ballard Gets \$1.3 Million Fuel-cell Order From Honda

Fuel cell maker Ballard Power Systems has announced that it has received a \$1.3 million order from Honda Motor Co.'s research unit, which is racing to get an environmentally friendly car on the road. The order for an unspecified number of Ballard's Mark 900 series fuel cells came in the wake of Honda's unveiling in September of a new fuel-cell-powered four-seater car. It said at the

time the car would use fuel cells manufactured by Ballard, which is considered the world leader in the technology.

Car makers are racing to put a fuel-cell vehicle on the market by 2003 or 2004. Honda's four-seater is one of several vehicles being tested in California by a coalition of automakers, energy companies and fuel cell designers.

Fuel cells produce electricity by combining hydrogen with oxygen. They are considered environmentally friendly because, depending on the source of the hydrogen, they can produce power with only water and heat as byproducts.

34. Melting Antarctic Glacier Seen Raising Sea Level

A huge but remote Antarctic glacier is thinning at rates fast enough to raise global sea levels, British researchers said in a study published in *Science*. The whole Pine Island Glacier, which is the largest glacier in West Antarctica, may be afloat in 600 years if it keeps thinning at the present rate, the team at University College London and the British Antarctic Survey said.

Researchers say large chunks are breaking off of Antarctica for several reasons, some due to global warming. For example, the West Antarctic Ice Sheet (WAIS) has been steadily melting since the end of the last ice age. But human-induced global warming can speed the process. The WAIS contains enough ice to raise global sea levels by five to 18 feet (1.5 to 5.5 meters) if it melted.

Much of Antarctica consists of ice sheets with no ground underneath. If the ice melts it could not only raise ocean levels but could shift ocean circulation and weather patterns, bringing drought, severe storms and the wider

spread of tropical diseases.

Physicist Andrew Shepherd and colleagues used satellite measurements to check how thick the ice was and how quickly it was moving between 1992 and 1999. It seems the glacier is flowing too quickly to sustain itself, spreading out thin and losing ice mass, he said. The researchers estimate the mass of the glacier is decreasing by approximately 4 gigatons per year - the equivalent of a rise in sea level of about .01 millimeters.

The United Nations-sponsored Intergovernmental Panel on Climate Change (IPCC) predicts the average global temperature could change by be as much as 11 degrees F (6 degrees C) higher at the end of the century than it was in 1990. If this affected the Antarctic, it could melt ice significantly and raise sea levels enough to swamp coastal areas.

Now the glacier rests on bedrock more than a mile (1.6 km) below sea level. Half the glacier is above sea level and half below. Like all glaciers, it flows or moves steadily from inland to the sea.

Shepherd said all that can be done is to watch the ice sheet. "We have monitored the change for the first time and it is important for us now to continue to model it," he said.

35. UN Study Estimates Global Warming Could Cost \$300 Billion Per Year

An increase in natural disasters as a result of global warming could cost the world over \$300 billion annually by the year 2050, a new United Nations commissioned report says. According to the report from leading German re-insurers Munich Re, the losses would result from more frequent tropical cyclones, loss of land as a result of rising sea levels and

consequent damage to agriculture and fishing stock.

"Most countries can expect their losses to range from a few tenths of a percent to a few percent of their gross domestic product each year," Gerhard Berz, head of Munich Re's Geoscience Research group, wrote in the latest edition of the UN Environment Programme's Our Planet magazine. "And certain countries, especially small island states, could face losses far exceeding 10 percent."

Low-lying states most at risk included the Maldives, the Marshall Islands and the Federated States of Micronesia.

UN climate talks called to plan ways of coordinating cuts in greenhouse gas emissions ended without agreement in the Hague in November with major players blaming each other for the collapse of the negotiations. The Hague conference had sought agreement on implementing a pact reached in 1997 in Kyoto, Japan, which called for developed nations to cut their emissions of gases such as carbon dioxide by an average of five percent from 1990 levels by 2010.

Last month a UN report said average global temperatures could rise by up to 5.8 degrees Celsius over the 21st century, much higher than previously thought.

Berz's report said flood defense schemes to protect homes, factories and power stations from rising sea levels and storm surges could cost an average \$1 billion dollars. The losses of ecosystems such as coral reefs, coastal lagoons and mangrove swamps could cost over \$70 billion by 2050. Other disaster-related problems would bring the bill to \$304.2 billion a year.

The extra costs from health-related measures

and more intensive water management could cost the United States nearly \$30 billion a year and Europe \$21.9 billion annually by 2050, the report says.

36. Shell Sees Growing Role For Renewables and Gas

Royal Dutch/Shell Group estimates that 50 percent of industrialized countries' energy needs could be met by natural gas and renewables by 2020, Royal Dutch President Jeroen van der Veer told the Cambridge Energy Research Associates conference in Houston.

Van der Veer said some 60 percent of the world's second-largest oil company's current production consists of oil, but that the share of cleaner burning natural gas would continue to rise gradually from its current level of about 40 percent. Shell's push to boost natural gas production and invest in renewables, he said, were a response to consumer demand for cleaner energy but would also be good for the bottom line.

Van der Veer said national economies are

based today on fossil fuels - coal, oil and natural gas - which meet about 85 percent of the world's energy needs - and that this would not change overnight. However, the oil industry needed to respond to public concerns about the role of fossil fuel combustion in raising Global temperatures. "The oil industry cannot ignore the issue of climate change," he said.

Van der Veer said this called for a shift away from coal and oil toward increased use of natural gas, with its lower carbon content, as well as long-term investment in the development of renewable energy sources. Shell, he noted, had decided to invest \$500 million over five years in renewable energy sources such as wind, biomass and solar power. It has also recently set up a business unit to develop the use of hydrogen for use in fuel cells.

These investments were sound long-term business decisions and not a public relations stunt, he said.