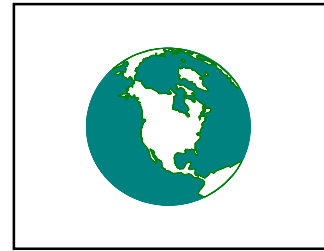


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CAR LINES

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EUROPE

1. U.K. to Look at Air Fuel Tax To Combat Global Warming

A proposal to tax airline fuel use will be made in February in the United Kingdom to combat cheap air travel's growing contribution to global warming, the U.K. government said in its pre-budget report. In a terse statement in the annual pre-budget report that marked a major policy switch, the Treasury said the Department of Transport would consult on ending tax breaks worth billions to the airline industry.

The pre-budget report said the government would continue to examine the "prolific demand for air transport" while now also assessing "the current regulatory regime in realizing economic, social and environmental objectives." The Treasury said the government would also ask for views in February on a proposal for an emissions tax on greenhouse gas pollution caused by aircraft.

A DoT spokesman said that a flood of responses to a Department of Transport consultation on air travel capacity had simply persuaded the government to issue the second, separate consultation on "economic instruments" to encourage better environmental behavior. But he conceded that the effectiveness of the two taxes would ultimately be measured in reduced demand for air travel.

Most observers see a more fundamental policy shift underway that may even threaten the days of cheap vacations. The European Union also is looking at a range of options from a straight fuel tax to permits that penalize emissions. Until now, the United Kingdom has been the major European opponent of an aircraft fuel tax, concerned about a loss of business to the United States and other

non-European countries.

The Department of Transport had no comment on a European tax. It said it was asking for views on whether a U.K. tax should be paid on aviation fuel as part of a major ongoing government consultation on how air services and airports should develop over the next 30 years. It said it had extended the Nov. 30 deadline to comment on its "Air Transport White Paper" on how the U.K. plans to handle the expected doubling of demand for flying over the next 20 years. No new closing date for comments has been set.

The new proposal on greenhouse gas taxes that will be issued in February will run parallel with the white paper. Both will feed into the same long-term study on "The Future Development for Air Transport in the United Kingdom," due out next autumn.

2. EU Backing For Swedish Biofuel Tax Breaks

The European Commission has backed a Swedish request to favor "carbon-dioxide neutral" biofuels through lower taxes. The application was made for a derogation under the EU's 1992 mineral oils directive, which sets minimum tax levels to be applied by member states. Other countries have won similar backing for tax differentials in favor of biofuels.

The Commission said the request was in line with EU attempts to increase the share of agricultural biofuels used in road transport.

Ministers must still approve the measure.

3. Parliamentary Vote in France Reduces Subsidies Offered to Biofuels Producers

France's National Assembly has voted to reduce the subsidies offered to producers of biofuels, which have long been held up as a cleaner alternative to the fossil fuels responsible for climate change. The National Assembly, which is the lower house of Parliament, approved an amendment Dec. 10 to the retroactive, or corrective, 2002 budget bill that will drastically curb subsidies offered to producers of France's two principal biofuels: ethanol, or ethyl alcohol, which is a gasoline additive or substitute made from beetroots or wheat, and biodiesel, the generic name for a variety of ester-based oxygenated fuels made from vegetable oils, principally rapeseed in France.

The parliamentary decision, which will cut about [euro] 40 million (\$40 million) in subsidies to agriculture, is intended to counter economic and environmental effects of longstanding French policy in favor of biofuels. Government officials and members of Parliament backing the subsidy cut said the policies being corrected were devised in the 1970s, when oil prices were much lower than today.

At the time, subsidies to biofuel producers allowed them to offer the "green" fuels as an economically credible additive to gasoline and diesel. Today, however, the generalized hike in oil prices allows biofuel producers to sell their products at correspondingly elevated levels, a result exacerbated by the high levels of subsidies, supporters of the subsidy reduction said.

The decision to reduce biofuel subsidies--from 50.2 to 38 euro-cents (about the same in U.S. cents) per liter for ethanol, and from 35 down to 33

euro-cents per liter for biodiesel--has drawn opposition from farmers and their supporters in Parliament, who claim that the lost income will damage the sector's competitiveness. Members of Parliament also argued the decision to reduce subsidies for biofuels goes against French and European Union efforts to combat climate change.

4. EU Releases Draft Directive On Off-Road Engine Emissions

A substantial strengthening of EU limits on nitrogen oxides (NOx) and particulate emissions from off-road machinery has been proposed by the European Commission in a draft directive slipped out over the Christmas break. Without the curbs, it warns, non-road mobile machinery will be responsible for even more NOx emissions than road transport by 2020, and nearly as much particulates.

Designed to update an existing 1997 directive, the proposal covers engines used in a wide range of machinery, especially those used in the construction industry, while excluding agricultural and forestry tractors. Craft used on inland waterways would be affected for the first time.

Under the proposals, maximum allowable NOx emissions from regulated machinery would be cut from existing levels by 30-40% in 2006. Particulate limits could be made up to 90% tougher than current standards in 2010, subject to confirmation in 2006.

On both NOx and particulate emissions the Commission's proposal strongly reflects international experience, and largely follows rules already enacted by the USA.

For larger engines, identical new NOx

standards would thus take effect simultaneously in both Europe and America. For those rated 19-37 kilowatts the EU limits would be the same as America's but take effect two years later.

For particulates, the outstanding issue, postponed by the Commission, is whether the EU should require the fitting of particle filters to cut emissions. Its proposed emission limits would require such traps, but implementation would be subject to a 2006 review of technical progress in the development of suitable technology.

The review would also consider the feasibility of even stricter NOx limits based on the availability of after-treatment equipment, which the USA has indicated it eventually wants to adopt. A further tightening of limit values for engines in the 19-37 kW power band will also be discussed.

Regarding NOx abatement technology, the Commission notes that while America has "declared quite categorically" that it favors NOx absorption, manufacturers in Europe "seem to favor the use of selective catalytic reduction". It warns that "the current strongly global approach" to the production of affected engines "could be jeopardized" if this divergence is not resolved.

5. Denmark to Continue Push to Close, Clean Up 700 Gasoline Stations in 2003

The Danish government will continue in 2003 its push to reduce potential environmental damage caused by underground storage tanks with a mix of voluntary agreements with business and new regulation. The closure and remediation of more than 700 gasoline stations will be completed in 2003 as part of an industry-managed program to

reduce environmental harm. In addition, a 1999 regulation enters into force Jan. 1 requiring owners of residential tanks to upgrade the safety of their oil tanks or face losing valuable insurance protecting the owners from environmental liability in the event of an oil spill.

Many owners of Denmark's approximately 330,000 oil storage tanks currently use systems that allow some oil, after circulating through a building, to flow back to the tank. Beginning Jan. 1, all systems must be modified so that no oil circulates back to the tank because such circulation increases the likelihood of an oil leak.

The new regulation requires residential operators of oil tanks with capacities of 6,000 liters or less to use single-pipeline systems in an attempt to reduce the incidence of environmental damage. Tank owners were given three years' notice of the changeover requirement.

Customers not modifying their systems face fines and, perhaps more significantly, lose industry-provided insurance against environmental damages. The Soil Protection Act extends environmental damage insurance to every owner of a residential oil tank. Oil companies may legally build the insurance costs into the price of oil.

Additionally, a total of 710 gasoline station sites are scheduled for shutdown and environmental cleanup in 2003, financed by the Danish Oil Industries' Association of Remediation of Retail Sites (OM), a consortium of Denmark's eight large oil importers and refineries.

A secretariat within the EPA creates site priority lists for the consortium every October based on information gathered by Danish municipalities related to a site's proximity to households, groundwater aquifers, and other water

resources such as lakes.

A 1992 voluntary agreement between the government and the oil consortium governs how the consortium cleans up the gasoline stations, which are either closed or in the process of closing. The oil companies pay about \$0.0065 per liter sold to retail outlets to a fund, managed by the consortium, which pays for the remediation work.

Since the first sites were remediated in 1993, the consortium has spent about \$160 million cleaning up nearly 4,000 sites. The consortium, which stopped accepting applications for site remediation in 1995, estimates it will clean up another 6,000 sites at a cost of about \$110 million by 2010.

6. Russia To Update Framework Environment Law

Russia's one-year-old law Framework Law on Environmental Protection is already outdated and needs to be revised according to Deputy Minister of Natural Resources Maksim Yakovenko. Speaking at a news conference, Yakovenko said various environmental agencies--run by both the central and regional governments--already have suggested about 150 different amendments to the law, including clarification on what the government means by "environmental control."

Yakovenko said a special working group of State Duma deputies (the lower house of the Russian Parliament) and officials from the Ministry of Natural Resources already have started work on amending the environmental law.

Most of the amendments are aimed at making the law more specific, Yakovenko said, adding that the law approved by the government "turned out to be rather broad and indirect."

Yakovenko's comments came two days after the government announced its plans to hike environmental spending 12 percent in 2003, and just weeks before the budget law was approved by the Russian Parliament and President Vladimir Putin signed it into law.

According to Yakovenko, the law does outline which level of power should oversee which areas, but it does not specify how that should work.

Along with amending the framework Law on Environmental Protection, the major legislative act in this area, the government also needs to revise the Ecological Doctrine, the document summarizing the government's environmental policies up to 2010. The government approved the Ecological Doctrine in August. Similar to the Law on Environmental Protection, the Ecological Doctrine also lacks specific legislation and bylaws.

7. Spain Approves 2 Million Euros for Research On Air, Soil Quality, Ground-Level Ozone

The Spanish government in mid-December granted the Environment Ministry and collaborating organizations nearly [euro] 2 million (about \$2.08 million) to study air quality and the effects of ozone. It also approved funding for ongoing soil research as part of its effort to comply with the ground-level ozone and other protocols to the 1979 Convention on Long-Range Transboundary Air Pollution, the so-called Geneva Convention.

In the first of several collaboration agreements, the Council of Ministers Dec. 13 authorized [euro] 859,515 (about \$894,000) for a joint effort between the Environment Ministry and the Energy, Environmental, and

Technological Investigation Center (CIEMAT). The two bodies will jointly undertake research on the impact of ozone on vegetation, within the framework of the convention. The research aims to determine the minimum contamination level at which the vegetation in Mediterranean ecosystems begin showing "appreciable damaging effects."

According to the Council of Ministers, "the different protocols of the Geneva Convention on cross-border contamination require all parties to gather and keep information, as well as to foment research, development, and international cooperation, to determine the losses caused in agricultural crops by environmental concentrations of ozone."

A second agreement, for which the Environment Ministry will invest [euro] 841,416, (about \$875,000) will allow for a study of air quality in Spain. The aim of this investigation, said the council, is "to respond to the requirements of air quality requirements by creating a model of atmospheric contaminants and establishing objective criteria for determining the number of samples necessary for evaluating atmospheric contamination in relation to its point of origin."

The government also approved [euro] 240,404 (about \$250,000) for ongoing research on heavy metal content in soils used for farming. The soil research involves marking off areas with different types of soil and differing heavy metal contents, identifying the sample areas, collecting soil samples, and analyzing them in a laboratory. All the data collected then go into a "geo-referenced" database.

8. New Car Registrations in Italy Surge Following Government's

'Green' Tax Breaks

New car registrations surged at the end of 2002, apparently benefiting from incentives aimed at encouraging purchases of environment-friendly vehicles, but the environmental community was split about how effective the measures will prove to be.

Despite worsening economic conditions, Ministry of Industry figures show that 198,600 new cars were sold in Italy in December--the last month for the "green" incentives--a dramatic 51 percent increase over sales a year earlier.

The package of incentives--which were drawn up by the Ministry of Environment and the office of Prime Minister Silvio Berlusconi--offered a combination of tax breaks, deferred payments, and rebates for buyers of many kinds of new vehicles.

The incentives increased as the environmental impact of the vehicle grew smaller, either because of smaller or more efficient engines or because the cars represented some kind of hybrid technology in which a traditional internal combustion engine works together with an electric or hydrogen fuel source that cuts down on emissions.

Environmentalists gave the measure mixed reviews, praising the increase in the number of environment-friendly cars on the road but criticizing the lack of incentives for less-efficient older cars to be taken off the roads and recycled.

Fiat, Italy's only major domestic carmaker, saw a 23 percent increase over the same period. While Fiat has several types of "green" vehicles in the pipeline, few were available to consumers looking to take advantage of the incentives in 2002.

9. UBA Finds High NOx Emissions From Trucks

A study by Germany's environment agency has found that trucks on German roads are emitting up to twice as much nitrogen oxide (NOx) than is permitted under EU law. The German car industry association (VDA) disputes the claim and has stated that all truck engines currently in use adhere to EU emissions rules.

Experts from the UBA revealed that while truck emissions were below the EU-mandated limit during conventional tests, vehicles emitted more than twice this level when on the roads. The results of the controversial study were broadcast on the German television news program, Monitor. The environment agency attributed the discrepancy in emissions levels to manipulation of the truck engines by their manufacturers. Axel Friedrich, who led the team of experts, told the program that the engines were programmed to meet EU emissions standards, including the one pertaining to NOx, under test cycle conditions. Yet when the trucks were on the road, EU limits on NOx emissions were exceeded for the sake of fuel efficiency.

The environment agency estimates that the failure of the engines to meet EU standards causes an additional 140,000 tons of NOx pollution in Germany per year. The VDA firmly maintained that all truck engines currently in use adhere to EU emissions rules and would continue to do so when more stringent rules take effect in 2010.

The report seems very reminiscent of a similar problem that occurred in the US several years ago. In October 1998, a court settlement was reached between the EPA, Department of Justice,

California ARB and several engine manufacturers (Caterpillar, Cummins, Detroit Diesel, Volvo, Mack Trucks/Renault and Navistar) over the issue of high NO_x emissions from heavy-duty diesel engines during certain driving modes. Since the early 1990s, the manufacturers used engine control software that caused engines to switch to a more fuel-efficient (but higher NO_x) driving mode during steady highway cruising. The EPA considered this engine control strategy an illegal "emission defeat device".

10. EU Adopts Low Sulphur Fuels Rule From 2005

The European Union has completed passage of a law requiring much lower amounts of sulphur in petrol and diesel by 2005, with a total phase in of "sulphur free" fuels by 2009. The final approval of the law follows years of debate by EU lawmakers on the timetable for making cleaner fuels more widely available, in an attempt to reduce air pollution. The European Parliament voted Jan. 30 to set a deadline of Jan. 1, 2009, for an EU-wide changeover to "zero sulfur" gasoline and diesel fuels used in road transport, and the Council of Ministers approved the measure Feb. 7.

Limiting sulfur content to 10 parts per million (ppm) will allow industry to develop new generations of "lean burn" (fuel-efficient) engines and improve the efficiency of catalytic exhaust gas converters, according to EU Environment Commissioner Margot Wallström. Zero-sulfur road fuel also will help the EU reach its goal of reducing carbon dioxide emissions from new cars to 120 grams per kilogram of fuel on average.

The approval came nearly two months after the Parliament and Council of Ministers reached agreement on the

issue the EU's Conciliation Committee, where legislative differences between the two institutions are resolved.

Urging the Parliament to approve the draft, Wallström described the draft as "an important part of our strategy for reducing air pollution and greenhouse emissions." On a show of hands, lawmakers approved an amended version of Wallström's original 2001 proposal. The 2009 deadline for completing the EU-wide changeover to zero-sulfur road fuels represents a two-year advance on Wallström's original proposal, which had recommended a 2011 deadline. The final draft will now be signed by the Council of Ministers on behalf of the 15 EU national governments.

The reduction to 10 ppm by 2009 represents the second stage of fuel quality improvements envisioned in the 1998 directive, which mandates a limit of 50 ppm for 2005.

The final text also provides for review by 2006 of the purity standards of fuel used by "non-road mobile machinery," such as tractors used in farming and forestry, and construction equipment such as earthmovers and bulldozers.

Meanwhile, the new legislation will require the oil industry to ensure that by 2005 zero-sulfur fuels are available across Europe on a "sufficiently balanced geographical basis" to allow drivers to refuel without having to drive long distances.

A further amendment secured by the Parliament will require Wallström to review technical issues regarding fuel quality in light of EU moves to encourage use of biofuels. As part of the 2005 review of fuel quality standards, the European Commission has been instructed to look at the case for changing EU rules on fuel volatility to

facilitate sales of environmentally friendlier blends of gasoline and bioethanol. Currently, straight blends of the two fuels risk contravening EU rules on volatility, particularly in high temperatures.

11. Diesel Developments in Europe

A. NOx

When the 2008 standard was adopted, the EU Commission was directed to carry out a technology review by the end of 2002 regarding the technical feasibility of the standards. An interim report will likely be issued in approximately March concluding that the standards are technologically feasible but that more work is needed to conclude whether even tighter standards are feasible. Work will be initiated on this subject later this year.

B. SCR – Urea

SCR remains the principle technology of choice for achieving the NOx standard. The most difficult issues are related to the Urea infrastructure. The VDA is working to develop a specification for Urea and there is also work on standardizing the nozzle size for Urea delivery to the vehicle. There is some discussion regarding making the system tamperproof and perhaps adding an OBD sensor to highlight any problems. Indications are that the urea will cost about 6 cents per liter.

C. PM Traps

Many if not most manufacturers are expected to be able to meet the Euro 4 car and truck standards without diesel particulate filters (DPFs). While it looks today as if some heavy-duty engines will

require traps to comply with the 2008 standards, manufacturers are working hard to avoid them and they may succeed. At the same time pressure is building within the EU to require or at a minimum allow member states to incentivize these PM control systems. Approximately a year ago, Sweden requested authority to move in this direction or to have the Directive provision which prohibits incentives for standards beyond those adopted by the EU amended. The request was denied. However, just recently, France and Germany have sent a letter to the Commission raising several additional points:

- In spite of the significant improvement in diesel vehicle emissions, a substantial problem remains with both PM and NOx. They note that the WHO, the EU Commission, the National Research Council and the US EPA have all identified fine particulate as a high priority problem because of its roles in causing respiratory problems, heart disease and premature mortality.
- Air quality measurements show that the number of particles in the size range of 0.01 to 2.5 μm are high and have not declined in the past six years. In Germany, it is estimated that in the proximity to traffic, traffic emissions contribute 45% to 65% of the particle load of the air in the breathing zone.
- The portion of new diesel car registrations has more than doubled in recent years and is now at approximately 40% and while this technology has clear CO₂ advantages it will result in PM emissions 60% higher than previously estimated for the year 2020.
- NOx reductions are also urgently

needed to reduce the ozone burden. A modern diesel passenger car discharges about eight to ten times as much NOx as a petrol fueled car.

- It now appears that Euro IV for cars and Euro V for trucks can largely be met without PM filters; a further tightening of the limit values is needed to require this highly efficient technology and its associated health benefits.
- Particle filters are demonstrated to be available and effective under practical conditions as over 270,000 cars and more than 50,000 commercial vehicles are currently so equipped.
- The future US limits for commercial vehicles are approximately 90% lower for NOx and 60% lower for PM than Euro V limits. Tier 2 limit values for NOx and PM are approximately 80% lower than Euro IV car limits. Japanese PM limits approach zero.

In this context, France and Germany called upon the Commission to submit by mid 2004 suggestions on the updating of 98/69/EG and 99/96/EG with the goal of further NOx and PM reductions using the possibilities of the particle filter technology. Germany and France will support this work with all their efforts.

In light of these developments and in view of further work being carried out at the GRPE regarding test procedures and equipment to measure ultrafine particles, which is due to be completed by mid year, the Commission is beginning to consider several alternative approaches. These include:

- Adopting enhanced environmentally friendly vehicle limits which could be used by member states with tax

incentives to encourage the early introduction of vehicles with PM filters, or

- Adopting Euro V limits for light duty vehicles which would include lower NOx levels and possibly a PM number limit, or
- Further tightening the PM or NOx limits for heavy commercial vehicles as part of the Euro V technology review, or
- All of the above.

One complication for the commission in pursuing these options with regard to cars is the voluntary CO₂ reduction agreement between ACEA, the auto industry trade association, and the Commissions. In exchange for their commitment to meeting the 2008 CO₂ emissions goal, the industry asked that a number of conditions be met:

- **Clean fuels availability.**

Because the industry believes that direct injected engines will play a key role in achieving the targets, the Agreement asks for the “full market availability” of clean fuels needed for this technology by 2005 – gasoline with 30 ppm sulfur content and less than 30% aromatics, diesel fuel at 30 ppm sulfur and cetane number greater than or equal to 58. Of course the industry got even more than this with the recent decision to provide fuels with a maximum sulfur content of 10 PPM or less.

- **Protection against unfair competition.** Non-ACEA members must commit to similar goals, and the European Community will agree to try to persuade other car manufacturing countries to embrace equivalent efforts. The Korean and Japanese industries have agreed.

- **Regulatory cease-fire.** No new regulatory measures to limit fuel

consumption or CO₂ emissions.

- **Unhampered diffusion of technologies.** The companies assume that the Commission will take no action that would hamper the diffusion of efficiency technologies, particularly direct injected gasoline and diesel engines. Presumably, the auto industry could argue that this means no tightening of emissions standards on NOx and particulates.

In summary, it appears that a serious push is about to begin in Europe to tighten NOx and PM limits for all categories of vehicles sufficiently to require the introduction of PM filters on all diesel vehicles, across the board. In parallel with this EU wide effort, there is also a strong campaign in Germany to modify the tax incentive scheme for early introduction of Euro 4 limits, to make it apply only to vehicles that are equipped with PM filters.

12. UK Air Quality Improves

The latest data indicates that the UK's air quality is improving. The air quality indicator for 2002 shows that in urban areas air pollution was recorded as moderate or worse on 14 days on average per site compared with 24 days the previous year. In rural areas, the provisional figure for 2002 is 23 days on average per site, compared with 30 days recorded during 2001. The latest figures show that in urban areas there is a clear downward trend since 1993 in the average number of days of moderate or higher air pollution. The trend in rural areas has been variable.

13. PSA Group Sold 400,000 Cars With Particulate Filters

PSA Peugeot Citroën says that it has sold nearly 400,000 cars equipped with

diesel particulate filters since the system was first launched in May 2000. The PSA particulate filter system was first introduced on Peugeot 607 HDi 2.2 (MY2000). In 2001 the filter system was introduced on the Peugeot model 406 HDi 2.2, and then on a number of other cars powered by Peugeot engines including Peugeot 307, 807, RC (sport car), some Citroen C5 and C8, Fiat Ulysse, and Lancia Phedra. The Group will sell an estimated 1 million filter equipped vehicles in 2005.

14. Ford Germany Acting On Particle Pollution?

A coalition of German environmental and health NGOs has claimed a major victory in its "no diesel without filter" campaign, launched last November, to have new diesel cars in Germany fitted with filters to trap particulates. The coalition, led by Deutsche Umwelthilfe, said that the German unit of US carmaker Ford would equip all new diesel cars with filters from the second half of this year.

A spokesperson for Ford in Germany, Ilfried Hennen, reportedly confirmed that the company was due to "present new technology to reduce particulates", but said that no decision had been made on whether filters would be used. He also declined to disclose a timetable for introduction of the new technology.

Other German carmakers have refused to concede, arguing they are already developing engines that considerably reduce particulate emissions. In a statement, the German car industry association (VDA) stressed that not only did all new diesel cars meet current EU emissions standards, but more than half also complied with tighter Euro IV standards taking effect in 2005.

15. Treaty of Nice Goes Into Effect

The European Commission has high hopes that the Treaty of Nice, which took effect Feb. 1, will allow the more progressive EU member states to move ahead on issues such as environmental taxes.

More than two years after negotiations were completed, the Nice Treaty adapts the European Union's legal framework, including the voting rules for its main decision making institutions, to accommodate 10 new members states due to join in 2004.

Besides revising the voting structure of the Council of Ministers, the composition of the European Commission, and the allocation of seats in the European Parliament, the Nice Treaty revises duties within the various chambers of the European Court of Justice.

"The Treaty of Nice makes the necessary changes to prepare the European institutions for enlargement," said Commission President Romano Prodi in a statement released to mark the changeover from the Amsterdam Treaty. "It paves the way for the first peaceful unification of the European continent. Nice will also allow the EU to act more effectively because it scraps the national veto right in some areas."

In the case of the Council of Ministers, the Nice Treaty establishes the principles for a new weighting system that distributes the power among 25 member states instead of the current 15. The reweighting of each member states' voting strength in the Council of Ministers goes hand-in-hand with new rules for the "qualified majority voting" that will be used to decide approximately 70 percent of all legislation.

The more populous EU member states--such as Germany, France, Italy, the United Kingdom, and Spain--have received increased voting strength at the expense of smaller EU member states such as Luxembourg and Austria. After enlargement and the new member states join the EU in 2004, the rules for a law being approved by qualified majority voting in the Council of Ministers will require 232 votes out of 345. Also, the member states comprising the qualified majority voting must make up 62 percent of the EU population. This formula will be updated when countries such as Romania and Bulgaria become member states in 2007.

Just as important as the changes for voting in the Council of Ministers are the 27 different new areas where decisions can be decided by qualified majority voting instead of unanimous voting. These include:

- ◆ Approval of international agreements in the area of trade in services and the commercial aspects of intellectual property;
- ◆ Industrial policy issues;
- ◆ Economic, financial, and technical cooperation with third countries; and
- ◆ Approval of the rules of procedure of the Court of Justice and the Court of First Instance.

The Nice Treaty will expand the number of members of the European Parliament from 626 to 732. The number of seats allocated to the current member states has been reduced by 91, with only Germany and Luxembourg retaining the status quo.

For the European Commission, which retains the sole right of proposing legislation, the number of commissioners in the European Commission as of mid 2004 will rise

from 20 to 25.

Each member state will have a representative on the EU executive body, with the larger EU member states of Germany, France, Italy, the United Kingdom, and Spain each giving up their right to have two commissioners as is currently the case.

The office of president of the Commission will also change in various ways. Member states will choose the president on a qualified majority vote instead of unanimity, and the president will then have to be approved by the European Parliament. The president's powers will increase, as he or she will be able to choose the portfolio of each new commissioner, change it during the five-year term and, should a reason arise, force a resignation.

Changes for the European Court of Justice are designed to tackle the case overload that it currently faces. Because of the backlog of cases, decisions can often take as long three years before a ruling. The European Court of Justice, the EU's highest court, will be composed of judges from each member state, as will the Court of First Instance. "The Court of First Instance becomes the common law judge for all direct actions such as appeals against a court decision, action for failure to act from a court decision, and action for damages," the Commission said in a statement outlining the Nice Treaty changes. "The Court of Justice retains responsibility for other proceedings, particularly action for failure to fulfill obligations by member states."

"The idea is to maintain within the Court, as the jurisdictional supreme body of the EU, disputes concerning essential issues," the Commission said. "The Nice Treaty also calls on the ECJ and the Commission to review the distribution of responsibilities as soon as possible, so

that appropriate proposals can be examined as soon as the Treaty of Nice comes into force. We will be doing that in the coming year."

Before the Intergovernmental Conference for the Nice Treaty was concluded in December 2000--after nearly two years of negotiations--talks nearly collapsed as member states squabbled over the power-sharing arrangements. The back room wheeling and dealing that broke the deadlock was heavily criticized and led the way to the current Convention for the Future of Europe, which is supposed to agree on a model for a constitution that will supersede the Nice Treaty. EU member states will then convene another Intergovernmental Conference (IGC) to finalize the terms of the new constitution and treaty agreed upon at the convention. The next IGC is expected to take place in 2004.

Unanimous approval of the Nice Treaty by member states came down to the wire, as Ireland originally rejected it in a referendum. A subsequent national vote was held in October, and a major legal crisis in the face of enlargement was avoided.

Environment Commissioner Margot Wallström said the "enhanced cooperation" provision of the treaty would allow the EU to avoid current legislative gridlock it has experienced over the past decade on energy taxation.

Optimism over the enhanced cooperation provision of the Nice Treaty is matched by disappointment in that negotiations for the EU's new legal framework did not extend qualified majority voting to green taxation measures.

Overall, the Nice Treaty does not broaden the scope of environmental

legislation that can be approved by qualified majority voting (as opposed to unanimous voting). As a result, it also does not expand the environmental legislation under which the European Parliament shares co-decision powers with the Council of Ministers.

The rules for use of the enhanced cooperation provision were drawn up to find a way for member states to avoid legislative gridlock on important issues. A typical example often referred to is the EU's energy harmonization tax, which is said to be crucial to the EU's Kyoto Protocol implementation target but has been blocked in the Council of Minister for more than 10 years.

The rules for enhanced cooperation are as follows:

- ◆ A minimum of eight member states must participate.
- ◆ Member states must initiate the procedure by making a request to the Commission.
- ◆ Financial costs of enhanced cooperation are covered by the member states participating.
- ◆ No defense issues can be decided by enhanced cooperation.

16. Cuts Sought In Marine Fuel Sulphur

The European parliament's Rapporteur on proposals to cut sulphur dioxide emissions from ships plying EU waters is advocating a huge extension of the curbs. MEP Heidi Hautala says her proposals would reduce shipping pollution by almost 60%, compared with less than 10% under a directive proposed by the European Commission last year.

The EU executive has recommended a 1.5% sulphur content limit be applied just in the North and Baltic seas and the

English Channel, in line with an earlier deal struck through the international maritime organization. Current fuel sulphur levels are closer to 3%.

In a report to be debated soon by the parliament's environment committee, Ms Hautala criticizes the Commission's plans as "clearly inadequate". Instead, the Rapporteur says the EU should commit to reducing sulphur content in those areas to 0.5% by 2008. At the same time, the 1.5% standard would be applied to shipping in all EU waters. Recognizing that this would contravene IMO rules, she says it should provide a "mandate to press for more ambitious standards" in future negotiations there.

17. Anglo-German CO2 Rise Accelerates

German and British carbon dioxide (CO2) emissions rose in 2001 for the second year running, and in both countries by more than in 2000, according to independent forecasters. The data add weight to warnings from the European environment agency and others that the EU is relying dangerously heavily on Anglo-German emission reductions to meet its overall Kyoto protocol commitment.

In a new report, independent British forecaster Cambridge Econometrics put the 2001 increase in UK CO2 emissions at 3%, compared with a 2% rise in 2000. Meanwhile, Bonn-based lobby group Germanwatch estimated that German emissions rose by 1.5% in 2001, compared with 1% in 2000.

The figures are potentially worrying because of the central role Germany and the UK have played since 1990 in enabling the EU achieve an overall cut in emissions. If this engine of European gas reduction were to choke or even go into reverse then the EU as a whole

would find it much harder to meet its Kyoto protocol commitment to cut emissions 8% below 1990 levels by 2008-12.

Key factors behind the Anglo-German 2001 emission increases were more use of brown coal (lignite) in Germany, and, for the second year running, a shift away from natural gas towards coal in Britain's electricity sector.

Germanwatch blamed policies of the previous government for approving construction of new coal-fired power stations. Cambridge Econometrics said the UK data reflected "inherent contradictions" in government policies aimed simultaneously at providing cheaper energy and achieving energy and emission savings.

The UK forecaster went on to reinforce previous warnings that the UK is now looking less and less likely to meet its unilateral target of achieving a 20% CO2 emission cut over 1990 levels by 2020.

This was disputed by the UK government, with an environment ministry spokesperson claiming the current rise was a temporary development. The government remained confident that the basket of all greenhouse gases would decline by 23% by 2010 and CO2 by 19%.

18. Carbon Dioxide Reductions Must Drive U.K. Global Warming Policy, Report Says

If the British government wants to meet its long-term climate change goals, it should boost its share of energy produced from renewable resources and natural gas and curb its use of coal, according to a leading think tank. The Institute for Public Policy Research recommended in a report released Jan. 24 that roughly half of U.K. energy

needs to be derived from natural gas, 25 percent from renewable energy sources, 15 percent from nuclear power, and only 10 percent from coal. Currently, natural gas makes up 37 percent of U.K. energy needs, coal makes up one-third, nuclear's share is 22 percent, and 2.6 percent comes from renewables.

While natural gas is a fossil fuel, it burns much cleaner than coal or oil and results in virtually no atmospheric emissions of sulfur dioxide or small particulate matter and far lower emissions of carbon monoxide, reactive hydrocarbons, nitrogen oxides, and carbon dioxide than combustion of other fossil fuels, according to the report, titled *The Generation Gap*.

A spokesman for the Department of the Environment, Food, and Rural Affairs said the United Kingdom is "on target" to meet its commitments under the Kyoto Protocol and is one of the few countries belonging to the Organization for Economic Cooperation and Development that has managed to reduce its emissions over the last decade. The U.K.'s Kyoto target is to reduce its emissions to 12.5 percent below 1990 levels over the period 2008-2012. The government is aiming to exceed its Kyoto target by setting a domestic goal of reducing carbon dioxide emissions to 20 percent below 1990 levels by 2010. The government estimates that the proposals in the climate change program could reduce U.K. greenhouse gas emissions to about 23 percent below 1990 levels in 2010.

19. EEB Submits 'Green Tests' For Greece's EU Presidency

A coalition representing 130 European environmental groups is urging the Greek government to put reform of the European Union's chemicals policy,

sustainable development, and eight other issues at the top of its list of priorities for its six-month EU presidency. The group, the European Environment Bureau, Jan. 9 sent the Greek government a memo containing its 10 "green" tests for the Greek EU presidency, which runs from Jan. 1-June 30. The EEB represents groups from 24 nations in Europe.

Along with reform of chemical policy and sustainable development, the EEB urged the Greek government to push measures on environmental policy integration, environmental liability, environmental governance, genetically modified organisms (GMOs), pesticides, climate change, agriculture policy reform, and biodiversity.

Among its recommendations, the EEB:

- ◆ Called on the Greek presidency to push the European Commission to speed up its work on the new chemicals policy;
- ◆ Called for changes to the common agricultural policy, including promotion of farming techniques with less of an adverse impact on the environment;
- ◆ Urged the Greek presidency to insist that the European Commission clearly elaborate how environmental objectives and needs will be reflected in the EU's future coordinated economic policies;
- ◆ Called for efforts to expand the scope of a proposed directive on environmental liability to cover transport, mining, pesticides, GMO contamination, radiation, oil pollution, and the use of all dangerous substances and activities; and
- ◆ Recommended that the Greek government seek a strict liability regime on environmental damage.

20. Commission Issues Combustion Plant Guidelines

The European Commission has issued key guidance to EU member states on implementing cuts in polluting emissions from pre-1987 boilers and power plants under the large combustion plants directive. The new document sets out how authorities should draft a national emission reduction plan if they prefer it as an alternative to fixed emission limit values for the plants.

The 2001 large combustion plants (LCPs) directive is one of the EU's most important pieces of anti-pollution legislation. Fresh emission limits were set for "new" plants opened since the first directive was passed, along with even tougher standards for future plants.

For the "existing" plants installed before the old directive, member states were given a choice: either to apply the same limits as for "new" plants from 2008, or construct a national emission reduction plan to achieve the same effect. The advantage of the national plan is that it would allow some existing plants exceeding the limits to continue operating, provided extra cuts could be made at other existing plants.

21. Portugal's Climate Battle Getting Harder

Portugal faces an even tougher battle to contain greenhouse gas emissions than previously realized, a revised draft climate change plan issued by the government's environment institute shows. Based on a recalculation of available data, the institute now forecasts that emissions could be 61% over 1990 levels by 2010. Portugal is committed under the Kyoto protocol to limit the increase to 27%. Even the best case forecast is for emissions 55% higher in 2010 than in 1990.

A significant contributor to the more

pessimistic forecast is recalculated predictions of transport emissions. The expected increase from this sector between 1990 and 2010 is now 150%, compared with 135% in the earlier plan. Emissions from energy production are forecast to rise by between 54% and 65%.

The only significant current domestic measure to combat rising transport emissions is construction of three underground train networks. Plans by the previous government to raise taxes on petrol-driven vehicles were dropped last year by the new administration.

22. Denmark Launches Health And Environment Plan

The Danish environment ministry has launched a major national strategy on environment and health including a ten-point list of policy priorities. The initiative comes against a background of the EU's sixth environmental action program, which identifies environment and health as a key focus for action.

The ten priority areas identified in the Danish draft strategy are replacing hazardous chemicals with less harmful materials, reducing allergies and respiratory illness, strengthening measures to control endocrine disrupters, cutting noise pollution, improving indoor climate, safeguarding the quality of foodstuffs, protecting ground water and drinking water, encouraging environmental health research, tightening cooperation among government authorities and focusing on environment and health in international projects.

23. Russian Officials Confident Of Ratifying Kyoto Pact In 2003

Russia continues to maintain that it will

ratify the Kyoto Protocol in 2003, but officials offer no timetable. Parliamentary elections could push ratification of the accord to the end of the year, as lawmakers stress bread-and-butter issues dealing with taxes and crime in the run up to the December vote.

The Federal Service for Hydrology, Meteorology, and Monitoring of the Environment is still not ready to send the Kyoto Protocol ratification document to the Parliament because more work must be done on the documents that must accompany it.

The Kyoto Protocol requires industrialized countries that are parties to the pact to cut greenhouse gas emissions 5.2 percent on average by 2012, based on 1990 levels. Russia's ratification of the Kyoto Protocol is critical to the climate change treaty's becoming international law. For the protocol to enter into force, 55 parties to the convention must ratify it, including industrialized countries accounting for 55 percent of that group's carbon dioxide emissions in 1990.

As of Jan. 24, 103 nations accounting for 43.9 percent of industrialized emissions had ratified the treaty, according to the United Nations Framework Convention on Climate Change Secretariat. With more than 17 percent of the world's CO₂ emissions in 1990, Russia's ratification of the Kyoto pact is needed to reach the 55 percent threshold, particularly since the world's largest greenhouse gas emitter--the United States--pulled out of the Kyoto process nearly two years ago. Without Russia's approval, the climate change accord will not enter into force.

Under the treaty, Russia is considered one of the "countries with economies in transition," and as such it is not yet required to reduce its greenhouse gas

emissions. Because of the country's current economic slump, Russian industrial output is substantially below 1990 levels and Russian emissions of greenhouse gases from industry are less than they were in 1990. Thus, holding greenhouse gas emissions to 1990 levels in Russia is not something likely to hurt economic growth.

After the Cabinet finalizes all the documents needed to establish norms and standards related to climate change, it will present the draft Kyoto Protocol ratification document to the lower house of the Russian Parliament, the State Duma. Once approved by a simple majority vote in three readings at the Duma, the ratification document will pass to the upper house of the Parliament, the Federation Council, for its approval. Finally, President Vladimir Putin will have to sign it, and only then will the Kyoto Protocol be considered ratified by Russia.

In a joint letter, WWF and Greenpeace have called upon EU Heads of State and governments to put further pressure on the Russian government for timely ratification of the Treaty. The letter, jointly signed by Claude Martin, Director General of WWF International, and Gerd Leipold, Executive Director of Greenpeace International, appeals to EU Heads of State to send President Putin a letter urging ratification of the Kyoto Protocol this spring. WWF and Greenpeace are concerned that without external pressure the process will be further delayed. WWF and Greenpeace suggest that EU Heads of State's requests to Russia should indicate interest and willingness to assist in the implementation of the treaty through joint implementation and inventory projects, and state that the ratification of the Kyoto Protocol will give Russia additional advantages in the development of gas exports to European markets.

24. Austrian Legal Victory Over Truck Permits

Austria scored a moral victory over the EU after its claim that the bloc had violated rules governing the country's system of permits for truck traffic was backed by a European court of justice advocate-general. The case concerns a 2000 regulation allowing a reduction in the number of permits to be spread over four years. The court has still to deliver a final verdict.

Under the ecopoint systems, restrictions are imposed on the amount of truck transit through Austria, with additional limits imposed when this figure is 8% higher than 1991 levels. This threshold was breached in 1999 and would have required no transit through Austria in the last quarter of 2000 to compensate.

To avoid a total ban on transit traffic, the European Commission proposed that the reductions in ecopoints be spread over four years from 2000. A regulation to this effect was finally approved by a qualified majority of ministers in September 2000, while Austria, who voted against, vowed to take legal action to overturn the new rule.

Advocate general Jean Mischo agreed with Austria that the regulation was incompatible with the rules on ecopoints laid down in the Act governing Austria's accession to the EU. He also took the view that spreading the cuts was not justified, even if the alternative scenario would have resulted in a ban.

Despite these conclusions, Mr. Mischo recommended that the provisions remain in place, as annulling them would cancel the final installment of the reductions and thus cause an increase in the number of ecopoints permitted this year.

Meanwhile, transport ministers and the European parliament are on a collision course over the future of the ecopoints system, which expires at the end of the year. A majority of MEPs recently voted in favor of a report tabled by Italian Liberal Luciano Caveri.

Mr. Caveri's proposals are significantly different from those thrashed out by EU transport ministers in the final hours of 2002. He is urging tougher restrictions than the council on the most polluting trucks, but across a limited area.

NORTH AMERICA

25. GM To Offer More Than A Dozen Hybrid Models

Over the next five years, General Motors Corp. will offer optional hybrid power trains on several of its most popular models, including pickup trucks, sport utility vehicles, and sedans, company officials announced Jan. 6. The company will begin offering the option later this year.

The new hybrid models are expected to increase fuel economy by 15 percent to 20 percent on several of the designs, ranging from sedans to SUVs, and as much as 40 percent on a new GM Saturn, which is described as a small SUV.

In making the announcement at the 2003 North American International Auto Show, held in the Detroit suburb of Troy, Mich., GM President and Chief Executive Officer Rick Wagoner said, "[T]he technology has the potential to become a factor in the market. We also see hybrids as a bridge to fuel cells, making these programs of value for developing production drive systems and power controls."

GM's announcement came as Sens. John McCain (R-Ariz.) and Joseph Lieberman (D-Conn.) introduced the framework for legislation setting caps on greenhouse gases from several sectors of the economy, including mobile sources (see below).

GM noted that it's "overriding goal is to build sustainable transportation, and that takes into account energy use and reducing emissions while meeting the needs of our customers". Therefore, any legislation to cut greenhouse gases or to raise Corporate Average Fuel Economy (CAFE) standards brings up all the same issues from an automotive standpoint. U.S. consumer demand for hybrids or fuel-efficient vehicles still has not challenged the preference for larger, less fuel-efficient vehicles. U.S. automakers have argued against an increase in CAFE standards because the program depends on consumer choice.

Automakers favor legislation that provides tax credits for consumers who purchase fuel-efficient vehicles.

GM announced in 2002 its plans to produce a hybrid pickup truck. Production of such trucks, the GMC Sierra and Chevy Silverado, will be available for fleet customers in late 2003 and retail consumers in 2004, GM said Jan. 6. But the new developments over the next five years will include:

- Production of a Saturn VUE starting in 2005 featuring a dual electric motor system that will boost composite city/highway efficiency 50 percent to nearly 40 miles per gallon;
- A hybrid option for the Chevrolet Equinox starting in 2006, which combines a variable transmission to the highly efficient "Ecotec" four-cylinder engine. The combination provides a fuel economy increase of

nearly 15 percent on one of GM's smaller vehicle designs. GM will also offer the same hybrid system in its Chevrolet Malibu sedan, with production scheduled for 2007. If successful, this system could be readily available on other mid-size models as demand warrants, according to company estimates;

- A revised version of the pickup truck system in 2007 that adds GM's "Displacement on Demand" technology, which will be made available on the next generation of GM's popular full-size SUVs, including the GMC Yukon and Chevrolet Tahoe, boosting fuel economy by an expected 15 percent to 20 percent. The displacement on demand system saves fuel by using only half of the engine's cylinders during most normal driving conditions and using all the cylinders when accelerating or carrying loads.

In a related matter, the Union of Concerned Scientists released a Jan. 3 report on the significant role hybrids can play in addressing several of the major problems faced by the United States and the world such as climate change, air pollution, and oil dependence.

The first modern hybrid electric car, according to the group, was the Toyota Prius, sold in Japan in 1997. Two years later, the United States saw its first sale of a hybrid, the Honda Insight. These two vehicles, followed by the Honda Civic Hybrid, marked a radical change in the type of car being offered to the public--vehicles that bring some of the benefits of battery electric vehicles into the conventional gasoline-powered cars and trucks we have been using for more than 100 years.

The Union of Concerned Scientists agrees that whether this new technology

delivers on its promise hinges on the choices automakers, consumers, and policymakers make over the coming years.

The report said poor choices could result in hybrids that fall short even of what conventional technology could deliver on fuel economy, emissions, or both.

"We are taking a very pragmatic approach, targeting a wide array of popular models with varying degrees of complexity to give consumers a variety of choice," Wagoner said. "GM sees this commitment as a matter of both competitive positioning and good long-term business planning. Given the present level of fuel prices and consumers' complex needs and desires, it's uncertain to us just what level of market may exist for hybrids at this point in time. However, we do think the technology has the potential to become a factor in the market. We also see hybrids as a bridge to fuel cells, making these programs of value for developing production drive systems and power controls."

Hybrids draw power from two different energy sources, typically a gas or diesel engine combined with an electric motor. GM's approach stretches from the very aggressive with the dual electric motor VUE, to the more modest approach of combining electric motor assist with other efficiency gaining technologies such as Displacement on Demand.

Wagoner concluded that for the near-term, GM will continue to refine and improve the internal combustion engine to provide better efficiency and power to meet customer needs. For the mid-term picture stretching from mid-decade into the next, GM is putting its considerable resources into affordable and effective hybrid technologies. And for the long-term, GM's vision of the future includes

the Hy-Wire concept and the potential of the hydrogen economy and fuel cells as the ultimate answer.

26. GM Considering Diesels For N. American SUVs; Wants Tier 2 Relaxation

General Motors is considering offering diesel engines on its sport utility vehicles sold in North America to help boost fuel economy. It is expanding capacity for its diesel engines on its full-size pickup trucks sold in North America, and could also offer them on their large sport utility vehicles to consumers wishing to save money on fuel, said Gary Cowger, head of GM's North American operations.

But U.S. clean air laws could prevent their widespread use in passenger cars unless the laws are rewritten, he said.

"Diesels in cars here, because of the way pollution and the ways the laws are written... diesels are not appropriate unless we get some rule changes. They are in trucks," Cowger said.

More fuel-efficient diesel engines have taken off in Europe, and now represent around 40 percent of all new vehicle sales. Diesels achieve higher fuel economy but also emit more pollutants. In Europe the NOx standard for light duty diesels is 3 times higher than for gasoline fueled vehicles.

27. Detroit Resurrects Gas-Thirsty Sports Cars

Detroit's two largest automakers will add "gas guzzler" sports cars to their lineups this year. The high fuel consumption of these vehicles will require buyers to pay federal taxes of up to \$7,700.

Ford Motor Co. and General Motors

Corp. will resurrect two of their V8 engine sports cars from the 1960s in an attempt to win back customers from Japanese and European automakers.

With the launch this year of the Ford GT and GM's Pontiac GTO, combined with the long-running Dodge Viper from the Chrysler arm of DaimlerChrysler AG, each of the traditional U.S. Big Three will sell a "gas guzzler" for the first time in a decade.

All three cars get less than 22.5 miles per gallon on a combined city-highway average. Despite rising gasoline prices in the United States, GM and Ford expect the sports cars to be a hit.

Ford and GM have yet to set retail prices for the GT and GTO.

Under the so-called gas-guzzler law passed by U.S. Congress in 1978 to encourage production of fuel-efficient vehicles, U.S. and foreign auto manufacturers must pay taxes ranging from \$1,000 to \$7,700 for each new car that fails to surpass the 22.5 miles per gallon threshold.

While sport utility vehicles have been blasted by environmental groups for their fuel consumption, and are often labeled "gas guzzlers" by the press, SUVs, pickup trucks, and minivans are not subject to the "gas guzzler" tax because they are classified as light trucks instead of cars.

The taxes and the negative publicity had discouraged Ford, and particularly GM, from selling gas guzzler cars most years. The list of cars charged the tax is almost entirely European sports and luxury models, including models from Volkswagen AG's Lamborghini, BMW AG, DaimlerChrysler AG's Mercedes brand and Ford's Jaguar and Aston Martin divisions.

But in recent years, automakers have raced to add more horsepower to their cars to give them a marketing edge over rivals.

The Ford GT is a near-replica of the Ford GT40, which swept the Le Mans endurance race in 1966. GM's Pontiac GTO was considered the first American muscle car when it debuted in 1964.

Both GM and Ford point out that the Pontiac GTO and the Ford GT will sell in relatively modest volumes.

Pontiac expects to sell about 18,000 GTOs in their first full year of production. Officials said they are still determining the expected mileage of the GTO.

Ford expects the GT to post an average miles per gallon in the mid to high teens.

28. Pataki Backs Wind and Solar Power and California's Approach To Greenhouse Reductions

On a brief passage in his annual address to the Legislature, Gov. George Pataki said he would direct that, within the next decade, 25 percent of the state's electricity supply come from sources like solar and wind power. Although New York already produces more renewable energy than many states — around 17 percent of its electricity — mostly from hydroelectric power, achieving an additional 8 percent in a state as big as New York would still be a significant step.

Mr. Pataki's order also affects only energy bought on the statewide wholesale market; so individual electricity customers who will continue to pay their bills as before will not feel it.

Mr. Pataki also said in his speech that he wants New York to adopt standards

for automobiles to reduce emissions of carbon dioxide, one of the biggest of the so-called greenhouse gases blamed by many scientists for contributing to climate change. California has said it will develop standards for cars sold in that state for the 2009 model year.

One day after Gov. Pataki's announcement, however, an unnamed White House environmental official reportedly questioned the legality of the California law, suggesting the Bush administration may be considering joining automakers in their pending legal fight against the legislation.

29. Legislation Would Require Four U.S. Sectors To Reduce Greenhouse Gases to 1990 Levels

Four sectors of the U.S. economy would be required to cut their greenhouse gas emissions to 1990 levels by 2016 under a bipartisan plan announced in the Senate Jan. 8. The plan, also the subject of a Senate Commerce, Science, and Transportation Committee hearing Jan. 8, was introduced by Sen. John McCain (R-Ariz.), the committee chairman, and Sen. Joseph Lieberman (D-Conn.), but it does not have backing from the administration of President George Bush because of its call for mandatory reductions. Sen. James M. Inhofe (R-Okla.), the new chairman of the Senate Environment and Public Works Committee, also opposes mandatory cuts.

The four sectors--electricity, transportation, industrial, and commercial--are defined in the Environmental Protection Agency's Inventory of U.S. Greenhouse Gas Emissions and Sinks. Together they represented approximately 85 percent of the overall U.S. emissions in 2000, and under the proposal, they would have to cut their emissions to year 2000 levels

by 2010 and to 1990 levels by 2016.

To share the burden between sectors, the bill offers flexibility mechanisms, including a "cap-and-trade" program.

An administration official reiterated President George Bush's commitment to only voluntary greenhouse gas reductions at the Senate committee hearing. James Mahoney, assistant secretary of commerce for oceans and atmosphere and director of the U.S. Climate Change Science Program, told the committee the administration has concluded that there is "real evidence of global change and its likely significant human effects." But, he said, there is also uncertainty about "their scope and what would make a difference" in minimizing those human impacts. As a result of this uncertainty, 13 agencies will undertake "fact finding" before committing to any short-term mandatory approach.

McCain told the administration witness he did not believe voluntary approaches or more research is sufficient to address "a difficult, complex, and controversial issue" that he believes "is of the absolute most critical importance to the world."

Taking mandatory limits and flexibility into account, the bill drafted by McCain and Lieberman and expected to be formally introduced soon, would result in a typical regulated company making a 5 percent cut in projected emissions by 2010 and a 15 percent cut in projected emissions by 2016.

While the remaining two federally identified sectors--agriculture and residential--are not regulated in the bill, they would be allowed to trade with those that are. Without imposing any limit to the trading between sectors or among any of the six greenhouse gases, the bill would allow the regulated

sectors to satisfy their obligations by offsetting their emissions through obtaining and retiring credits verified under another country's system; investing in projects that sequester carbon dioxide; and obtaining registered emissions reductions from entities not within the four covered sectors.

The bill ensures proceeds and benefits go to consumers most closely affected by the trading of such allowances.

The bill, in the drafting stages for 16 months, is intended to secure incremental emissions reductions in the short-term while providing the market-based flexibility needed to minimize the costs to industry.

The bill would also require a new national greenhouse gas database to be established, operated, and maintained by the Environmental Protection Agency; the Commerce, Energy, and Agriculture departments; and private sector and nongovernmental organizations to collect, verify, and analyze information on U.S. emissions. The database, housed in the Commerce Department, would consist of an inventory of emissions and a registry of emission reductions. EPA would be responsible for ensuring entities report and comply.

Penalties for noncompliance would be a fine for each ton of greenhouse gases over the limit at the rate of three times the market value, based on the trading price of the emission credits.

The cap-and-trade program would offer credits for reductions registered prior to 2010 under the existing Department of Energy 1605(b) registry, if it meets all the criteria of this bill's new registry, aides said. Any reductions made but not reported to the registry cannot be used by that source or another source as a tradable allowance, the draft said.

Regulations to implement a comprehensive system for reporting, inventorying, and reductions registration would be required within two years of enactment. Such regulations would be promulgated jointly by EPA and Commerce.

The emissions inventory would count the total quantity of direct greenhouse gases from stationary sources, the amount of petroleum products sold or imported, and the amount of greenhouse gases that would be emitted when these products are used by vehicles, all of which would be expressed in carbon dioxide equivalents.

The inventory also could include, if EPA determines it necessary, indirect emissions from imported electricity, heat, and steam; process and fugitive emissions; and production or importation of greenhouse gases.

After each year of implementation, EPA would be required to publish an annual report that must:

- Describe the total greenhouse gas emissions and emission reductions reported to the database;
- Provide entity-by-entity and sector-by-sector analyses of the emissions and emission reductions reported;
- Describe the atmospheric concentrations of greenhouse gases; and
- Provide a comparison of current and past atmospheric concentrations of greenhouse gases.

In addition to reporting, any source that wants to trade must obtain independent third-party verification of reductions and

present those results to EPA, which in turn would make that information public unless it poses a risk to national security.

On Jan. 7, Senate Minority Leader Thomas Daschle (D-S.D.) and Sen. James Jeffords (I-Vt.) introduced the "Global Climate Security Act" to initiate several programs allowing the United States to begin "responsibly addressing global climate change," promoting clean energy, and cutting air pollution, a draft of the legislation said.

By 2004, the bill would require the federal government to take necessary actions to reduce emissions to 1990 levels by 2013, and report by July 2005 on the most cost-effective policy options for the federal government to reduce its net greenhouse gas emissions to zero by 2025.

The bill would also include "sense of the Senate" language that the United States must act to reduce greenhouse gas emissions and participate in developing a future binding climate change treaty.

In March 2001, the Bush administration pulled out of talks to implement the existing international climate change treaty, the Kyoto Protocol, opting instead to create domestic strategies that encourage voluntary U.S. reductions.

The Senate parliamentarian has placed control of the McCain/Lieberman greenhouse gas bill in the hands of Senate Environment & Public Works (EP&W) Chairman James Inhofe (R-OK) -- a staunch opponent of carbon dioxide emission regulations. According to reports, an official with the parliamentarian's office said that since the essence of the bill is emissions, it belongs in the environment committee, not in the Commerce, Science & Transportation Committee--chaired by

the bill's sponsor, Sen. John McCain (R-AZ). Now that the bill has a new home, it likely has very little chance of seeing the light of day.

30. Engine Makers Balk At OMB Plan For Trading In Nonroad Diesel Rule

Diesel engine manufacturers are balking at White House efforts to establish emissions trading between highway and nonroad engines in an upcoming rule regulating farm and construction engines. It appears that the engine makers flatly oppose the trading concept due to concerns it could create competitive disadvantages within the industry.

Representatives from the diesel engine industry, including the Engine Manufacturers Association and individual engine companies, met to discuss the so-called nonroad rule with the Office of Management & Budget and EPA officials Jan. 7, including Office of Information & Regulatory Affairs Director John Graham. According to reports, industry raised concerns over possible EPA proposals allowing diesel engine makers to comply with the rule at least in part with emissions credits generated by reductions from highway vehicles.

The debate is occurring as EPA is drawing closer to proposing the nonroad emissions rule.

31. Administration Review Slows Release Of Fuel Economy Report

An unusual interagency review of EPA's annual report on U.S. motor vehicle fuel economy trends is slowing release of the document, as environmentalists accuse the Bush administration of seeking to blunt calls for stricter government regulation of motor vehicles'

efficiency.

At issue is a report expected to show that automakers have made little progress in boosting their vehicles' efficiency, despite the potential of technology to spark improvements.

While a similar report was issued in the fall of 2001, sources say the Bush administration has launched an interagency review of the latest study, which analyzes broad trends regarding motor vehicles. The report is separate from an annual fuel economy guide already released by the agency last year that ranks 2003 model year vehicles.

The review comes as the administration faces new political challenges on the fuel economy issue. Democrats are pledging to make fuel economy an issue this year as part of congressional debates on energy legislation. Sens. John McCain (R-AZ) and John Kerry (D-MA) plan to reintroduce related legislation, and the administration is preparing a rule that changes current fuel economy standards far less than activists and many lawmakers say is necessary.

It also comes as proponents of stricter standards speculate that a war with Iraq could highlight the idea that poor fuel economy contributes to Middle Eastern oil dependence.

32. EPA May Send Modified 8-Hour Implementation Regulations To OMB

Responding to concerns over a potential void in enforcement of the Clean Air Act, EPA may send an amended set of regulations to the Office of Management and Budget on the implementation of the 8-hour ozone standard. The latest draft of the standard modifies policy regarding the transition from the current

1-hour standard to the 8-hour standard.

Under a proposed implementation draft sent to OMB recently, the 1-hour standard would be revoked one year after the regulations are adopted, a source familiar with the regulations said. A December letter from the California Air Resources Board implies this when it says: The concept of revoking the 1-hour standard long before it is attained would simply delay the public health benefits envisioned by the Clean Air Act." The letter goes on to say: "Under the most optimistic scenario for implementing the 8-hour standard, years of planning would ensue before adoption of any new control strategies. Attainment deadlines would be pushed far into the future."

The concern of environmental groups is that air quality officials in nonattainment regions may relax their emission reduction efforts because of the long compliance periods that are apparently a part of the 8-hour implementation regulations. Attainment dates of the new standard would fall well into the next decade.

Were the 1-hour standard to be revoked, nonattainment regions that have been, or may be bumped up to "severe" or "extreme" would likely not have to demonstrate steady progress to EPA, and report annually, towards meeting National Ambient Air Quality Standards for ozone.

The enforcement void created by the transition could also take the pressure off of nonattainment regions that are at risk of losing federal highway funding for road construction. Several regions including Washington, D.C. and Houston may be faced with reducing emissions of nitrogen oxides in excess of 50-tons-per-day to meet the goals set in their state implementation plans (SIPs), that are required by EPA and

detail how regions will meet air quality goals. These regions, and others, could face having funds for road construction withheld by the Department of Transportation because their transportation improvement plans do not conform with their SIPs.

The OMB has 90 days from the time they received the proposed regulation to pass judgment on it. After a series of court challenges, including two cases in the U.S. Supreme Court, EPA is under court order to designate the regions that fail to meet the new 8-hour ozone standard by April 15, 2004.

33. Environment Canada to Extend Exemption For Use of Leaded Gasoline in Racing Cars

Proposed amendments to gasoline regulations under the Canadian Environmental Protection Act would extend until Jan. 1, 2008, an exemption for gasoline used in racing vehicles from the lead content restrictions that would otherwise apply, Environment Canada said Dec. 14. Leaded gasoline has been prohibited since Dec. 1, 1990, but an exemption has been maintained for gasoline imported and used for racing purposes, the department said in a regulatory impact analysis statement published with the proposed amendments in the Dec. 14, 2002, issue of the Canada Gazette, Part I. The last extension was provided in 1998 and was scheduled to expire Dec. 31, 2002, it said.

Based on a worst-case scenario generated in the most recent air sampling data available, exposure to lead for toddlers, adolescents, and pregnant women would be below the levels recommended by the World Health Organization, the statement said. Environment Canada, however, will continue to monitor the racing sector

through reporting of quantities of leaded racing gasoline produced, imported, and sold in Canada and the development of environmental fuel requirements in the United States and will take additional control actions if necessary, it said.

About 1 million liters of leaded racing fuel were imported into Canada in 2001, representing less than 0.01 percent of the 36 billion liters of gasoline, mostly unleaded, consumed annually in Canada, it said.

34. U.S. Administration Plans Global Summit In Lead-Up to December UNFCCC Meeting

The U.S. administration plans to sponsor "a major earth observing summit" sometime this summer to encourage global partners to use "the excellent measuring systems we already have" and build on the U.S. research effort to define what approach would make the most difference in slowing climate change, a senior U.S. official told lawmakers Jan. 8.

James Mahoney, assistant secretary of commerce for oceans and atmosphere and director of the U.S. Climate Change Science Program, told the Senate Commerce, Science, and Transportation Committee that the administration will hold the summit as a precursor to the U.N. meeting to be held in December among the Conference of the Parties to the U.N. Framework Convention on Climate Change.

Mahoney told the committee that the administration of U.S. President George W. Bush has concluded there is "real evidence of global change and its likely significant human effects."

But, he said, there is also uncertainty about "their scope and what would make a difference" in minimizing those human

impacts. As a result of this uncertainty, 13 agencies will undertake "fact finding" before committing to any short-term mandatory approach.

35. New Canadian Emissions Regulations Largely Harmonize with U.S. Standards

On January 1, Environment Canada issued final regulations that it said would reduce smog-related vehicle emissions by up to 95 percent and make Canadian standards more compatible with those of the United States.

The On-Road Vehicle and Engine Emission Regulations, scheduled to take effect Jan. 1, 2004, largely harmonize Canada's emissions standards with those currently imposed by the U.S. Environmental Protection Agency, but provide some unique features to take into account Canada's smaller vehicle market, the department said in a regulatory impact analysis statement accompanying publication of the final regulations in the Canada Gazette.

Fully implementing the complex U.S. regulatory approach in the smaller Canadian market could have led to unnecessary restrictions on the Canadian automotive industry that would have reduced its international competitiveness, so the regulations put in place alternative approaches for some elements of the U.S. phase-in and fleet averaging standards that apparently do not make sense in the Canadian context, the impact analysis statement said.

"Environment Canada believes there is limited value in requiring compliance with all parts of the U.S. regulatory scheme that are designed to provide short-term flexibility during transition to compliance with tighter standards," it

said. "The regulations avoid prescribing exact phase-in percentages or optional averaging standards where they would have little effect on emission performance in Canada. The regulations continue the current approach of requiring vehicles to meet the same emission standards to which they are certified for sale in the United States. This will result, during transition periods, in comparable emission performance on both sides of the border."

Given the large numbers of light vehicles in Canada and that on-road vehicles are major contributors to air pollution, Canada needs an appropriate regulatory framework to remove the opportunity for individual companies to sell a significant number of higher-emitting vehicles here than would be permitted in the United States, it said.

The impact analysis statement added that the final regulations also would ensure that the long-term environmental performance of the Canadian fleet is comparable with that of the United States.

"Environment Canada recognizes, however, that the Canadian market is not identical to the U.S. market and that a Canadian fleet average standard identical with the U.S. fleet average could present a more restrictive standard when applied to our smaller market," it said.

The draft On-Road Vehicle and Engine Emission Regulations that were published for public comment in the March 30, 2002, issue of the Canada Gazette, included an option that would have resulted in a regulated maximum Canadian fleet average nitrogen oxides emission standard of 0.10 grams per mile, compared to the U.S. standard of 0.07 grams, which would have provided flexibility to address legitimate market differences without compromising the

overall emission performance of the Canadian fleet, it said.

However, that option was dropped based on criticism by environmental groups of the proposed unique Canadian fleet averaging option. The final regulations implement a modified approach that will ensure the comparability of environmental performance in Canada and the United States, it said.

The regulations align Canada's fleet average NOx standards with those of the United States, but they also permit companies to exclude U.S.-certified vehicles that are sold concurrently in both countries from the mandatory fleet average standard, it said.

The regulations also contain safeguards to ensure Canadian fleet emissions performance comparable to that in the United States, the impact analysis statement said.

For example, a vehicle sold in both Canada and the United States must meet the same emissions standards in both countries, and a company cannot include vehicles in the group not subject to a fleet average standard if the total number of equivalent vehicles sold in Canada exceeds the total number of such vehicles sold in the United States, it said.

That will prevent a company from excluding vehicles that are certified to higher standards from being subject to a fleet average NOx standard in Canada by selling an insignificant number of the vehicles in the United States, it said.

In addition, the regulations specify that a company may only generate emission credits in a model year if the average NOx value for its entire Canadian fleet is lower than the applicable fleet average emission standard, it said.

"In any model year that a company elects to not subject its group of U.S.-certified vehicles that are sold concurrently in Canada and the United States to the fleet average standards, the company forfeits any emission credits that it may have obtained in previous model years," it said. "This prevents companies from selectively benefiting from the emission credit program on a year-by-year basis."

Another change from the draft regulations was the inclusion of a new national emissions mark symbol that was developed through consultations between the industry and various government departments, it said.

The date for the regulations to come into force was pushed back to Jan. 1, 2004, from Sept. 1, 2003, to give manufacturers sufficient time to make necessary production changes to ensure that the new mark is used on 2004 model year vehicles, the impact analysis statement said.

Environment Canada rejected proposals by the Canadian Vehicle Manufacturers' Association and the Association of International Automobile Manufacturers of Canada to eliminate the in-use standards included in the regulations, the impact analysis statement said. The manufacturers argued that because the regulations treat a vehicle's engine and fuel as a system, current fuel attributes in Canada would affect their ability to meet the regulations' requirements for emissions levels after vehicles are on the road, it said.

However, the in-use emission standards are an important element of the regulations, particularly for the notice of defect provisions that address defects in the design, construction, or functioning of a vehicle or engine that affect compliance with a prescribed standard,

it said.

To address the industry's concerns, a reference to "fuels" has been added to the regulations to explicitly recognize that fuels are an important element of the emission certification procedures, and a new subsection has been added to accept U.S. certification to corresponding standards as applied by the U.S. Environmental Protection Agency, it said.

Full implementation of the finalized regulations is expected to lead, by 2020, to overall reductions in emissions by on-road vehicles of 73 percent for NOx; 64 percent for PM10; 41 percent for formaldehyde; 40 percent for acetaldehyde; 29 percent for acrolein; 23 percent for carbon monoxide; 17 percent for 1,3-butadiene; 14 percent for benzene; and 14 percent for volatile organic compounds (VOCs), the impact analysis statement said.

Higher reductions are projected for emissions of NOx, VOCs, and PM from heavy light-duty trucks, such as large pick-ups, vans, and sport utility vehicles, of 95, 84, and 92 percent, respectively, and for emissions of those substances by heavy-duty diesel engines of 95, 89, and 90 percent, respectively, it said. All of the reductions are from a "base case" reflecting existing regulations and voluntary agreements with the Canadian automobile manufacturing sector, it said.

The tougher emissions standards implement a key element of the government's February 2001 Federal Agenda on Cleaner Vehicles, which, in turn, is part of the integrated clean air strategy originally released in the spring 2000, it said. They also fulfill one of Canada's commitments under the Ozone Annex adopted in December 2000 to the Canada-United States Air Quality Agreement to align Canadian emissions standards with those in the

United States by the 2004 model year, it said.

They complement the Sulfur in Gasoline Regulations finalized in June 1999, which require sulfur levels in Canadian gasoline to average no more than 30 parts per million, with a maximum of 80 ppm, starting in 2005, and the Sulfur in Diesel Fuel Regulations, which require sulfur levels in on-road diesel fuel to be reduced to a maximum of 15 ppm by June 2006, it said.

36. US Auto Regulator Supports Higher Fuel Economy

The top U.S. government regulator of safety and fuel economy for the automotive industry said he would support higher fuel economy standards beyond the 1.5-mile-per-gallon increase set to go into effect by 2007.

"We can do better," Jeffrey Runge, head of the National Highway Traffic Safety Administration, said in a press interview.

"The overriding goal here is better fuel economy to decrease our reliance on foreign oil without compromising safety or American jobs," Runge said. "The president's energy plan certainly makes it clear it's a national security issue as well as an issue of American commerce."

NHTSA's proposal would raise the average fuel economy standard for an automaker's pickups, sport utility vehicles and minivans from 20.7 mpg now to 22.2 mpg in 2007. Fuel economy of new U.S. cars and trucks, and their emissions linked to global warming, have been worsening as consumers swap cars for light trucks and drive more.

NHTSA's analysis found that General

Motors Corp. would have the toughest task meeting the new rules, while Ford Motor Co. and DaimlerChrysler AG would meet or be just below the standard. Federal fuel economy averages are based on vehicles sold, so if consumers reject high-mileage models and buy low-mileage ones, an automaker's average suffers.

GM has said the standard would be challenging to meet, but has not submitted an official comment on the proposal to NHTSA. DaimlerChrysler executives have said they had expected the increase.

Runge said he had asked auto industry leaders for data on how the industry could improve fuel economy beyond 2007 and whether any NHTSA regulations were slowing fuel economy improvements.

He also said the agency was aware of automakers' complaints that safety regulations were adding weight to vehicles and lowering fuel economy, but said improved safety should not be an impediment to better fuel economy.

A former emergency room doctor, Runge has set a goal for NHTSA of reducing annual U.S. highway deaths from about 42,000 now. At the current rate of increase, about 51,000 people would die annually by 2008.

In a speech to the Automotive News World Congress, Runge said that, while vehicle safety needed improvement, reducing drunk-driving and raising seat belt usage was essential.

"The industry can make the perfect vehicle, but until we tackle those two problems, we will not find those 9,000 lives," he said, referring to the expected increase in annual deaths by 2008.

37. New York Seeks EPA Waiver From Clean Gasoline Rules

New York State has asked the Bush administration for a waiver from federal rules that require cleaner-burning reformulated gasoline to be sold in the New York City metropolitan area. The state is worried about using reformulated gasoline containing the fuel additives MTBE, which can contaminate underground drinking water, or ethanol, which is difficult to transport to the Northeast. New York's Department of Environmental Conservation asked the Environmental Protection Agency last week for the waiver that would take effect Jan. 1, 2004.

Approval of the waiver is unlikely, as the EPA denied a similar request from California. Also, the Bush administration is pushing for more use of ethanol - which is made from corn - a move favored in farm states.

Federal law requires major metropolitan areas with the worst ozone air pollution to use gasoline that contains at least 2 percent oxygen by weight. Most refiners blend either MTBE - short for methyl tertiary butyl ether - or ethanol into gasoline to meet the oxygenate requirement.

New York told EPA it opposed MTBE because it has been found to leak from underground storage tanks and contaminate drinking supplies with a bad taste and odor. Many states have banned it.

New York also told the agency that using ethanol as a replacement for MTBE would produce gasoline that had a higher evaporation rate, which would put more polluting emissions into the air. In addition, the state said it was difficult to transport ethanol in the near term

from the Midwest, where the fuel additive is made, because it can't be transported by pipeline to the Northeast. The ethanol would have to be transported by truck, barge or rail.

New York said that 960 million gallons (22.9 million barrels) of ethanol a year would be needed in the Northeast, which would require 34,000 miles of barge travel and 3 million miles of tanker truck travel.

38. EPA Unveils Voluntary Program To Cut US Truck, Train Greenhouse Emissions

The Environmental Protection Agency has unveiled a voluntary program with leading multi-national corporations to reduce the amount of greenhouse gas emissions they spew into the air that are linked to global warming. The program aims to cut by 2012 significant amounts of air pollution and heat-trapping emissions from ground freight carriers like trucks and locomotives.

EPA hopes the program will reduce 18 million metric tons of carbon equivalent and 200,000 tons of nitrogen oxides over the next decade. The program will also create fuel savings of up to 150 million barrels of oil a year, according to the agency.

EPA Administrator Christie Whitman said the program "will improve air quality and increase efficiency while transporting America's goods and keeping our economy vital."

EPA's new "SmartWay Transport" program is modeled after the agency's successful "Energy Star" program that identified appliances and other consumer products that use less energy and have less pollution. The SmartWay's charter partners include, Coca-Cola Enterprises, United Parcel

Service, FedEx Corp., CSX Corp., IKEA and Nike Inc.

Participating firms will eventually earn SmartWay labels for their vehicles that reduce emissions. To be recognized as a SmartWay partner, companies would use the following environmental strategies and technologies:

- Reduce or eliminate idling of long-haul trucks, saving up to 2,000 gallons per truck a year.
- Use a streamlined profile truck tractor with aerodynamic devices such as cab extenders that can reduce fuel consumption by at least 600 gallons.
- Install automatic tire inflation systems to continually adjust tires and maintain proper tire pressure even when a truck is moving, which can save 90 gallons of fuel a year.
- Train drivers to reduce fuel consumption by using cruise control, coasting whenever possible, reducing maximum freeway speeds and minimizing truck idling.

39. Caterpillar ACERT Engine Certified By EPA

Caterpillar announced it has received certification by the U.S. EPA for its first ACERT (Advanced Combustion Emission Reduction) technology engine. ACERT is a technology that reduces emissions at the point of combustion, using a combination of engine electronics, fuel injection and combustion techniques. The first EPA certified ACERT engine is the C9, which is primarily used in emergency and recreational vehicles, mass transit buses, and vocational class trucks such as refuse haulers and dump trucks.

All Caterpillar on-highway truck and bus

engines will be equipped with ACERT technology by the fourth quarter of 2003. The technology will also be used to meet future emissions regulations for Caterpillar's entire diesel engine product line, including construction and mining machines and power generation units.

40. U.S. Court Blocks Mexican Trucks

A federal appeals court barred Mexican trucks from U.S. highways, granting a petition from environmental and labor groups that claimed that the Bush administration failed to perform environmental impact analysis before opening the border. In November president Bush lifted a ban on wider operation of Mexican trucks, as required by the North American Free Trade Agreement. The plaintiffs in the court suit claimed that Mexican trucks would dramatically increase air pollution in the U.S. Free entry of Mexican trucks has been fiercely opposed by U.S. truckers, especially in California, who believe that the Mexicans have lower operating costs that would give them an unfair competitive advantage.

41. CleanAIR Particulate Filter Receives MSHA Approval

CleanAIR Systems received approval from the U.S. Mine Safety and Health Administration (MSHA) for use of its new diesel particulate filter system in underground mines. The CleanAIR PERMIT FBC filter system demonstrated over 85% reduction in PM emissions without increasing nitrogen dioxide (NO₂) emissions.

MSHA conducted tests on the CleanAIR PERMIT FBC filter system on a laboratory reference engine and on a unit operating in a mine. MSHA lab tests, conducted on a Deutz F6L 912W

engine over the ISO 8178 steady state eight-mode test, indicated the system reduced PM and CO emissions by 89% and 86%, respectively. Standard EPA diesel fuel with 350-ppm sulfur content was used for testing.

Two other products that have passed MSHA tests include another filter with fuel additive (Catalytic Exhaust Products) and a base metal catalyst filter (Lubrizol/ECS).

42. President Bush Proposes \$1.2 Billion for Hydrogen Fuel Cell Research; Technology Advancing

As part of his State of the Union Address on January 28, 2003, President Bush proposed \$1.2 billion in research funding for clean vehicles powered by hydrogen fuel cells. The \$1.2 billion proposal forms President Bush's FreedomFuel initiative. This initiative will invest \$720 million in new federal funding over the next five years to develop the technologies and infrastructure needed to produce, store, and distribute hydrogen for use in fuel cell vehicles and electricity generation. FreedomFuel complements DOE's FreedomCAR initiative launched in early 2002 aimed at developing advanced technologies required for affordable hydrogen-powered fuel cell vehicles. President Bush is proposing that FreedomFuel and FreedomCAR fund a combined \$1.7 billion in programs over the next five years to develop hydrogen-powered fuel cell vehicles and associated infrastructure technologies. The President's FY 2004 budget request includes \$273 million in funding for FreedomFuel and FreedomCAR programs.

While President Bush said his \$1.2 billion proposal to spur development of hydrogen fuel cell vehicles would cut pollution and enhance security,

environmentalists have criticized the plan.

"The whole thing's a fraud," said Dan Becker, head of the Sierra Club global warming and energy program. "He's going to try to snatch defeat from the jaws of victory by creating hydrogen out of coal, nuclear and gasoline." He said the plan obscured Bush's failure to seek stronger fuel-efficiency standards for today's cars and trucks, which would provide quicker energy savings.

Democrats gearing up to seek the 2004 presidential nomination also took shots at the plan, which could give Bush an environmental plank for his reelection campaign. Sen. John Kerry of Massachusetts called the plan a "smokescreen on energy security" and Sen. Joseph Lieberman of Connecticut said it was "nothing more than an exhaust pipe dream."

White House spokeswoman Claire Buchan said the research on using coal to produce hydrogen would seek ways to make it "cleanly."

"I don't know if you and I are going to be driving one of these cars, but our grandkids will," Bush said. He said fuel-cell cars would not only cut air pollution, they would reduce U.S. dependence on imported oil, enhancing the country's economic security. "If we develop hydrogen power to its full potential, we can reduce our demand for oil by over 11 million barrels per day by the year 2040," he said.

The United States currently uses about 20 million barrels daily, half of which is imported.

Becker said he was skeptical Bush's initiative would lead manufacturers to offer significant numbers of fuel cell vehicles because it does not require them to do so. An earlier program to

promote gasoline-electric hybrid vehicles has so far failed to yield any production vehicles by U.S. carmakers that took part, he said.

Significant Obstacles

There are many factors that could keep mass-produced fuel cell vehicles off roads for a decade. Power from a vehicle-ready fuel cell costs 100 times more than power from a gasoline internal combustion engine. The United States would need to produce at least four times more hydrogen a year to sustain a large fuel cell vehicle fleet, and there's no consensus on how highly volatile, hard-to-handle hydrogen gas can be carried long distances and easily stored.

Nearly every major automaker worldwide has some form of fuel cell vehicle program under way. A few, including Toyota Motor Corp., Honda Motor Co. Ltd. and DaimlerChrysler AG have leased a few experimental vehicles to test fleets. But mass production on the scale of today's gasoline-powered vehicles is at least a decade away. Auto executives cite cost as the most immediate challenge: A gasoline engine can produce one kilowatt of energy for about \$50, while a one-kilowatt fuel cell on the market today costs \$5,000.

Another contender for the most immediate problem facing fuel cells is how to store hydrogen in a vehicle. To meet the roughly 350-mile range of today's vehicle, a fuel-cell car would need about five kilograms (11 lbs) of hydrogen stored on board. Few test vehicles have even come close.

The consensus method for storing hydrogen appears to be tanks capable of holding hydrogen gas under high pressure. That's the method used by Ford's test vehicles, as well as General Motors Corp.'s Hy-Wire concept.

Another alternative is storing hydrogen with another chemical, which is the system Chrysler used in a concept minivan last year.

Even if there were a way to store hydrogen in vehicles, companies still would have to find a way to make enough hydrogen and move it around the country easily. The United States produces about 9 million tons of hydrogen a year, most from natural gas, which is enough to power about 20 million to 30 million vehicles. Power for half the vehicle fleet - roughly 100 million vehicles - would require 40 million tons of hydrogen a year.

The Energy Department said that the \$1.2 billion wouldn't all be new money. Energy Secretary Spencer Abraham said \$720 million will be new funding, spread over the next five years, to develop the infrastructure needed to produce, store and distribute hydrogen for use in fuel cells and electricity generation. Another \$500 million was from a program announced last year, which will spend the money over the same five-year period on the administration's "Freedom Car" program to build vehicles that would be fueled by hydrogen.

Abraham said the administration wants parallel programs to build hydrogen-run vehicles and to develop the service stations and other infrastructure to keep the cars running.

Abraham said it should be cost-effective to produce hydrogen-fuel cars in large numbers and have them in showrooms by 2020. The cars could reduce demand for foreign oil by 11 million barrels per day by 2040, according to the department.

GM Making Progress

GM officials have said in public they are

spending hundreds of millions of dollars annually on their fuel cell program, and will continue to do so. They are the only company to have designed vehicles around fuel cells, rather than retrofitting existing vehicles with fuel cells and their related systems. Their introduction of their Autonomy concept vehicle at last year's North American International Auto Show in Detroit was well received. From the ground up the Autonomy and the latest concept vehicle the company is using as the star attraction of its image burnishing campaign, the HyWire, the vehicles incorporated revolutionary concepts and radical technologies. The idea behind GM's technology and design leaps is the belief that the fuel cell vehicle must offer something more than traditional automobiles for people to want to buy them. Like the latest commercial airliners being produced, the HyWire is entirely drive-by-wire, where all mechanical and hydraulic systems for steering, acceleration, braking and suspension have been replaced by computer controlled electronic systems.

To add to their fuel-cell vehicle lineup for use in demonstration projects in the U.S. GM has indicated that it will bring in a handful of their European produced vehicles, the Zafira III. Both concept vehicles will likely be in demand for upcoming events being planned to underscore the Bush administration's commitment to advancing the development and deployment of fuel cell vehicles.

The Autonomy also introduced the concept of encasing all the fuel cell components, systems and fuel storage in a "skateboard," a chassis -- 11 inches thick in the case of the HyWire, and 6 inches for the Autonomy -- allowing the interchangeability of bodies. A motorist could rent a sport utility body for a weekend camping trip or a convertible sports car for a drive in the country, all

placed on the same skateboard. The computer controls and electronic suspension would allow interchangeable software to provide the type of drive warranted for road conditions or off-road conditions, a stiff road hugging ride for the weekend drive along winding, country roads, or a high ground clearance, low gear ratio-type of traction for climbing mountains on the weekend camping trip.

Commercialization Getting Closer

Commercialization of fuel cell cars is drawing closer. In the past several years, automakers have made rapid strides in technological development, while the development race has become increasingly heated. However, the infrastructure issue concerning hydrogen fuel remains unsolved.

In December of last year, Toyota Motor Corp. and Honda Motor Co. Ltd. released their fuel cell cars in limited numbers into both Japanese and U.S. markets, and thereby, it raised the curtain on the full-fledged era of fuel cell cars. In a bid to compete head-on with the Japanese players, General Motors Corp., Ford Motor Co., DaimlerChrysler AG and others are also expediting development efforts steadily.

The FCX by Honda was approved by the U.S. Environmental Protection Agency (EPA) and the California Air Resource Board as a fuel cell car for the first time in the world in July last year. In the wake of this, Honda brought forward its original marketing plan for Japan and the U.S. in a bid to deliver it to the government by the end of 2002. Honda plans to sell about 30 units by lease in the 2 countries combined.

Meanwhile, Toyota announced its market release prior to Honda. It developed the FCHV based upon the Kluger V through conducting a series of

tests on public roads. It also plans to sell about 20 units (for the first year) also by lease to government offices or agencies, research institutes or energy-related firms in the 2 nations.

On top of these, the automaker unveiled the FINE-S, a sports concept car that makes use of features of fuel cells at the Detroit Auto Show, which was held at the beginning of the New Year. In this way, it has been gearing itself up steadily for marketing fuel cell cars for commercial use in earnest.

Meanwhile, Nissan Motor Co., Ltd. also brought forward its original marketing plan by 2 years and said it will bring its fuel cell car to market only in Japan by the end of 2003.

Among other players, moves by GM stand out. At the Paris Auto Show held in September last year, it exhibited the concept car Hy-wire and this became the center of attention. Furthermore, it is scheduled to begin conducting tests under commercial conditions with its fuel cell car in Japan, in cooperation with Federal Express Corp. starting in June this year. The model to be tested will be the HydroGen 3 based upon the Zafira by Opel of Germany, a GM affiliate. This will be GM's first fuel cell car that will officially take part in the Japan Hydrogen and Fuel Cell Demonstration Project, in which the METI has taken the initiative. And it will be the first vehicle fueled by liquefied hydrogen that runs on public roads in Japan.

By the same token, DaimlerChrysler is also scheduled to launch the fuel cell bus Citaro into service in 10 major cities in Europe. The Citaro is 12-meters long with a cruising range of about 200 kilometers and a seating capacity of up to 70. The maximum speed is 80 kilometers per hour.

In the passenger car arena, it also put

the F Cell based upon the Mercedes-Benz A-Class on the market in October last year. The firm is due to start testing it by drivers from the general public this year.

43. US Senate Bill Aims To Boost SUV Fuel Efficiency

Fuel efficiency standards for popular sport utility vehicles and light trucks would be gradually increased to match those currently required in passenger cars under legislation introduced in the US Senate. SUVs and pick-up trucks now account for about half of all vehicles sold each year in the United States. The bill would boost the current Corporate Average Fuel Economy (CAFE) standards required in SUVs and other light trucks from 20.7 miles per gallon (mpg) to 27.5 mpg by 2012.

Increasing fuel efficiency would save 1 million barrels of oil each day and reduce imports by 10 percent, according to the legislation's sponsors, Sen. Dianne Feinstein, a California Democrat and Olympia Snowe, a Maine Republican. One additional Republican, Susan Collins of Maine, will join six Democrats in co-sponsoring the legislation which would impose stricter standards than those favored by the Bush administration, congressional aides said this week.

The bill is not expected to get very far after a similar bid last year was stalled when Senate Democrats and Republicans joined to block efforts to boost fuel efficiency.

The Bush administration in November proposed increasing fuel standards for SUVs and other light trucks by 1.5 mpg between the 2005 and 2007 model years. The US National Highway Traffic Safety Administration last month proposed increasing fuel economy

standards for average fuel economy of light trucks to 22.2 mpg in model year 2007.

44. OMB Proposes Stricter Cost-Benefit Analysis for New Rules

A proposal recently issued by President Bush's Office of Management and Budget (OMB) would require regulatory agencies to take a different approach when conducting their cost-benefit analyses. According to the proposal agencies are to assess alternatives to regulation, consider market-oriented approaches, provide different cost-benefit ranges in case of uncertainty, and strive to put non-quantifiable benefits into monetary terms. Environmental groups expressed concerns that, if the standard is implemented, it may be harder for federal agencies to issue rules to protect the public health and the environment because the proposal recommends analyzing the probability of a particular result and making decisions based on probability, rather than simply erring on the side of caution.

In many ways, this proposed guidance mirrors the old guidance it revises but there are subtle differences that raise the bar for new health, safety and environmental protections. Specifically, the guidance:

Emphasizes monetization and "net benefits" decision-making. OIRA's proposed guidance demands that agencies put health and safety benefits in terms of dollars and cents, so they can calculate and demonstrate "net benefits" (benefits minus costs).

Requires discounting of lives saved in the future. OIRA's proposed guidance directs agencies to use two separate discount rates -- 7 percent and 3 percent -- in calculating the "value of a

statistical life” and present the results of both. This rests on the assumption that a life saved in the future is worth less than a life saved today.

Demands cost-effectiveness analysis for all major health and safety standards. OIRA’s proposed guidance requires cost-effectiveness analysis -- looking at the ratio of costs to units of benefits (i.e., number of lives saved) -- for all major health and safety rules.

Promotes use of “life years” in evaluating fatality benefits. Agencies commonly base benefit estimates on the “value of a statistical life” (VSL), drawn from the number of lives expected to be saved by regulatory action. On top of VSL estimates, OIRA’s proposed guidance asks agencies to consider using “value of statistical life years” (VSLY), which looks at the number of life years saved as opposed to the number of lives. This would skew against protections for the elderly, who have fewer life years remaining.

Implies that OIRA will revise agency analysis to compare one protective measure against another. OIRA asks agencies to hand over underlying data, so that it can standardize analysis and compare the costs and benefits of protective measures government-wide.

Advises agencies to consider potential technological innovations by regulated entities. Frequently, regulated entities are able to drive down compliance costs over time through technological advances or “learning by doing,” which are not typically predicted by cost-benefit analysis. OIRA’s proposed guidance instructs, “Estimates of costs should be based on credible changes in technology over time,” adding “regulatory performance standards and incentive-based policies may lead to cost-saving innovations that should be taken into account.”

OIRA, under the leadership of John Graham, places cost-benefit analysis at the heart of regulatory decision-making. The phrase “cost-benefit analysis” conjures the image of even-handed, dispassionate decision-making. Yet in the regulatory context, this means putting health, safety and environmental benefits in terms of dollars and cents to show “net benefits” -- benefits minus costs. This process is not easy and involves many value-laden choices, which OIRA’s guidance specifies.

Frequently, benefits prove extremely difficult or even impossible to monetize, which skews cost-benefit analysis to favor inaction. For instance, EPA recently proposed a rule to protect the trillions of fish and aquatic organisms that are sucked up and killed each year by power plants, which use rivers, estuaries, and oceans to cool their systems. In performing its cost-benefit analysis, EPA did not monetize losses of invertebrate species, such as lobsters, crabs, and shrimp, as well as endangered or threatened species, nor did it consider the interrelationships of the species affected. Rather, EPA’s estimate was based exclusively on the commercial value of the fish that would have been caught had they not already been killed by power plants. This accounts for less than 20 percent of the total fish killed by cooling systems.

EPA acknowledged the problems with its analysis, and used the non-monetized benefits to argue for a relatively protective standard, which it submitted to OIRA for review on September 10, 2001. During its review, however, OIRA forced EPA to adopt a less protective option that showed fewer benefits, but greater “net benefits” by EPA’s estimates. This meant the qualitative benefits -- because they could not be monetized -- were essentially ignored. OIRA’s guidance

enshrines this dismissive treatment of non-quantifiable factors: “Non-quantifiable benefits or costs may be important in tipping an analysis one way or the other, but you should not use non-quantifiables as ‘trump cards,’ especially in cases where the measured net benefits overwhelmingly favor a particular alternative.”

“Discounting” -- already common practice in monetizing benefits -- rests on the premise that a life saved today is worth more than a life saved tomorrow. The further in the future a life is saved as a result of regulatory action today, the more it will be discounted from its “present value,” and the less likely the action will pass a cost-benefit test. This analytical and value-laden choice has significant implications for regulation aimed at preventing cancer, which frequently has a long latency period, or other diseases of old age. For example, in the case of EPA’s standard for arsenic in drinking water, the agency argued that it did not have enough data on the latency period for cancer caused by arsenic to apply a discount rate. Yet in an independent analysis that almost led to the repeal of the standard, Robert Hahn and Jason Burnett of the AEI-Brookings Joint Center for Regulatory Studies rejected EPA’s analysis, and instead assumed a latency period of 30 years, applying a 7 percent discount rate over this period -- which OIRA’s guidance describes as “the base-case for regulatory analysis.” This reduced the “value of a statistical life” from \$6.1 million to \$1.1 million.

Perhaps even more striking, at a discount rate of 5 percent, one life saved today is worth more than one billion lives saved 500 years from now.

Cost-effectiveness analysis avoids some of the problems of monetization of benefits, but nonetheless, it too can lead to skewed and timid decision-making.

For example, a cost-effectiveness analysis that looks at costs relative to the number of lives saved would miss a whole slew of other significant benefits, such as non-fatal disease or injury, effects on ecosystems, and equity considerations. Moreover, the least protective regulatory alternatives are frequently estimated to be the most cost-effective. This is because additional levels of protection are forecast to require increasingly demanding and more costly methods. Forcing decisions based on a cost-effectiveness test may lead an agency to inappropriately choose a less protective alternative -- because it is the most “cost-effective.”

In addition, OIRA’s proposed guidance requires agencies to incorporate the concept of discounting for cost-effectiveness analysis, meaning it will appear less cost-effective to save lives in the future as opposed to right away. Again, this could mean fewer protections to prevent cancer or other diseases of old age that have a long latency period.

Promotes use of “life years” in evaluating fatality benefits. Agencies commonly base benefit estimates on the “value of a statistical life” (VSL), drawn from the number of lives expected to be saved by regulatory action. During his time as OIRA administrator, however, Graham has promoted the use of “value of statistical life years” (VSLY), which looks at the number of life years saved as opposed to the number of lives. Again, this skews decision-making against protections for the elderly, who have fewer life years remaining.

Graham stresses the importance of “league tables” for setting regulatory priorities across federal agencies. These tables are intended to compare the costs and benefits of one type of regulation, such as auto safety, to another, such as environmental

protection. In presenting his own league table, Graham implies the administration should contract efforts at environmental protection (e.g., health standards) because safety regulation (e.g., addressing accidents) is more cost-effective and produces greater "net benefits." Yet this presents a false choice (leaving aside whether it is true), forcing an unnecessary tradeoff between one protection and another. In reality, we can do both -- and we do.

Nonetheless, OIRA seems to have league tables in mind when it says, "It is difficult for OMB to draw meaningful cost-effectiveness comparisons between rulemakings that employ different cost-effectiveness measurements. As a result, agencies should provide OMB with the underlying data, including mortality and morbidity data, the age distribution of the affected population, and the severity and duration of disease conditions or trauma, so that OMB can make apples-to-apples comparisons between rulemakings that employ different measures."

45. CARB To PUSH Software Upgrade For NOx Control

ARB staff is proposing a regulation to require heavy-duty diesel engine software upgrade for applicable model year 1993 to 1998 engines. This software upgrade will reduce the excess pollution from 1993 to 1998 trucks and buses.

In the 1990's, engine manufacturers utilized computer-based strategies on engines in trucks, school buses, urban buses, and motor homes that allowed the engines to comply with emission limits under certification conditions but also allowed increased oxides of nitrogen (NOx) emissions during highway driving. The United States

Environmental Protection Agency (U.S. EPA) and ARB consider these strategies to be defeat devices (a.k.a. dual mapping and transient sensing algorithms) that result in off-cycle emissions.

In 1998, the following manufacturers signed Consent Decrees with the U.S. EPA, the Department of Justice (DOJ), and the ARB: Caterpillar, Cummins, Detroit Diesel, Navistar, Mack/Renault, and Volvo. The Consent Decrees stipulate penalties, additional certification requirements, the Low NOx Rebuild Program, an October 2002 deadline for meeting 2004 model year standards, in-use testing, and offset and incentive programs.

The Low NOx Rebuild Program contained in the Consent Decrees is simply engine software upgrades designed to reduce the increased NOx emissions. The Consent Decrees require low NOx rebuild kits to be installed at the time of normal engine rebuild (typically around 200,000 to 300,000 miles of service.) However, less than four percent of the applicable engines have low NOx rebuild kits installed instead of the nearly one hundred percent that was expected. Therefore, excess NOx emissions continue to be emitted. In order to reduce NOx emissions, staff is developing a proposal to require the Low NOx engine software upgrade on all applicable model year 1993 to 1998 engines.

46. Mercedes-Benz To Sell Low-Emission Diesel Cars In The U.S. In 2004

Mercedes-Benz has announced that it will begin selling a low emission, fuel-efficient diesel version of its popular E-Class sedan in the United States beginning in 2004. The German

automaker said the car's engine is 30 percent more fuel efficient than its gasoline equivalent, achieves lower exhaust emissions and is much quieter than previous diesels, even at idle. The new E320 CDI contains a turbocharged 6-cylinder engine with electronic fuel injection -- a feature Mercedes officials say was considered impossible on diesel engines a few years ago. It is this electronic fuel injection that makes the E320 CDI (common-rail design) engine "cleaner, quieter and more powerful" than conventional mechanically injected diesel engines, according to a Mercedes-Benz press release.

According to the company release, the full-sized E320 CDI will have a fuel economy of 30 miles per gallon on the highway and will be able to travel 700 miles between refueling. Mercedes officials are hoping the new technology on the E320 CDI will change consumers' "dated perceptions about diesel engines."

47. 2003 CARB Plan Targets Trucks, Diesel Fuel And Wood Products

The California Air Resources Board (CARB) plans this year to pursue further controls on heavy-duty trucks and diesel fuel and propose new regulations to reduce pollution from aboveground storage tanks. Heavy-duty diesel trucks are the subjects of several major regulations, including a garbage truck rule that was initially proposed to be adopted last year. The rule will require garbage truck fleet operators to clean up their diesel engines or replace them with cleaner alternative-fuel motors. A similar regulation is proposed to be unveiled in September that targets fuel delivery tanker trucks. A broader regulation targeting all heavy-duty diesel trucks in public fleets is also planned for September.

Smog Check-like field inspection regulations for heavy-duty diesel trucks, as well as a regulation for on-board diagnostics, are scheduled to be proposed in September and August, respectively. Also in September, CARB staff plans to propose a regulation to require new heavy-duty truck engines to reduce idling.

A regulation for stationary diesel engines, including backup power generators, is expected to be proposed in June. Also in June, CARB staff plans to propose a regulation to reduce polluting ingredients in motor vehicle diesel fuel.

Aboveground gasoline storage tanks will be targeted for enhanced vapor recovery in a regulation expected to be proposed in October, according to the plan.

48. Development Bank Approves First Loan To Improve U.S.-Mexico Border Air Quality

The North American Development Bank (NADBank), which finances environmental infrastructure projects along the 2,000-mile U.S.-Mexico border, approved its first loan for an air quality project, the bank announced Feb. 2. In a statement, the NADBank said the loan, totaling \$4 million, will be used to improve air quality in the border region by paving streets in the city of Agua Prieta, in the Mexican state of Sonora.

The United States and Mexico formally agreed at a meeting of the Binational Commission in November 2002 to expand the NADBank's mandate to include environmental infrastructure projects in addition to water, wastewater, and municipal solid waste projects. Among other projects that can receive funding are air quality and

transportation infrastructure.

The NADBank said 80 percent of the streets in Agua Prieta are unpaved, "resulting in high rates of air pollution due to vehicular-related dust and emissions that are causing serious respiratory problems for people living in the area." Residents of Douglas, Ariz., also have been affected by the air quality problem because of prevailing south-to-north winds in the region that carry contaminants across the border.

Reducing Particulate Matter

The Project for Reduction of Suspended Air Particles through Paving in Agua Prieta was certified by the Border Environment Cooperation Commission (BECC) Dec. 17, 2002. Under parallel agreements to the North American Free Trade Agreement, the BECC certifies environmental infrastructure projects, and the NADBank provides funding for the projects.

The total cost of the paving project is estimated at \$17 million. The first phase, paving 4.3 miles of streets, has already been completed, and NADBank funding will be applied toward the second phase of the project, which consists of paving an additional 16.7 miles of streets.

Other construction costs will be covered by the Sonora Ministry for the Environment and Urban Development, as well as by capital contributions from the municipal government.

49. Environment Canada to Amend Benzene, Sulfur Content Regulations for Gasoline

Proposed amendments to Canada's benzene in gasoline regulations and sulfur-in-gasoline regulations would bring them up to date by specifying a more accurate way to measure sulfur

concentrations, Environment Canada said Feb. 1. Changes would replace specified, sulfur-testing provisions with a recently developed, more accurate method, the department said in a regulatory impact analysis statement published with the proposed revisions to the sulfur-in-gasoline regulations in the Feb. 1 issue of the *Canada Gazette*, Part I. The move came at industry request.

"Environment Canada agrees that this new method is a superior method that provides the means to measure sulfur concentrations at low levels with precision," the impact analysis statement said.

The change follows on a Feb. 20, 2002, letter from the Canadian General Standards Board (CGSB) informing Environment Canada that it would be appropriate to replace the current testing method with one established by the American Society for Testing and Materials, ASTM D2622, the impact analysis statement said. The standards body said the current test should be replaced because it does not apply at levels below about 50 parts per million and because the proposed replacement method is the one specified in recently finalized regulations, it said.

The amendments to the benzene-in-gasoline regulations also would replace the specified testing method for sulfur levels in gasoline and would align the sulfur limits for pure oxygenate and commercially pure butane with the sulfur levels and timing requirements in the sulfur-in-gasoline regulations, said a separate impact analysis statement.

Both proposed sets of regulations also include other minor amendments, including changing the units for expressing sulfur limits from percent by weight to milligrams per kilogram; updating references to California

requirements applicable to California gasoline; changing records retention requirements to five years from three years; exempting gasoline that is imported into Canada in the fuel tank of a vehicle, or that is produced or sold for export, or that is in transit through Canada; and shifting the focus of record keeping requirements related to gasoline-like blend stock to those receiving the products rather than those producing them.

The proposed benzene-in-gasoline regulations also call for clarification of specified timing requirements to cancel yearly pool average elections, the definition of complying gasoline, and specific test methods that may be used for taking samples and change the quantity of sample required to be retained for analysis to 1.7 liters.

50. U.S. Greenhouse Gases Decreased in 2001 But Still 13 Percent Over Baseline, EPA Says

Total U.S. greenhouse gas emissions declined 1.6 percent from 2000 to 2001 but were still 13 percent above 1990 emissions, according to a Feb. 7 draft inventory issued by the U.S. Environmental Protection Agency. The 2001 decline, the first since the 1990 baseline year, was driven primarily by decreases in carbon dioxide emissions from fossil fuel combustion. The primary contributors to the decrease in CO₂ include slow economic growth in 2001, leading to decreased demand for electricity fuels; a considerable reduction in industrial output, leading to decreased demand for electricity and fossil fuel; warmer winter conditions compared to 2000; and increased output from nuclear facilities, which do not emit greenhouse gases, EPA said.

The Energy Department's Energy Information Administration reported Dec.

20 that such factors helped bring about the 2001 decline. The EIA's finding however was recorded as a 1.2-percent decrease from 2000 to 2001.

Fossil fuel combustion was the largest source of emissions, accounting for 80 percent of the total, the report said. Emissions from this source category grew by 17 percent from 1990 to 2001, and they were responsible for most of the 13 percent increase in national emissions during this period. This source's average annual growth rate was 1.4 percent from 1990 through 2001, EPA estimates.

51. U.S. Official Says 2004 Budget Proposal Shows Commitment to Fight Global Warming

The fiscal year 2004 budget proposed by President George Bush shows the administration's commitment to addressing the problem of global warming, a senior U.S. official responsible for climate change said Feb. 4. James Mahoney, assistant secretary of commerce for oceans and atmosphere and director of the U.S. Climate Change Science Program, said the entire climate change program fared well in a year that homeland security and other demands are taking a larger share of the U.S. budget.

He said proposed spending on climate science would total around \$1.75 billion over the next fiscal year in terms of prescribed programs and that the whole budget request for climate activities would be almost \$5 billion. The latter figure covers science and technology programs, tax incentive elements, voluntary emissions-reduction management, and international collaboration. He also said the Climate Change Science Program is due to issue an updated strategic plan by the end of April, after which the program

would shift its focus on the reporting of findings. The program has been tasked with providing the Bush administration with the "best available scientific information" to support U.S. decision making on global climate change issues. The plan will set a path for the next few years of research under the program, according to Mahoney. When it announced the research plan in draft form in November 2002, the administration said it was developed to reduce "significant uncertainties" in climate science, to improve global climate observing systems, and to develop resources to support policymaking and resource management.

The draft plan provided for research on:

- The natural forces driving global climate change such as solar variability and human forces such as changes in land cover and emissions of greenhouse gases and aerosols;
- Changes in clouds in different parts of the atmosphere and their potential either to dampen or accelerate climate change and alterations in other aspects of the water cycle of evaporation, precipitation, and storage that affect water resources;
- The carbon cycle, which transfers carbon among different reservoirs in the atmosphere, on land, and in the oceans and affects the amount of carbon dioxide emitted from human activities remaining in the atmosphere;
- The potential effect of global change on human activities and health and analyzing different courses of action to manage risks and realize benefits; and
- The potential role of developing and recently developed technology to reduce greenhouse gas emissions in the short and long term, including considerations of costs, effectiveness, and intended and unintended consequences of this new control technology.

Mahoney rejected suggestions that the

climate science program was aimed at undermining the work of the U.N.'s Intergovernmental Panel on Climate Change (IPCC), which has concluded that global warming is taking place as a consequence of increases in human-caused greenhouse gas emissions. The IPCC's conclusions served as the rationale for the drafting of the Kyoto Protocol.

Mahoney also rejected the suggestion that the IPCC's findings represent a consensus from the worldwide scientific community on the threat of global warming.

Mahoney also said that the United States will be hosting an "Earth Observation Summit," where officials and leading climate change experts will come together to discuss the establishment of a comprehensive, global system for monitoring the climate. The summit is scheduled to begin July 31.

52. Concerns Raised Over Impact of Appropriations Provision

According to the 2003 appropriation bill's report language, EPA must complete work by February 2004 on a study of the "practices and procedures by which states develop separate emissions standards, including standards for non-road engines or vehicles as compared to the development by EPA of national emission standards under the Clean Air Act." In addition, EPA must also assess "the procedures, practices, standards and requirements used by states as opposed to those used by EPA, including how states and EPA take into account technological feasibility, economic feasibility, impact on the economy, costs, safety, noise and energy factors associated in the development of these standards."

Opponents say the real purpose of the report is to undermine the ability of states to set their own emissions standards. EPA would look at the cost to industry and not the health benefits of regulating automobiles and stationary sources beyond federal levels

The language is in the Senate appropriations bill and being negotiated in a House-Senate conference committee. Opponents have launched a letter-writing campaign against the language. California EPA Secretary Winston Hickox, New York Gov. George Pataki (R), Sens. James Jeffords (I-VT), John Edwards (D-N.C.) the South Carolina Coastal Conservation League and the State and Territorial Air Pollution Program Administrators (STAPPA/ALAPCO) issued statements opposing the bill language.

For more than 30 years, the Clean Air Act (CAA) has guaranteed states the right to set their own pollution standards when necessary to protect the health and environment of its citizens. California's authority to set its own motor vehicle pollution standards has been recognized under the CAA since 1967. All states have the right to go beyond federal pollution standards for power plants and factories in order to address their individual problems.

The California GHG law would require the California Air Resources Board to propose a standard by 2005 that will achieve "maximum technically feasible greenhouse gas reduction in the most cost-effective manner." Lawmakers have one year to review the standard before it takes effect on Jan. 1, 2006. Automakers must comply by the 2009 model year.

53. US and EU Host Joint Meeting on Climate Change Science and Technology Research

The United States and the European Union convened the first bilateral "U.S.-EU Joint Meeting on Climate Change Science and Technology Research" in Washington on February 5-6, 2003, following an invitation from Under Secretary of State for Global Affairs Paula Dobriansky to European Commission Research Commissioner Philippe Busquin. The meeting was conducted under the April 23, 2002 agreement of representatives to the US-EU High Level Dialogue on Climate Change to enhance cooperation on climate-related science and research.

The respective delegations were led by Dr. Harlan Watson, Senior Climate Negotiator and Special Representative of the Department of State for the U.S. side, and by Dr. Anver Ghazi, Head, Global Change Unit of the European Commission Research Directorate-General for the European side.

The U.S. delegation included representatives from the White House Office of Science and Technology Policy, U.S. Climate Change Science Program Office, U.S. Department of Commerce National Oceanic and Atmospheric Administration, U.S. Department of Energy, U.S. Department of State, National Aeronautics and Space Administration, National Science Foundation, and U.S. Agency for International Development. The European Union delegation included representatives from the European Commission Research Directorate-General, selected research experts from European Union Member States, and the Delegation of the European Commission to the United States.

The two sides identified cooperative

research activities in six areas: (1) carbon cycle research; (2) aerosol-climate interactions; (3) feedbacks, water vapor and thermohaline circulation; (4) integrated observation systems and data; (5) carbon capture and storage; and (6) hydrogen technology and infrastructure.

The two sides agreed to designate points of contact to coordinate the development of specific research activities and modalities of cooperation and to monitor the progress of these activities, building on existing cooperative arrangements wherever possible.

The two sides further agreed to review the progress of their cooperation at the next Joint Meeting, which could take place in Italy later this year. Additional topics to be considered then are abrupt climate change including critical thresholds, integrated assessment of mitigation and adaptation options, linkages between climate change management and energy systems transformations, and capacity building for strengthening the involvement of developing countries and young scientists in climate change research and monitoring.”

Specific topics of potential cooperation in each area include the following:

Carbon Cycle Research

- Define and implement an integrated and optimized carbon observing system over the atmosphere, land, and oceans, with special emphasis on the carbon budget of North America, Europe, and the North Atlantic region;
- Coordinate efforts in modeling (future projections, assimilation methods, and analysis of past changes) integration, interpretation, and future data acquisition strategies;
- Enhance georeferenced carbon

cycle data availability and quality; and

- Develop common assessment methods and state-of-the-art reports.

Aerosol-Climate Interactions

- Perform studies of aerosols, their influence on clouds, climate, and links to the water cycle in sensitive regions (hot spots) that are strongly affected by anthropogenic emissions (South and East Asia, and the Mediterranean);
- Improve emission data sets of reactive gases and aerosols from anthropogenic and biomass burning sources;
- Perform studies on intercontinental transport and chemical transformation of anthropogenic emissions that affect climate and air quality;
- Advance integrated global/regional earth system modeling to study feedback mechanisms and develop mitigation and adaptation strategies; and
- Further satellite observations of reactive gases and aerosols and downscaling through in situ and remote sensing measurements in anchor stations.

Feedbacks and Climate Sensitivity

- Improve representations of cloud feedbacks in coupled climate models through participation in the Cloud Feedbacks Model Intercomparison Project (CFMIP);
- Begin to quantify and reduce uncertainty in model predictions through joint work on ensemble approaches to integrated climate change scenarios; and
- Maintain and enhance participation in joint research on thermohaline circulation

Integrated Observation Systems and Data

- Cooperate, within existing international frameworks, to plan and develop the integrated observation systems required to provide the data needed for climate change research;
- Continue with efforts to combine satellite and in situ global observations that are essential to detect climate change and improve evolving climate models, especially to encourage expanded involvement of developing countries to fill gaps in existing databases;
- Encourage and further improve the sharing and archiving of climate data and the design of common standards and formats; and
- Encourage the widest possible participation in the Earth Observation Summit in July 2003 and prepare for appropriate follow-up.

Carbon Capture and Storage

- Identify potential areas of collaboration on carbon capture and storage;
- Foster collaborative research and development projects;
- Identify opportunities to discuss the perspectives of governments and other key stakeholders; and
- Discuss planning, including research and development, for large integrated sequestration and energy plant projects.

Hydrogen Technology and Infrastructure

- Development of international codes and standards including testing and certification;
- Pre-competitive research and development on critical enabling technologies including: polymer electrolyte membrane (PEM) fuel cells, non-precious metal catalysts, high temperature membranes, solid

oxide fuel cells, hydrogen storage concepts (e.g., carbon nanostructures and complex metal hydrides), refueling technologies and procedures, and hydrogen production;

- Data exchange on hydrogen energy technology and fuel cells; and
- Benchmarking of development and deployment strategies for hydrogen energy technologies and fuel cells.

ASIA-PACIFIC

54. GM Forms Another Joint Venture in China

Shanghai Automotive Industry (Group) Corp. (SAIC), GM and Shanghai-GM have announced that they will join forces to setup a new joint venture based on the never completed Shandong-Daewoo project, according to a recent report. SAIC, GM and Shanghai-GM will first invest ¥1.45 billion to acquire 100 percent equity ownership of the Yantai Vehicle Body Co., Ltd., with equity shares split 25, 25 and 50 percent, respectively, in between the three partners. This would in effect be a new 50:50 joint venture between SAIC and GM. This will be GM's 4th whole vehicle joint venture in China.

55. World Bank Calls For Further Action to Improve Thai Air Quality

Air quality throughout Thailand has improved steadily over the past 10 years thanks to improved legislation, monitoring, and enforcement, but much more remains to be done before air pollution no longer poses health risks to the country's burgeoning urban population according to the World Bank's Thailand Environment Monitor 2002.

The World Bank's 2002 Monitor, which

focused on air quality issues, said that lead, nitrogen oxide, carbon monoxide, and sulfur dioxide levels had all dropped over the past six years in Bangkok and other major urban areas. Fine particulate matter, however, largely from vehicles, road and construction dust, and the burning of agricultural and household waste, remained a serious problem throughout the country, with concentrations in Bangkok alone remaining at more than double acceptable levels, the report said.

Jitendra Shah, World Bank senior environmental engineer and the team leader for the 2002 monitor project, singled out aging diesel vehicles and two-stroke motorcycles as the main contributors to particulate matter pollution.

Shah said particulate matter, along with carbon dioxide emissions, which are projected to grow by 2.3 percent annually over the next decade, could push health costs associated with pollution-related ailments from their current level of approximately 20 billion baht (\$464 million) to 70 billion baht (\$1.6 billion) by 2019.

The report outlined "six key challenges" that the government will have to undertake to improve the situation. They include:

- "tackling the unfinished agenda" in Bangkok by boosting the inspection of maintenance of the city's aging diesel bus fleet and introducing incentives to encourage owners of two-stroke motorcycles to replace their bikes with more environmentally friendly four-stroke models;
- "improving air quality management" by updating emissions inventories, stepping up enforcement of existing regulations, and clamping down on

agricultural waste and forest burning in rural areas;

- "improving public transport and traffic management" in Bangkok;
- "strengthening institutional effectiveness" by boosting cooperation among relevant government agencies; and
- "harnessing global opportunities for local good," particularly the Kyoto Protocol. By establishing a national Clean Development Mechanism (CDM) body and approval process, Thailand could "engage and draw benefits from the CDM market," the report said.

56. Carmakers To Work Together On Improving Range of Fuel Cells

A group of top automakers aims to jointly develop technology to allow fuel cell cars to cover similar distances as gasoline engine cars, a Japanese newspaper has reported. The unprecedented effort on fuel cells brings together companies including Toyota Motor, Nissan Motor, DaimlerChrysler AG and Ford Motor, financial daily Nihon Keizai Shimbun (Nikkei) said.

The group of around 20 auto makers and car parts manufacturers will aim to extend the distance fuel cell vehicles (FCVs) can run before refueling to around 500 km (311 miles) by increasing the fuel storage capacity of the cars, the paper said.

Toyota and Honda Motor launched the world's first FCVs simultaneously last month, but they can cover only around 300 km (186 miles) before refueling, one of the drawbacks of the environmentally friendly cars.

The group of car and car parts makers will aim to develop by the end of 2005 fuel tanks which can hold 40 percent more high-pressure hydrogen than current fuel cells, Nikkei added.

Developing such tanks single-handedly would be costly for one firm, and if the auto parts manufacturers can standardize specifications, it will save them the need to supply each of the carmakers with different tanks and allow for mass production, the paper said.

57. International Energy Agency Urges China To Push Use of Gas in Power Generation

China must develop a strong and coherent national energy policy for the natural gas market if it hopes to attack urban air pollution linked to coal-fired electricity generation and its long-term responsibility for curbing greenhouse gas emissions, according to a new report released in mid-December by the International Energy Agency. In *Developing China's Gas Market: The Energy Policy Challenges*, the Paris-based IEA makes the economic, energy, and environmental case for government intervention to stoke the use of natural gas.

The study--part of the IEA's ongoing outreach and cooperation with developing nations--suggests that the premium market for gas in China will be as a substitute for fuels that are responsible for localized pollution, principally coal, and thus recommends the development of decentralized gas-fired power generation in Chinese cities. The report also says that natural gas is cleaner than coal, so it will have a less worrisome impact on the global climate and China's long-term efforts to reduce the emissions responsible for climate change.

To fully develop the potential of natural gas, China must boost the downstream gas market, improve local gas distribution, reform gas pricing policies, introduce full competition, including for foreign firms, and offer a considerably increased degree of investment protection, according to the report.

58. Japan Looking at Requiring Refiners To Blend Alcohol With Gasoline, Diesel Fuel

Japanese government advisors are studying whether to propose requiring refiners to blend alcohol with gasoline and diesel fuel as part of its strategy to further reduce auto emissions according to officials of the Ministry of the Environment and the Ministry of Economy, Trade, and Industry.

The government is studying whether to require refiners to blend between 1 percent and 5 percent alcohol with gasoline or diesel and later increasing the alcohol content to 10 percent. The goal would be to require petroleum refiners to maintain the 10 percent level in all regular gasoline products sold in the country,

The MOE study group on alternative fuels, chaired by Waseda University professor Yasuhiro Daisho, Dec. 17 held its first meeting to explore the viability of adding alcohol to gasoline.

A separate MOE study group on global warming prevention, chaired by Waseda professor Katsuya Nagano, also has been debating alcohol blending in gasoline and diesel fuel, known as light fuel oil, as a way to reduce greenhouse gas emissions. Alcohol is known to generate less carbon dioxide than fossil fuels when burned.

METI is also examining the issue from the industrial technology viewpoint,

studying whether using alcohol in fossil fuels will cause mechanical problems to automobile engines, or lead to greater emissions of air pollutants such as nitrogen oxides, sulfuric oxides, and other gases.

The respective study groups have been meeting with the Japan Automobile Manufacturers Association, academia, and scientists who favor requiring oil refiners to blend alcohol with fuels, including biomass-derived fuels, dimethyl ether, and liquefied gas, starting at a 1 percent blend and for regular gasoline and light fuel oil sold at service stations and rising to 5 percent, according to ministry officials.

The study groups have said also that Japan should gradually move to raise the alcohol ratio to up to 10 percent of fuel volume, the same level as in "gasohol" sold in the United States. The blending effort would begin in 2008. The MOE is preparing to start testing blended fuels in 2003, according to an official.

If and when Japan increases the alcohol blending ratio in regular gasoline to 10 percent, the country could reduce GHG emissions by 1 percent a year starting in 2009, the official said. GHG emissions from automobiles account for about 20 percent of Japan's greenhouse gases, according to the MOE.

59. World Bank Tells Philippines More Aggressive Action Needed to Curb Air Pollution

The World Bank Nov. 30 warned Manila to take bolder steps in addressing its worsening air pollution, which it said is costing the government millions in health care maintenance and other related problems. The bank's report, the Philippine Environment Monitor on Air Quality, said a survey has found that

about three-quarters of the estimated 12 million residents of Manila are "alarmed by worsening air pollution." It said costs in terms of medical treatment, lost wages, low productivity, and premature deaths for urban residents are "staggering."

The health costs related to air pollution in the country's four major cities of Manila, Davao in the south, Cebu in the central Philippines, and Baguio in the north are estimated to be more than \$400 million a year, or about 0.6 percent of the country's gross domestic product, the study said.

The study said that fine dust (particulate) pollution in the four cities caused an estimated 2,000 premature deaths a year and some 9,000 cases of chronic bronchitis.

A "perception survey" the bank commissioned in 2001 also found that more than 72 percent of Manila residents "were alarmed by air pollution" and that they were unaware that the government was doing something to solve the problem.

To help combat air pollution here, the newest report said the government must improve maintenance requirements and emission inspections, particularly for vehicles that use diesel engines, and implement "substantial sanctions" for those violating its provisions.

Vehicle manufacturers, meanwhile, should be required to install exhaust catalysts for gasoline-powered vehicles, because these systems could drastically reduce carbon monoxide and hydrocarbons, the study said.

It also advised Manila to strictly implement provision of the Clean Air Act, noting that despite the passage of the comprehensive law in 1999 "air quality management in the Philippines

remains a challenge."

60. Philippines to Require Oil Companies To Reduce Aromatics, Benzene in Gasoline

The Philippines Jan. 1 implemented provisions setting more stringent requirements on emissions from gasoline. The provisions, which implement a key part of the 1999 Clean Air Act, will require oil firms to reduce aromatics in unleaded gasoline to 35 percent, from the current 42 percent, and benzene to 2 percent, from the current 4 percent, beginning Jan. 1.

The government moved ahead on these provisions, despite threats from oil firms here that compliance could lead to rises in pump prices for gasoline. The government earlier had said that it would hold off on their implementation.

The Clean Air Act provisions also require vehicle emissions testing prior to registration as of Jan. 1. Amid pressure from oil firms, Manila in 2002 sought congressional approval to delay implementation of the law, but President Gloria Arroyo changed her decision at the last minute, saying she wanted to focus on improving the economy and cleaning up the environment in her last 18 months in office.

The Department of Energy (DOE), meanwhile, said it will issue an order requiring all oil firms in the country to submit a certificate of compliance with the new fuel specifications or face sanctions still being firmed up.

In a related development, thousands of drivers and operators of passenger tricycles staged a mammoth protest rally near the presidential palace Jan. 6, demanding the government junk plans to force them off secondary routes. Government studies showed that 75

percent of all tricycles and motorcycles here use two-stroke engines, and the exhausts from these vehicles contain high levels of fine particles, unburned hydrocarbons, and lubricants.

Manila has been trying to regulate two-stroke engines, with the goal of eventually phasing them out, but operators have said this would lead to huge costs in replacing old units or reconfiguring their vehicles. Tricycles are commonly used to ferry passengers along secondary routes in the Philippines.

61. New Zealand Ratifies Kyoto Protocol

New Zealand--Prime Minister Helen Clark Dec. 10 signed the document confirming New Zealand's ratification of the Kyoto Protocol. New Zealand's Permanent Representative to the United Nations will lodge the document, known as an instrument of ratification, with the United Nations in New York. New Zealand's ratification follows the announcement Oct. 17 of the government's climate change policies and the enactment Nov. 13 of the Climate Change Response Act.

Under the Kyoto Protocol to the United Nations Framework Convention on Climate Change, New Zealand is not to exceed 1990 emission levels, on average, during 2008-2012. New Zealand's emission profile is quite different from those of most other Annex I Parties (industrialized nations) due to the large share of agriculture in its economy. The agricultural sector accounts for 54 percent of total greenhouse gas emissions--mainly methane and nitrous oxides.

At a signing ceremony in Wellington's Parliament building, Clark said that New Zealand had "engaged constructively on

an issue that is of particular importance for this country's economic security and the future of our South Pacific neighbors."

Clark said New Zealand's climate change policies had been tailored to ensure the continuing international competitiveness of the country's industries. "We look ahead to the post-Kyoto era with confidence," she said.

"The countries that catch the next wave in energy technology will be those within the Kyoto Protocol, which creates a more favorable market for renewable and low-emission energy," Clark said. "The protocol will also spur innovation and efficiency in the way we use energy and natural resources. New Zealand will be part of the energy shift driven by the protocol, not a nation left behind for fear of change."

Pete Hodgson, the convener of the ministerial group on climate change, said that the government will make Negotiated Greenhouse Agreements available to firms exposed to international competition from nations without Kyoto targets.

Hodgson also said the government will provide incentives for projects to reduce emissions in all sectors. "Eligibility criteria for Negotiated Greenhouse Agreements and emission reduction projects will soon be available for consultation," he said.

62. DaimlerChrysler to Test Fuel Cell Vehicles in 2003

DaimlerChrysler Corp. will join other top world automakers in testing its fuel cell technology on Japanese public roads starting in 2003, company officials said Dec. 19. The company, together with Toyota Motor Corp., Honda Motor Co., General Motors Corp., and Nissan

Motor Co., displayed its FC vehicles on a Tokyo university campus Dec. 18. The five auto manufacturers are making the entry into the Ministry of Economy, Trade, and Industry's fuel cell technology program that begins full activity in March. DaimlerChrysler officials said they plan to test eight of its fuel cell car, the F-Cell, on Japanese public roads, the officials said. It hopes to have a commercial launch in 2010, they said. The vehicle, which is based on the company's A-class sedan, has a top speed of 140 kilometers per hour (87 miles per hour) and a cruising distance of 150 kilometers (93 miles). It is powered by compressed hydrogen. Honda Motor President Hiroyuki Yoshino said at a Dec. 18 news conference that his company plans to sell more than 10 fuel cell cars in 2003, for a total of about 30 in three years. The company cautioned that the vehicles need extensive improvements for commercial launch and declined to say how soon it can start selling them.

63. Japan to Deny Tax Breaks to Vehicles Failing to Qualify for Emissions Certification

Japan's fiscal 2003 tax reforms relating to environmental administration will penalize motor vehicles that fail to meet the government's provisions on low emissions and fuel economy, according to the government's official "budget and tax reform" policy approved Dec. 24. The legislation's environmental provisions will hit hard at manufacturers that fail to qualify for the government's "three-star" low-emission and fuel economy certification by denying tax breaks for those vehicles.

Prime Minister Junichiro Koizumi's coalition parties already had approved the series of tax reforms earlier in December, and they were formalized as the government's official tax reform

policy Dec. 24. The package now is ready to be submitted to the Diet (Parliament), which reconvened in January.

The new budget and tax reforms will take effect April 1, the first day of Japan's new fiscal year.

In the environmental area, the reforms will emphasize the polluter-pays principle and punish environmental under-performers.

Although some local governments, such as Tokyo, have instituted and started collecting environmental taxes, the national government has yet to institute any "green" taxes, such as carbon taxes, to curb pollution. The Koizumi government's fiscal reform package moves the Japanese government one step further toward instituting national environmental taxes.

The coalition's reform policy emphasized Japan's resolve to achieve a greenhouse gas emission reduction of 6 percent by 2008-2012, compared with 1990, saying that Japan will take more "effective measures" to combat environmental problems. This is the goal that Japan committed to under the Kyoto Protocol to the U.N. Framework Convention on Climate Change.

At the core of fiscal year 2003's environment-related tax reforms are automobile-related items, emphasizing that Japan will further promote so-called green taxation. Under the reforms, the government will maintain the 50-percent tax break given to vehicles powered by electricity, fuel cells, natural gas, and methanol. It will also continue the 50-percent tax break given to gasoline and diesel-powered and liquefied petroleum gas-powered vehicles that have obtained three stars from the Ministry of Land, Infrastructure, and Transport. Three stars are awarded to vehicles

whose emissions of nitrogen oxides, sulfur dioxide, hydrocarbons, and other pollutants are one-fourth the levels stipulated under the present MLIT emission standards. They also must meet 2010 fuel efficiency standards (2005 standards for diesel vehicles).

At the same time, under the tax reforms, vehicles that have obtained two stars or one star which qualify for road tax breaks of 25 percent and 15 percent, respectively, under the 2002 tax reforms, will not be given any tax relief.

The reforms also call for adding an extra 10 percent tax to diesel vehicles used more than 11 years after initial registration and 10 percent more on gasoline-powered vehicles used more than 13 years.

As another policy to encourage consumers to purchase environmentally friendly vehicles, the reforms will allow purchasers of such vehicles to take a 5 percent tax break, up to ¥300,000 (\$2,600) per vehicle. The tax break for buyers of methanol, electric, fuel cell, and natural gas vehicles will be eligible for a 2.3 percent tax break; buyers of hybrids, 2.7 percent; and buyers of low particulate matter emission vehicle, 3.5 percent.

64. New Zealand Moving to Family Of Motor Vehicle Emission Standards

The New Zealand government Dec. 9 released the final draft of a new vehicle exhaust emissions rule expected to become law on July 29, 2003. The rule will ensure that all vehicles entering New Zealand are manufactured to an emissions standard.

New Zealand does not currently have vehicle emissions legislation, but the Transport Ministry is developing a broad

program for reducing emissions from vehicles. The program may include testing the emissions performance of in-service vehicles and of imported used cars and trucks at the time they enter the country.

The proposed new rule is a first step in this broader program as it ensures that vehicles entering the fleet for the first time are built to standards that will allow them to subsequently pass in-service testing if maintained in good condition.

The new rule will apply to new and used gasoline and diesel light vehicles that enter New Zealand from Jan. 1, 2004. Heavy vehicles must comply with the rule by Jan. 1, 2005. Vehicles already in New Zealand will not be affected nor will classic cars that are imported after that date.

The intent of the rule is to align New Zealand's vehicle emissions standards with those of Australia, the United States (federal standards), Japan, and Europe, which are based on European Union and United Nations standards.

New Zealand has adopted this policy approach to vehicle standards because most of its vehicles and vehicle parts are imported from countries that recognize and apply the standards from these four jurisdictions. New Zealand already accepts the vehicle standards of Australia, the European Union, Japan, and the United States in many areas of motor vehicle safety.

New Zealand is not developing its own emissions standards because it is a small market and an importer of vehicle technology, including many used vehicles. Also, the global trend is toward standards regimes based on European requirements.

The rule requires vehicles imported into New Zealand to be built to the version of

the emissions standard that was current in Australia, the United States, Japan, or Europe at the date the vehicle was manufactured. In some cases, the draft rule allows for a transition period with less stringent emissions standards, depending on the timetable for the introduction of more stringent fuel specifications in New Zealand or required production lead-times for heavy vehicles.

65. Victoria Proposes New Regulations For Summer-Blend Gasoline

With existing vehicle emission regulations expiring on Feb. 1, the state government of Victoria has released draft regulations that aim to comprehensively update the existing 10-year-old requirements. Key elements include the phased introduction of low-volatility summer-blend gasoline--a move that aims to reduce levels of smog in the state capital of Melbourne. While air quality in Melbourne is generally good, the capital occasionally breaches ambient air quality standards for ozone due to summer smog. Low-volatility gasoline evaporates more slowly and therefore reduces emissions of the volatile organic compounds (VOCs) that help to form ozone.

Gasoline volatility in Victoria is currently about 70 to 75 kilopascals (kPa) in summer. The proposed requirements will be introduced in a phased approach that will see volatility fall to 62 kPa by 2005-2006.

According to the regulatory impact statement outlining the effect of the proposed regulations, the Australian Institute of Petroleum and oil companies have shown "strong support" for regulatory controls on volatility. The proposed introduction of the summer blend gasoline controls in Victoria

follows the introduction of a similar requirement in Sydney in 2002.

The proposed regulations will also require gasoline producers and suppliers to report the average benzene content of each fuel type to the state Environment Protection Authority (EPA). Benzene is a known human carcinogen, and the national government has specified that from Jan. 1, 2006, the maximum benzene content of gasoline should be 1 percent. The reporting requirement is designed partly to allow EPA Victoria to monitor the progress companies are making toward meeting the 2006 target.

66. Japan Government Priorities Include New Rules On Global Warming, Vehicle Emissions

Japan's environmental priorities for 2003 include issuing regulations to implement its new law governing global warming, as well as additional efforts to curb emissions of nitrogen oxides and particulates.

During the first part of the year, much of the country's environmental effort is expected to be spent on completing and reviewing projects from the past year, including lobbying for Russia's ratification of the Kyoto Protocol and drafting regulations for a new automobile recycling law.

Climate Change

Of immediate importance on the global warming front, is for the Cabinet of Prime Minister Junichiro Koizumi to set detailed GHG reduction measures under the new Global Warming Prevention Promotion Law approved in 2002 and relevant laws. Japan committed to reduce its GHG emissions by 6 percent between 2008-2012, compared with 1990 levels. Further, from around mid-

2003, Japan is expected to start collecting data on GHG reduction results achieved during the "first period" ending at the end of 2004. Under its "Step-By-Step Approach," Japan divided the years leading to 2012 into three implementation periods, with the first covering 2002 through 2004.

Also as part of the GHG reduction effort, Japan later in 2003 will require electric utilities to include solar and wind power and other new energy sources in their energy mix.

Fuel Cells

Officials of the Ministry of Economy, Trade, and Industry (METI) and the Ministry of Land, Infrastructure, and Transport (MLIT) said they expect industry to make additional strides in 2003 concerning fuel cell (FC) technology research and development, especially as applied to automobiles.

In 2002, Toyota Motor Corp. and Honda Motor Co. delivered FC-powered vehicles to the Japanese government and began leasing them in the United States. In a joint project later this year, Toyota, Nissan, DaimlerChrysler, and other FC vehicle developers are expected to develop technologies that would extend the FC vehicle cruising distance--now about 300-350 kilometers per charge (186 to 217 miles)--to more than 500 kilometers (310 miles).

Since Russia's ratification of the Kyoto Protocol is critical for it to come into effect, Japanese government officials plan to wage a major effort to convince Moscow to agree to be bound by the treaty. As part of its incentive package, the government is planning to extend technological assistance, increase bilateral trade, and purchase emissions credits from Russia.

Recycling

Japan this year will issue regulations to carry out automobile recycling and re-use provisions set under the 2002 Automobile Recycling Law, whose provisions are scheduled for implementation in late 2004. The automobile recycling law seeks to promote the re-use and recycling of parts and components--such as engines, transmissions, and electrical components--and to reduce automobile shredder residue, the pulverized and often incinerated mixtures of plastics and other materials that are difficult to recycle. It requires removing auto air conditioner coolant and air bags for separate disposal.

Japan currently recycles 75 percent to 80 percent by weight and sends 20 percent to 25 percent to landfills, and its landfill capacity is shrinking dramatically. The law is aimed at raising the recycling ratio above 90 percent and requires detailed sorting of recyclable and reusable parts and materials and development of vehicles that are easy to disassemble for recycling as well as those with longer durability. It also makes consumers responsible for footing the disposal cost for vehicles reaching the end of their useful lives.

Japan deregisters and scraps about 4 million vehicles annually and exports about 1 million end-of-life vehicles.

The government-industry attention on auto recycling this year will be focused on how to develop methods that do not stimulate illegal dumping of end-of-life vehicles by both individuals and businesses.

Nitrogen Oxides, Particulates

Increasingly, Japanese municipalities, irate about the state's slow action, are moving to ban the use and passage through their regions of diesel-powered

vehicles as a way of reducing emissions of nitrogen oxides and particulate matter (PM). For the first time, the Tokyo municipal government, as well as the local governments of the surrounding prefectures, will introduce a ban effective Oct. 1 on the use of diesel trucks and buses lacking diesel particulate filters.

This year, more local Japanese governments are expected to join the city of Tokyo in this effort. Also, Japan expects to step up research into nano-level PM released from not just diesel but also gasoline vehicles and their impact on humans, animal health, and the environment. Japan eventually expects to regulate fine particulates, which have been linked by some scientists to sources of cancer.

Together with the Ministry of Land, Infrastructure, and Transport, the MOE plans to toughen rules governing motor vehicle emissions inspections by requiring vehicles to undergo periodic checks of nitrogen oxides, sulfur oxides, and particulates (see below). Under the present vehicle inspection requirement, MLIT inspects hydrocarbon and carbon monoxide emissions only. The MLIT has said it will work with the Ministry of Environment as part of the government's effort to introduce the next level of vehicle emission standards in 2005. These new measures are expected to make Japanese standards the most stringent in the world.

MOE officials said scientific research work conducted by Japan's National Cancer Laboratory on rats has confirmed that nano-level PM from automobiles have the effect of inducing cancer more frequently than particulates that can be trapped with diesel filters. They said the ministry would urge other ministries to explore imposing regulations to remove nano-grain particulates from fossil fuels and to

improve automobile combustion technologies.

Environmental Taxes

Japanese government officials and legislators also said that Japan would move on introducing an environmental--or carbon--tax. Last year, as part of its fiscal 2003 tax reforms, Japan decided to tax coal. If Japan fails to achieve anticipated reductions in GHG emissions by 2004, the government is likely to proceed with the introduction of a carbon tax.

67. Japanese To Toughen Requirements On Vehicle Tailpipes

As of April 1, Japan will begin to conduct vehicle tailpipe emissions testing for nitrogen oxides (NOx), sulfur oxides (SOx), and particulate matter (PM), the government said Jan. 14. The testing, part of the government's fiscal 2003 activities, will pave the way for tougher auto emission standards to be instituted in 2005.

Under the present Japanese auto emission system, motor vehicles off the assembly line must comply with emission standards for NOx, SOx, hydrocarbons (HC), and carbon monoxide (CO), but once registered, they only need to meet HC and CO emission standards. The Ministry of Land, Infrastructure, and Transport and the Ministry of the Environment will start holding joint inspections "on an experimental basis" of vehicles on the road starting this spring. The inspections will cover both private and commercial gasoline- and diesel-powered vehicles.

Despite a jump in the use of diesel-powered commercial vehicles over the past 30 years in Japan, the Japanese government has not updated relevant laws, allowing vehicles that already are

in use to emit any levels of NOx, SOx, and particulates into the atmosphere. Japanese automakers have improved their technologies to levels that they claim are the world's most advanced in terms of fuel efficiency and emissions of noxious gases. Yet, this has not mitigated air pollution and health problems, particularly those related to NOx and PM pollution.

In the Tokyo-wide air pollution lawsuit in October, in which a local court upheld the plaintiffs' damage suits against the state and the governmental road corporation but dismissed the complaint against the auto industry, the plaintiffs complained that Japan lacked regulations on NOx, SOx, and PM emissions from vehicles already in use.

The greater Tokyo, Nagoya, and Osaka urban areas also began in October to ban the use of diesel vehicles that do not meet their new emission standards on NOx and PM. Moreover, after a grace period, those governments also began to prohibit registration renewals for vehicles failing to comply. But commercial vehicle operators are reportedly circumventing the three regions' requirements by registering their vehicles in locales without such restrictions.

68. International Meeting On Environmentally Friendly Vehicles (EFV) Takes Place in Tokyo

The International Meeting on Environmentally Friendly Vehicles hosted by the Ministry of Land, Infrastructure and Transport of Japan in cooperation with the Ministry of the Environment of Japan was held in Tokyo, Japan, on January 23 and 24, 2003. The meeting was attended by 19 delegations headed by officials from major motor vehicle manufacturing and utilizing countries and international

organizations.

This meeting was organized in the context of the Ministerial Conference on Transport, held on January 15 and 16, 2002, in Tokyo, during which a Ministerial Statement on Comprehensive Strategy for Environmentally Friendly Vehicles was announced. Ministers noted that it was important to hold an International Meeting on EFVs to discuss possible solutions based on the knowledge of existing and future vehicle technologies and the availability of different type of fuels, and to explore the possibility of international coordination of policy to facilitate the development and dissemination of EFVs. It was also noted that the Plan of Implementation, which was adopted at the World Summit on Sustainable Development (WSSD) held in Johannesburg, the Republic of South Africa, from August 26 to September 2, 2002, touched upon the importance of the development and dissemination of safe, environmentally sound, affordable and socially acceptable vehicle technologies.

The objective of the 2003 EFV International Meeting was to discuss issues associated with EFVs. To this end, this meeting was designed to provide an opportunity for international collaboration through the exchange of information and views among participants concerning policies related to the development and dissemination of EFVs.

Participants exchanged information regarding environmental issues such as air pollution, climate change, traffic noise pollution, traffic congestion, and the efforts in countries and regions to address them. Delegates discussed what the overall prospects would be for the technical development and dissemination of EFVs including fuel cell motor vehicles, how the concept of next-

generation EFVs could be defined for their promotion, and the importance of clean fuels to the successful introduction of EFVs. Steps that are and could be taken to facilitate the development and dissemination process, such as financial and/or tax incentives, accelerated and coordinated research programs, and consumer awareness programs, were also presented. It was noted that by adopting 'eco-driving' styles, drivers could significantly reduce their fuel consumption. In this context it was recognized that in-car devices such as displays for actual fuel consumption, as well as gear selection and cruise control could be important.

As part of the discussion, delegates recognized the important role of the UN/ECE World Forum for Harmonization of Vehicle Regulations (Working Party 29) in this area and stressed the need to take advantage of the expertise and ongoing work of the Forum. Delegates reiterated the need to "carefully avoid any overlap and duplication of issues" with already existing mechanisms as expressed in the abovementioned Ministerial Statement on Comprehensive Strategy for Environmentally Friendly Vehicles.

It was also recognized that voluntary partnerships among stakeholders from the automotive, fuel, energy, and other relevant fields are critical in facilitating the technical development and dissemination of EFVs.

In some markets of developing countries, fuel still contains lead or relatively high levels of sulfur and participants agreed that they should encourage cooperation and commitment at the international level in order to facilitate the introduction of clean fuels and vehicles. It was recognized that improved fuel quality in these markets is a first major step to improving vehicle emissions and is necessary for the

introduction of EFVs. The Clean Fuels and Vehicles Partnership announced at WSSD is one example of a determination to address this issue. It was also recognized that technical assistance and options for regulatory approaches are desirable.

Participants discussed challenging and ambitious development targets for next-generation EFVs with a view towards significantly reduced emissions of air pollutants and greenhouse gases, irrespective of power train system and type of fuel, so that manufacturers may have flexibility in developing technologies and utilizing fuels. It was noted that the setting of targets would be a political decision to be agreed at national, regional or global level as appropriate. A common vision and clear development objectives established by governments and other stakeholders from a medium and long term standpoint will send out a strong message to the market, which will sustain the health of the industry and help to maintain the momentum of innovation and the rollout of new technology, and accelerate the introduction of the next generation of EFVs. It was recognized that the work of the UN ECE Working Party 29 could be used as the basis for benchmarking the environmental performance of vehicle technologies.

It is important to undertake information exchange on a number of issues, including future governmental actions promoting technical development and dissemination of EFVs and research and development of new environmentally friendly technologies that are in the public domain.

69. Air Quality to Remain China's Policy Focus In 2003; Implementing EIA Law Ranks High

China continues to treat air pollution as

it's No. 1 environmental concern and will step up efforts to cut emissions over the coming year by shutting inefficient factories and enhancing its "total emissions control" regime. In 2003 China also will issue detailed implementation guidelines for two major environmental laws passed last year: the Environmental Impact Assessment Law and the Clean Production Law.

Environmental professionals also are hopeful that a number of more specialized environmental regulations will be passed this year, including: a Nuclear Waste Law; Hazardous Chemicals Importation Regulations; and implementation details for new Pollution Levy Regulations.

In addition, China's environmental officials say that in the coming year they will: enhance current trial emissions trading regimes; prepare municipalities and domestic industry to meet "Euro II" automobile emissions standards; and roll out administrative adjustments called for under amendments to the Water Law passed in late 2002.

Air Pollution

The chief of China's State Environmental Protection Administration (SEPA), Xie Zhenhua, told the Jan. 10 annual conference with local environmental officials, "This year the major task in environmental protection is to control the total emission of pollutants, to further develop pollution prevention work, and to make sure that emissions of major pollutants are 6 percent less than in the year 2000." The main target of this 6 percent reduction is sulfur dioxide (SO₂). To tackle the problem, the main thing China will do, Xie said, is "close down heavy-polluting, unprofitable, small, and backward factories."

The minister also stressed the need to

ban "heavy-polluting fuels"--coal is the main target--from downtown areas of major cities. To do this, China plans to install natural gas infrastructure to replace dependence on coal for energy and heating.

China has also set a target of July 2004 for requiring new passenger cars nationwide to meet Euro II emissions standards, which the European Union promulgated in 1997.

Xie told the conference of environmental officials that they "must make sure to install testing systems for auto emissions" this year to prepare to enforce those standards. Beijing municipality has led the way, and as of this January it began requiring new cars to meet Euro II standards, which require 50 percent lower emissions than the Euro I standards now current across China. Shanghai Municipality is expected to roll out Euro II this year.

Emissions Control, Pollution Levies

China has been working to adopt the concept of total emissions control (TEC) into its environmental protection regime for nearly a decade, but it has only recently achieved the capacity to implement pilot mechanisms reflecting the concept. China's Clean Air Act, promulgated Sept. 1, 2000, states that pollutants will be regulated under a TEC regime, which aims to cap emissions at an absolute level and allocate quotas to various emissions sources. China's Water Act of 1996 attempts to do the same for wastewater discharge.

The quotas are then to be enforced through local systems of incentives and penalties. To date, however, the capacity of local governments to monitor emissions and enforce limits is highly inconsistent. More affluent cities, notably Shanghai, are fairly sophisticated, while environmental

authorities in most other regions lack the necessary resources and knowledge.

In January, China promulgated new Pollution Levy System (PLS) Regulations to replace those dating from 1988. The broad State Council decree will take effect July 1. It describes a general framework for assessing fees and penalties for all types of air and water emissions as well as solid waste. It will be followed up by supporting regulations that will provide charge-rate lists for different types of pollutants; guidelines for how money from assessing the charges is to be distributed; and guidelines for a Continuous Emissions Monitoring System. The CEMS regulations will stipulate specific monitoring equipment for different types of plants and describe how the equipment is to be calibrated and maintained.

SO₂ Emissions Trading

China is also piloting sulfur dioxide emissions trading regimes in several provinces and cities. SEPA, in cooperation with the U.S.-based organization Environmental Defense, has had some success in brokering deals where plants that cut emissions below their quotas are able to sell remaining units of their quota to other plants that surpass theirs.

SEPA is hoping to arrange the first emissions trade between provinces in the first half of this year, with a view to establishing a model for a nationwide emissions trading regime that ultimately would need support from the State Council (China's Cabinet) to put in place the necessary regulations and trading infrastructure.

Environmental Impact Assessment Law

China passed its EIA law in October, but

the law will not come into effect until Sept. 1, 2003. In the meantime, government agencies at the national and local levels are preparing detailed implementing regulations that are due to be completed by June. These regulations will specify EIA procedures for different categories of projects. For instance, they will set thresholds for what scale of projects must have EIA reports approved at the local, provincial, or national level of government. The regulations will also contain catalogs of materials and industrial projects that demand special treatment in EIA reports.

China's State Environmental Protection Administration is also heading up programs to train local environmental officials and independent agencies to handle and conduct EIAs. Although there is no explicit barrier to foreign companies obtaining licenses to conduct EIAs under Chinese law, none has yet won a full license. Foreign practitioners are hopeful, however, that China may start to issue these licenses within the next few years.

Clean Production Law

China passed a Clean Production Law last year that went into effect Jan. 1. The law sets guidelines for industry to adopt more efficient manufacturing methods, but as it stands, it does not include enforcement mechanisms. The law lays the groundwork for a potential incentive system to encourage greater energy efficiency, the use of less polluting energy sources, more efficient use of raw materials, and a greater degree of recycling.

For the moment the law is only "aspirational"--it outlines what companies should do without containing much in the way of incentives or penalties for those that fail to meet recommendations.

70. Improved Air Quality Tops Agenda In South Korea; Eco-Taxes Also Eyed

South Korea's new government has put a push for cleaner air at the top of its environmental agenda for 2003, hoping to build on the momentum generated by the progress made in waste management over the past five years. In fact, the Ministry of Environment has said the new government of President-elect Roh Moo-hyun will put priority on sustainable development, with a focus on air quality in 2003 and for the rest of its five-year term.

The Roh government will officially take power Feb. 25, bringing a liberal policy agenda for the nation's environment. This means that the Ministry of Environment's increasingly rigorous campaign to stem air pollution and improve air quality will receive a significant boost. Over the long term, the ministry plans to push for bolder initiatives such as environmental taxes.

In a Jan. 3 briefing to Roh's presidential transition team, the ministry said it specifically would consider introducing a new environmental taxation scheme targeting fossil fuels. The ministry broadly outlined the plan as a tax on consumer and business energy use in conjunction with a national greenhouse gas (GHG) reduction program.

The ministry's push to improve air quality will have a major impact on businesses if the Special Act on the Improvement of Air Quality in the Capital Region, proposed by the ministry Oct. 31 under Notice No. 2002-142, becomes a law in 2003, as expected. The ministry will submit a bill on the proposed law for approval by the National Assembly sometime this year. The proposed law would require

businesses located in the capital region and generating emissions at or above a certain level to meet annual caps on emissions or pay surcharges. A scheme for unused portions of annual quotas would be introduced to spur local emissions trading.

Climate Change Legislation

Two other clean-air bills with national implications could make headway this year amid growing urgency for preparations to meet global mandates for GHG reductions. The bills to enact the Global Warming Prevention Act (Bill No. 161362) and the Act on Global Warming Emissions Reduction Measures (Bill No. 161379) have been awaiting parliamentary review since December 2001. The two bills are almost identical in content, as they both set out central government responsibilities for the development of a national GHG inventory system, an emissions trading platform, and a new pay-for-emissions program. The prospects for GHG legislation are now brighter since South Korea's ratification of the Kyoto Protocol in November. South Korea is not required to meet any greenhouse gas reduction target until the so-called third commitment period of 2018-2022, but this status may change, depending on future talks on the Kyoto Protocol.

Environment Ministry Gains Influence

The key obstacle to the passage of these bills is posed by opposition from industry and the powerful pro-business Ministry of Commerce, Industry, and Energy. However, the upcoming inauguration of the new government heralds a shift of power to the Environment Ministry in the area of environmental regulation.

Another area of ministerial strife that may see a change in favor of

environmental regulators is diesel automotive regulation. The Environment Ministry's regulatory ban on diesel-fueled cars has been stiffly challenged by the Commerce Ministry and South Korean carmakers in recent months, but the next South Korean president may uphold it.

71. South Korea Limiting Vehicle Use As Oil Price Soars

South Korea, the world's fourth-biggest oil buyer, plans to curb use of passenger cars by state employees and switch off some street lights as part of efforts to cushion the impact of surging oil prices. Households as well as some businesses such as department stores and petrol stations should cut electricity use, while ski and golf resorts, and midnight movie theatres and 24-hour sauna bath should cut business hours later on, the measures stipulate.

Seoul is trying to limit the shock from global oil prices that are hovering well above \$30 a barrel, bolstered by a possible war in Iraq and a strike in Venezuela, which has strangled supplies from the fifth-biggest exporter. Soaring crude prices have become the main threat to growth in Asia's fourth largest economy that depends fully on imported oil.

They will start by limiting the use of passenger cars by those working for state and other public organizations, but might later include the general public. One out of 10 passenger cars would be banned from running on a given date based on the last digit of the number plate. The forced limit on the use of passenger cars is expected to save about 603,000 barrels of oil or oil equivalent to 140 billion won (\$118.3 million) a month, the Korea Petroleum Industry Association (KPIA) said.

Oil imports account for nearly 20 percent of South Korea's total imports in value, which stood at about \$150 billion last year. A \$1 rise in crude prices on an average basis over a year cuts economic growth by 0.1 percentage points.

72. Philippine Refiners Raise Gasoline Prices

Petron Corp and Caltex (Philippines) Inc raised gasoline prices by 60 centavos (one U.S. cent) per liter to reflect the costs of complying with new standards set by an anti-pollution law. The move by Petron and Caltex followed a similar increase by Pilipinas Shell Petroleum Corp, a member of Anglo-Dutch energy giant Royal Dutch/Shell group, on Saturday. Petron is the country's largest refiner and partly owned by the government and Saudi Aramco. Caltex is the third largest.

Ruivivar said the 60-centavo increase was equivalent to a three-percent rise in Petron's pump prices.

The Philippines imports all of its crude oil.

The Clean Air Act, which came into effect at the start of the year, specified that the volume of aromatics in unleaded gasoline should fall to 35 percent from 42 percent. Benzene, in particular, must be cut to two percent from four percent.

73. New Zealand Adopts Action Program For Promoting Sustainable Development

The New Zealand government Jan. 31 released an action program for promoting sustainable development. The program sets out principles for policy and decision-making and

identifies four priority areas for initial action: water quality and allocation, energy, sustainable cities, and child and youth development.

The Cabinet is driving the sustainable development initiatives and has given the following ministers specific responsibilities for the "program of action":

- Environment Minister Marian Hobbs, water;
- Minister of Energy Pete Hodgson, energy;
- Marian Hobbs and Economic Development Minister Jim Anderton, sustainable cities; and
- Minister of Social Services and Employment Steve Maharey, child and youth development.

LATIN AMERICA

74. Lula Selects Advocate To Lead Brazil's Environment Ministry

Brazilian President Luiz Inácio Lula da Silva has appointed Marina Silva, perhaps the Senate's most outspoken environmental advocate, as the nation's new environment minister. Silva, a member of Lula's Workers Party, assumed her new role on Jan. 1, the same day Lula was inaugurated as president. Then President-elect Lula announced his choice of Silva in December.

She is the author of two proposed environmental bills still stuck in Congress. One, which passed the Senate (No. 306/95) but is still in the lower house (No. 4.842/98), would make biopiracy an offense punishable by jail terms, not just fines and administrative penalties. The other, still in the Senate (No. 216/99), calls for a five-year moratorium on the growing of transgenic crops in Brazil to allow for further testing

to determine their safety.

Outgoing President Fernando Henrique Cardoso gave the Environment Ministry a R\$1 billion (\$277 million) budget for 2003, one that Silva said was "insufficient." She believes that the Lula government will increase that budget. However, insufficient funds are likely to be Silva's biggest obstacle, since the Lula government is expected to be cash-strapped.

Silva is also a major proponent of sustainable development projects--those that are ecologically sustainable, economically viable, and socially just. Silva said that her belief in sustainable development stemmed from her being born into a rubber-tapper's family and having relied on the forest for sustenance.

In the mid-1980s, Silva began to help organize and take part in "empates," peaceful rubber tapper demonstrations against illegal deforestation and the expulsion of forest communities from their lands in the western Amazon state of Acre, where she grew up. Today, because of such empates, Acre's sustainable extractive reserves encompass 4.94 million acres of forest managed by the forest communities that inhabit them.

Silva's environmental activism helped elect her to the city council in the Acre capital of Rio Branco, to the state assembly, and finally to the Senate. She said that having grown up in the forest and having learned political organizing techniques from her empates have helped prepare her for the new post.

75. New Ibama Chief Eyes Increased Hiring, Budget to Halt Illegal Activities in Brazil

The new head of the Brazilian Institute

for the Environment and Renewable Natural Resources (Ibama) Jan. 3 said he plans to beef up the agency's enforcement efforts by hiring an additional 500 employees this year, with a total of 2,000 new hires possible over the next four years.

Brazilian Environment Minister Marina Silva tapped Marcus Barros Jan. 2--one day after she took office--to lead Ibama, Brazil's environmental enforcement agency. Silva's selection was endorsed by both environmental and business groups, who hailed Barros's experience as both an administrator and as a physician with expertise in the area of how environmental degradation affects human health.

Like Silva, Barros believes that for Ibama to crack down on banned, anti-environmental activities--from illegal timber operations to wild animal trafficking--the agency must beef up its regional offices and field agents.

In November, Ibama hired 426 new employees--mainly inspectors for regional offices--bringing the number of Ibama employees to around 5,500. That increase in manpower will strengthen Ibama's monitoring efforts, and it will help the agency offset the reduced 2003 budget the Environment Ministry inherited from the previous administration. The outgoing government allotted the Environment Ministry--which includes Ibama--a 2003 budget of just R\$1 billion (\$360 million), a 13 percent decline from its 2002 level.

The 56-year-old Barros took office Jan. 6 and has one job qualification that observers say Silva lacks: administrative experience. While Silva is a former senator and environmental activist, Barros was rector (administrative head) of the Federal University of Amazonas state, his and Silva's home state, from 1989 to 1993; he set up the first

Amazon regional office of the Oswaldo Cruz Foundation, a top government medical research center in the state; and throughout 2002, he headed the government's Amazon National Research Institute, the Amazon's most prestigious research center, also in Amazonas state.

Barros is also a physician whose specialty is tropical medicine and the adverse effects of environmental devastation on human health, especially in tropical regions like the Amazon.

Business leaders likewise noted Barros's administrative skills, but they also cited his commitment to balancing the needs of the environment and the nation's economy.

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AFRICA

76. Africa Accelerates Switch To Unleaded Petrol - UN

Africa is accelerating its switch towards unleaded petrol but is still lagging behind in totally phasing out leaded gasoline, the United Nations Environment Program (UNEP) announced. A UNEP report, presented to environment ministers attending a conference in the Kenyan capital Nairobi, showed that within five years most African countries will have phased out, or almost phased out, lead from petrol.

UNEP warned that lead emissions released with exhaust fumes lead to many ailments including respiratory problems, saying that children are the most vulnerable. The heavy metal contaminates the air and pollutes engines, raising vehicle maintenance costs.

About 90 percent of the world's petrol supplies are unleaded, but the

remaining 10 percent is made up of leaded fuel found mainly in Africa and some countries in Asia and Latin America, the report said.

UNEP blamed Africa's slowness to switch to unleaded fuel mainly on outdated technology, but said a lack of awareness of the health risks and misconceptions about the impact of unleaded fuels on the engines had also played a part.

Only four African countries, Egypt, Libya, Mauritius and Sudan, are already fully lead free. Morocco, Reunion, Tunisia and Western Sahara will join them this year.

UNEP said that more than 20 African countries, including Eritrea, Ghana, Kenya, Nigeria, South Africa, Togo and Uganda, had drawn up or were in the process of making plans to phase out leaded petrol by 2005-2006.

77. Stakeholders' Workshop To Consider Lead Phase-Out Issues Held In South Africa:

A three-day workshop to discuss the issues related to the phase-out of lead and reduction of sulphur in South African fuels by 1 January 2006 was held in Pretoria in late January. The discussions that revolved around the technical, economic and public awareness processes for the phase-out of lead were very fruitful and set the stage for future debate and interaction on the processes related to this initiative.

Delegates recommended that the Fuels Reformulation Committee set up a task team to deal with the development of an overall communications strategy as a matter of urgency. Members of the committee who were present undertook to put the recommendation to the next

committee meeting. Government departments that were present supported the proposal. They undertook to be directly involved in the formulation of such a strategy and the possible appointment of an independent organization to implement it.

Additives - Among the subjects that drew extensive comment during the three-day workshop was fuel additives. In particular, debate centered on whether MMT should be used considering that it is a metallic additive. Also under discussion was what were acceptable proportions of benzene and aromatics, which at present levels remain harmful to the environment.

Economic Incentives – It was confirmed that Government has introduced an incentive for unleaded fuel by way of subsidizing the price to maintain parity with the price of leaded fuel. However, the question was raised as to the extensive capital outlay that would be required by the refineries to achieve the high standards and quantities required to produce unleaded fuel by 2006. One proposal was to introduce tax incentives for such capital production that would be beneficial to the South African economy as opposed to the effects of importation.

Environmental Justice – After a presentation on the US experience, it was confirmed that no single government department has been empowered to fulfill this vital role. Nor has any agency been given the responsibility on behalf of Government. This issue is of particular importance and was underlined by questions relating to black economic empowerment and involvement of SMMEs in South Africa.

Community Viewpoints - Delegates recognized the need for positive community involvement to facilitate the smooth implementation of the process

as opposed to embarking on resistance once the process was implemented.

GENERAL

78. IEA Unveils First Renewables Outlook, Various Scenarios for Future Growth

The future of renewable energies, which comprised just under 14 percent of the world energy supply in 2000, is intrinsically linked to the energy and environmental policy decisions that will be taken by the world's industrialized countries in coming years, according to two new reports released Dec. 18 by the International Energy Agency.

In "Renewables Information--2002" and "Renewables in Global Energy Supply," the Paris-based IEA provides its first-ever assessment of how individual countries and regions are using renewable energy sources, seen by many as a key tool in the fight against climate change.

The report signals a change in focus for the IEA--the energy arm of the 30-country Organization for Economic Cooperation and Development--which has long focused its energy supply reporting on the principal fossil fuel-based energies used by the world's industrialized nations.

The release of the renewables reports came in reaction to the growing importance countries are placing on renewables as part of national strategies to lower the greenhouse gas emissions responsible for climate change, the IEA said in a statement.

79. Two New Studies Show Health Damage From Air Pollution

A. National Maps of the Effects of Particulate Matter on Mortality: Exploring Geographical Variation

In this paper¹, national maps of relative rates of mortality associated with short-term exposure to particulate matter < 10 µm in aerodynamic diameter (PM10) are presented. Results for 88 of the largest metropolitan areas in the United States from 1987 to 1994 for all-cause mortality, combined cardiovascular and respiratory deaths, and other causes of mortality are reported. Maximum likelihood estimates of the relative rate of mortality associated with PM10 and the degree of statistical uncertainty were obtained for each of the 88 cities by fitting a separate log-linear regression of the daily mortality rate on air pollution level and potential confounders. Daily variations of PM10 were found to be positively associated with daily variations of mortality. In particular, the relative rate estimates of cardiovascular and respiratory mortality associated with PM10 are larger on average than the relative rate estimates of all-cause and other-cause mortality. The estimated increase in the relative rate of death from cardiovascular and respiratory mortality, all-cause mortality, and other-cause mortality were 0.31% (95% posterior interval, 0.15-0.5), 0.22% (95% posterior interval, 0.1-0.38), and 0.13% (95% posterior interval, -0.05 to 0.29), respectively. Bayesian estimates of the city-specific relative rates ranged from 0.23% to 0.35% for cardiovascular and respiratory mortality, from 0.18% to

0.27% for all causes, and from 0.10% to 0.20% for other causes of mortality. The spatial characterization of effects across cities offers the potential to identify factors that could influence the effect of PM10 on health, including particle characteristics, offering insights into mechanisms by which PM10 causes adverse health effects.

B. Air Pollution and Daily Mortality in a City with Low Levels of Pollution

The concentration-response relationship between daily ambient inhalable particle (particulate matter [Less than or equal to] 10 µm; PM10) concentrations and daily mortality typically shows no evidence of a threshold concentration below which no relationship is observed. However, the power to assess a relationship at very low concentrations of PM10 has been limited in studies to date. The concentrations of PM10 and other air pollutants in Vancouver, British Columbia, Canada, from January 1994 through December 1996 were very low: the 50th and 90th percentiles of daily average PM10 concentrations were 13 and 23 µg/m³, respectively, and 27 and 39 ppb, respectively, for 1-hr maximum ozone. Analyses of 3 years of daily pollution (PM10 , ozone, sulfur dioxide, nitrogen dioxide, and carbon monoxide) concentrations and mortality counts showed that the dominant associations were between ozone and total mortality and respiratory and cardiovascular mortality in the summer, and between nitrogen dioxide and total mortality in the winter, although some association with PM10 may also have been present. The authors conclude that increases in low concentrations of air pollution are associated with increased daily mortality.² These findings may support

¹ "National Maps of the Effects of Particulate Matter on Mortality: Exploring Geographical Variation", Francesca Dominici, Aidan McDermott, Scott L. Zeger, (Department of Biostatistics and Department of Epidemiology, Bloomberg) and Jonathan M. Samet (School of Public Health, The Johns Hopkins University, Baltimore, Maryland, USA), Environmental Health Perspectives Volume 111, Number 1, January 2003

² "Air Pollution and Daily Mortality in a City

the notion that no threshold pollutant concentrations are present, but they also raise concern that these effects may not be effects of the measured pollutants themselves, but rather of some other factor(s) present in the air pollution-meteorology mix.

80. Research Traces Long-Term Effects Of Carbon Dioxide on Planet, Species

An article published in January cited the influence of tropical surface temperatures on climate change, while two other articles reported global warming's significant, negative effect on hundreds of plant and animal species.

One article, "Magnitude and Timing of Temperature Change in the Indo-Pacific Warm Pool During Deglaciation," published in the journal *Nature*, looks at the warming in the tropics and its effects on the polar regions. The tropics, in general, and the Indo-Pacific warm pool, in particular, are the main regions from which water vapor is supplied naturally to the atmosphere. Water vapor is one of the main naturally occurring greenhouse gases contributing to climate change.

Working on timelines of 1,000 to 10,000 years, the analysis took evidence from seabed cores from beneath the Makassar Strait between the islands of Borneo and Sulawesi in the heart of

with Low Levels of Pollution", Sverre Vedal, (Department of Medicine, National Jewish Medical and Research Center, Denver, Colorado, USA), Michael Brauer, (Department of Medicine, School of Occupational and Environmental Hygiene), Richard White and John Petkau (Department of Statistics, University of British Columbia, Vancouver, British Columbia, Canada), *Environmental Health Perspectives* Volume 111, Number 1, January 2003.

what is known as the warm pool. Ocean temperatures in this area of the tropics are the warmest.

The authors, Katherine Visser and Robert Thunell of the University of South Carolina and Lowell Stott of the University of Southern California, said the tropical oceans have played an important role in controlling large-scale climate change in the past.

The study examined sea surface temperatures in the tropics during the past two glacial and interglacial transitions and found warming events occurred several thousand years prior to the melting of the Northern Hemisphere ice sheets.

The mechanism involved may be similar to the way the El Niño/Southern Oscillation regulates the flux of heat and water vapor toward the poles, the authors said.

Patzert said changes in tropical temperature have major influence over how much carbon dioxide is captured or released into the atmosphere because 50 percent of surface water on the planet's oceans is in the tropics.

This carbon dioxide at a later time, in this case thousands of years, affects the global temperatures and the distribution of heat to the polar regions.

The authors acknowledge previous studies predicted tropical temperatures change only 1 degree to 2 degrees Celsius. Their analysis, using new techniques for analyzing data, suggests warming of as much as 3 degrees to 5 degrees Celsius.

Critics of the climate models have argued that global warming cannot be increasing at a rate inconsistent with naturally occurring changes because a natural regulator or thermostat exists in

the tropics that prevents warming.

Two Jan. 2 articles published in Nature, "Fingerprints of Global Warming on Wild Animals and Plants" and "A Globally Coherent Fingerprint of Climate Change Impacts Across Natural Systems," provide evidence of the influence of climate change on animal and plant populations.

The authors of the first article, Terry Root, Jeff Price, Kimberly Hall, Stephen Schneider, Cynthia Rosenzweig, and Alan Pounds, are from university or government laboratories. They said their analyses reveal a consistent temperature-related shift, or fingerprint, in species ranging from mollusks to mammals and from grasses to trees.

More than 80 percent of the species that show changes are shifting in the direction expected on the basis of known physiological constraints of the species, the authors said.

"The patterns of changes strongly suggest that recent temperature trends are the most likely explanation for these observed phenomena," they wrote.

The authors of the second article, Camille Parmesan and Gary Yohe, professors of biology and economics, respectively, said the two academic disciplines could find common ground for analyzing the causes and effects of climate change.