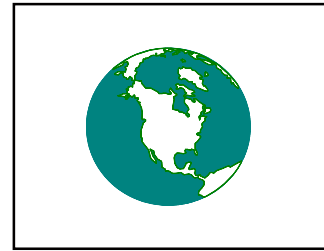


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CAR LINES

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EUROPE

1. EU Energy Tax Framework Finally Agreed

EU finance ministers have finally reached political agreement on a proposed common framework for energy taxation, six years almost to the day after the European Commission put the plan forward. The framework is seen as a key element in the EU's climate change policies. However, its influence will be felt only in the medium to long term as minimum EU tax rates have been watered down since the Commission's initial proposal. In addition the draft directive now contains several derogations and transition periods for particular countries and economic sectors.

Harmonized minimum tax rates should reduce distortions of competition between EU states and between energy products. The proposal's environmental policy significance is that it provides a basis for the EU collectively to raise energy prices over time, thus increasing incentives for more efficient usage.

Ministers finally reached agreement after Austria withdrew a last minute attempt to prevent energy-intensive industries from being exempted from minimum tax rates.

The ministerial deal must be scrutinized by the European parliament before it can be formally adopted. However, MEPs have only consultative powers on the directive, as with all tax measures so the agreement is therefore virtually final.

European Commissioner for Taxation Frits Bolkestein commented, "I am delighted that the Council has at last been able to agree this important proposal for minimum tax levels of all competing sources of energy. This

Directive will improve the functioning of the Internal Market and help to meet the environmental objectives of the Community and the Kyoto Protocol."

In particular, the Directive, due to enter into force from 1st January 2004, will:

- Reduce distortions of competition that currently exist between Member States as a result of divergent rates of tax
- Reduce distortions of competition that currently exist between energy products as only mineral oils have been subject to Community tax legislation up to now and not coal, natural gas or electricity
- Increase the incentive to use energy more efficiently (so as to reduce dependency on imported energy and cut carbon dioxide emissions)
- Allow Member States to offer companies tax incentives in return for specific undertakings to reduce emissions.

Although there are a number of derogations and transitional periods before some elements of the Directive would come into force, the adoption of the Directive nevertheless marks a major step forward because it represents a major upgrade in terms of more realistic minimum rates and wider scope.

Before the Council can formally adopt the Directive, it must be submitted to the European Parliament for an Opinion, given that, since the Parliament first gave its Opinion, the proposal has been modified substantially during the course of negotiations in the Council.

The Directive will widen the scope of the Community minimum rate system, currently limited to mineral oils, to all

energy products, chiefly coal, gas and electricity, as well as updating the minimum rates for mineral oils, which have not been revised since 1992. For all these products, only their uses as motor fuel or heating fuel are taxed, and not their use as raw materials, or in chemical reductions or for electrolysis. Furthermore energy products used as a motor fuel for certain industrial and commercial purposes and those used as heating fuel will normally be taxed at lower levels than those applicable to energy products used as a motor fuel.

Specific provisions are provided for the taxation of diesel used by haulers engaged in international activities, in order to limit the distortion of competition operators are confronted with. Member States are allowed to differentiate between commercial and non-commercial diesel, in particular in order to reduce the gap between the use of non-commercial gas oil used as propellant and petrol.

Business use of energy products may be taxed at a lower rate than non-business use.

Member States are also allowed to apply other exemptions or reduced levels of taxation where this will not be detrimental to the proper functioning of the internal market and will not result in distortions of competition. The introduction of more efficient transport pricing instruments is also facilitated by authorization for corresponding reductions in the tax levels.

Member States are authorized to introduce for a set period certain other exemptions or reduced levels of taxation, subject to regular reviews.

Member States are free to apply differential rates to the same product, provided that these rates are higher than the minimum levels and internal

market and competition rules are respected. This tax technique is already widely used by Member States to guide consumers towards more environmentally friendly products.

Member States are obliged to exempt energy products used for the purpose of international air transport (until such time as their international commitments permit them to tax them), and products used for maritime transport within Community waters.

Member States may also choose to exempt (or to tax at a reduced rate) renewable energy sources, biofuels, energy products used in the field of pilot projects, the carriage of goods and passengers by rail, and navigation on inland waterways.

The proposal also takes into account the competitiveness of Community firms vis-à-vis third countries. This is why it provides for measures to reduce the tax burden on energy intensive firms, which are those that have put the greatest effort into reducing their consumption. Lastly, there is provision for Member States to refund part of the taxes paid by firms that have invested in their efficient use of energy. The tax reduction in the case of firms that have entered into such energy efficiency commitments would be down to zero in the case of energy-intensive businesses and down to 50% in the case of non-energy-intensive businesses.

For two products of general consumption, unleaded petrol and diesel, the proposal will lead to only a very limited rise in consumer prices in a small number of Member States. It is an inevitable consequence of the approximation of the national rates needed to put an end to the present shortcomings in the smooth functioning of the Internal Market. The benefits expected for the environment and

transport as a result of the improvement in the price structure are, on the other hand, immeasurable.

The present and proposed minimum rates for motor fuels are summarized below. Greece may apply levels of taxation up to 22 euros per 1000 liters

lower than the minimum rates laid down in this Directive on gas oil used as propellant and on petrol consumed in the departments of Lesbos, Chios, Samos, the Dodecanese and the Cyclades and on the following islands in the Aegean: Thasos, North Sporades, Samothrace and Skiros.

	Current minimum rate	rate from 1/1/2004	rate from 1/1/2010
Petrol (€/1000 l.)	337	421 ¹	421
Unleaded petrol (€/1000 l.)	287	359	359
Diesel (€/1000 l.)	245	302 ²	330 ³
Kerosene (€/1000 l.)	245	302	330
LPG (€/1000 kg.)	100	125	125
Natural gas	100 (€/1000 kg)	2.6 (€/gigajoule)	2.6 (€/gigajoule)

¹ Greece has until 1 January 2010 to reach the new minimum level for petrol. Tax differentiation may also apply for low sulphur fuels.

² France may, until 1 January 2005, apply differentiated rates of tax on diesel used in commercial vehicles, which cannot be less than 380€ per 1000 l. as from 1 March 2003. Italy may apply a reduction in the rate of excise duty used as fuel used by road transport operators, until 1 January 2005, which cannot be less than €360 per 1000 liters for vehicles of between 3.5 tons and 11.5 tons and €343 per 1000 l. for vehicles above 11.5 tons as from 1 January 2003 and €370 as from 1 January 2004.

Spain, Austria and Belgium have until 1 January 2007 to adjust to the rate of €302 and until 1 January 2012 to reach €330. Luxembourg and Portugal have until 1 January 2009 and Greece until 1 January 2010 to adjust to the rate of €302; all three have until 1 January 2012 to reach €330. They are all authorized to apply a special reduced rate on commercial use of gas oil used as propellant until 31 December 2009, provided it does not result at taxation below €287 per 1000 liters (€272 in the case of Luxembourg and Portugal and €264 in the case of Greece) and that the national levels of taxation in force on 1 January 2003 are not reduced. From 1 January 2010 to 1 January 2012, they may apply a differentiated on commercial use of diesel used as propellant, provided it does not result in taxation at below €302 per 1000 liters and that the national levels of taxation in force at 1 January 2010 are not reduced. For Spain, Portugal and Greece, the special differentiated rate for commercial use of gas oil used as propellant may also be applied to taxis until 1 January 2012.

³ No later than 1 January 2012, the Council shall, on the basis of a report and a proposal from the Commission, decide upon the minimum levels of taxation for a further period beginning on 1 January 2013.

Within the transitional periods established, Member States are required to progressively reduce their gap with respect to the new minimum levels of taxation. However, when the difference between the national level and the minimum level does not exceed 3% of the minimum level, the Member State concerned may wait until the end of the period to adjust its national level.

In addition to these transitional periods, Member States are allowed to continue to apply various derogations until 31 December 2006, subject to a prior review by the Council on the basis of a proposal by the Commission.

2. Spain Names New Environment Minister

The Spanish government March 3 named a new environment minister to replace Jaime Matas, who left the position to run as the ruling Popular Party's candidate for president of the Balearic Islands, one of Spain's 17 autonomous communities. Elvira Rodríguez, 53, who since 1972 has held several governmental taxation, accounting, and economic policy positions, was most recently state budget secretary and a vocal balanced budget proponent; she has no political experience in environmental issues. As environment minister, Matas saw the approval of a controversial National Water Plan, led European environmental ministers during Spain's European Union presidency, and faced widespread criticism for his role in the Prestige oil tanker disaster. Environmental groups, who were largely at odds with Matas, have reserved judgment of Rodríguez until a new environmental policy emerges.

3. Dramatic Decline In Sulphur Over Norway

Volumes of atmospheric sulphur pollution transported to Norway from other countries have fallen by more than half during the past 20 years and by 30% in the past five years alone, the environment ministry reported today. The data, compiled by the national institute for atmospheric research (NILU), show that "the international agreements on reducing atmospheric sulphur emissions in Europe are working", said environment minister Børge Brende.

However, acidification remains a problem and further cuts will be necessary, the statement continued. In 1985, "critical loads" – the level of exposure above which significant harm can occur – were exceeded in 30% of the country. By 1995, the proportion had fallen to 20%, and projections suggest a further drop to 7-8% around 2010.

The ministry reckons "it will take from five to 20 years after the transfer of pollutants has been reduced to an acceptable level before conditions... are satisfactory".

Mr. Brende noted that nitrogen, transfers of which have also fallen "somewhat", was more of a domestic problem. "We must continue to work for reductions in long-range transport of air pollution, but Norway must also meet its national obligations under the Gothenburg protocol," he said. The national statistics office recently warned that Norway risks missing air pollution targets

4. Stakeholders Debate Marine Fuel Sulphur Limits

Environmentalists, ship operators and fuel producers disagreed in the European Parliament at a hearing on a proposed EU directive to limit levels of sulphur in shipping fuels. The parliament's Rapporteur on the

dossier, MEP Heidi Hautala, organized the debate.

Industry speakers particularly criticized a Commission proposal for all ships to burn 0.2% sulphur fuel while berthed at port, arguing that the limit would need massive retrofitting investment to accommodate extra fuel tanks. It would also be a "significant safety risk" since there was a higher likelihood of explosions while using lighter, less viscous fuels. They called for a planned second stage of cuts, taking in-berth fuels to 0.1% sulphur by 2008, to be scrapped

Commission official Nicola Robinson said the lower sulphur content could be achieved, noting that road fuel sulphur levels were already hundreds of times lower. An alternative strategy floated by ship operators - to install flue gas scrubbers instead of using cleaner fuel - had not been taken up because of concerns over potential impacts on the marine environment.

Christer Ågren of the Swedish NGO secretariat on acid rain said the Commission's overall proposals should be strengthened, arguing that it had exaggerated the costs of limiting sulphur in marine fuels. The EU risked not meeting its overall sulphur dioxide emission ceilings and cutting marine emissions was up to four times cheaper than land-source abatement, he said. Sticking to the IMO agreement was pointless since the UN body had contributed "virtually nothing" to reducing sulphur emissions, he added.

5. German Motorway Toll Plan At Risk From EU

German government plans to charge trucks for using the country's motorways have been put in doubt after EU transport

commissioner Loyola de Palacio questioned their legality. Three draft ordinances are required to implement the truck charging law passed by the government last year. The government is at the mercy of the opposition-dominated upper parliamentary house, the Bundesrat, to approve the ordinances before charging can start in September.

The charging level, today set at an average €0.15 per km by the country's cabinet, is the first problem. Ms de Palacio said the government's calculation should have included the written-down capital value of the motorway network rather than full capital value.

Ms de Palacio also challenged the government's plan to share the toll revenue between road infrastructure and rail and waterways, arguing that all the money must be spent on roads. The third point of contention - already officially under Commission scrutiny - is the government's plan to allow haulers to offset about a quarter of the toll against the German fuel tax.

6. UK Urges EU Toward 60% CO2 Emissions Cut

Britain has unveiled a climate change manifesto, committing to cut carbon dioxide emissions by 60% by 2050 and - with the support of Sweden - urging all other EU countries to do likewise. The UK's 60% emissions cut goal is by far the most ambitious adopted by any industrialized country and could have a significant impact on debate over future emissions targets under the UN Kyoto protocol. It is exactly in line with advice from scientists.

Announcing the initiative, Prime Minister Tony Blair called for a "new covenant

between nations" on global environmental issues. Climate change was a key long-term global security issue comparable to the immediate security threat posed by weapons of mass destruction, he said. Mr. Blair stressed the potential of technological development to achieving transition to "a truly low-carbon economy" without causing the sort of economic damage feared by countries like the USA. The prime minister praised a recent study showing how far greenhouse gases could be cut through technological renewal, describing its findings as "startling".

In a joint letter to the EU's Greek presidency, Mr. Blair and his Swedish counterpart Göran Persson have challenged all EU leaders to commit to emissions cuts by 2050 "in the order of 60%".

Building on an EU action plan on environmental technologies due soon from the European Commission, the two prime ministers urge a series of new measures so as to "start delivering concrete outputs" and "show the world exactly what we mean by sustainable development". They include further national targets for boosting renewable energy, continued EU-wide work to increase energy efficiency, development of a strategy for establishing an EU-wide infrastructure for alternative road fuels, and development of a Europe-wide system for environmental classification of cars and trucks by 2005 plus targets for increasing their use by 2010.

Actions to improve buildings energy efficiency are also sought, as are "renewed efforts" to phase out environmentally harmful subsidies, "especially subsidies for fossil fuels" and a reform of EU funding structures to promote development and adoption of environmental technologies.

Britain's commitment on cutting CO2

emissions was included in an energy white paper. A new ambition of a 20% share of electricity from renewables by 2020 is included. The question of possible new nuclear power capacity is left open.

But, he said, the world had to act together to make any progress. He and Swedish Prime Minister Goran Persson had written a joint letter to fellow European Union leaders urging them all to adopt the 60 percent reduction target.

"And we will continue to make the case to the U.S. and to others that climate change is a serious threat that we must address together as an international community," Blair said.

The prime minister said 40 percent of the world population was short of fresh water, more than a billion people lived in urban slums and nearly one fifth of preventable disease was attributable to environmental factors.

Those deprivations could only foster anti-Western sentiment. "We have not yet been nearly bold enough," he said. "The truth is investment now to meet the challenge of these issues is worth every penny in the long-term...and could be such a strong signal of our determination to pursue justice in an even-handed way."

Ensuring security of energy supply is a key driver behind the white paper. Britain is set to become a net importer of energy in 2010 for the first time in three decades. Under a business as usual scenario by 2020 around 75% of primary energy needs will be imported.

The government has a target of producing 10 percent of Britain's electricity from green power by 2010, up from around just three percent at present. If it is to reach its target of a 60 percent cut in CO2 emissions, then

renewables will have to be contributing between 30 and 40 percent of UK electricity generation, the white paper said.

7. United Kingdom Will Miss GHG Targets Advisory Group Says

Greenhouse gas emission reduction targets set by the United Kingdom will not be met, the Sustainable Development Commission concluded in a Feb. 11 audit of U.K. efforts. The respected government-appointed advisory group, part of the Department of Transport and serving the Office of the Deputy Prime Minister, said current efforts to meet greenhouse gas reduction targets "will fall well short unless further measures are taken." It published a hard-hitting report, *U.K. Climate Change Program: A Policy Audit*, which questions the government's pledge to cut overall emissions of greenhouse gases by 20 percent from 1990 levels by 2010.

The report said "the United Kingdom is unlikely to achieve even two-thirds of that reduction, and maybe less than half. This is not a reason to abandon the goal but to redouble efforts to achieve it. There is still time to do so."

The commission report said "the emissions reductions from the 10-year transport plan are particularly at risk. And international air travel, not even included in the calculations or the goal, threatens to blow away all the good work in industry and other sectors."

In one finding, it said, "looking beyond 2010, the U.K. projections do not yet show the radical shift needed toward a low-carbon path nor are the policies in place to achieve more sustainable patterns of energy generation and consumption." Jonathon Porritt, chairman of the commission, said, "these are disturbing findings. The

government must now seize the opportunity" to get back on track for 2010 and "set us on a low-carbon path into the longer term."

The commission said other government forecasts had given insufficient weight to such factors as the greater use of coal in power generation; higher energy demands by households and the service sector; the price-lowering impact of new electricity trading arrangements; difficulties meeting targets on renewable energy and combined heat and power; and declining use of nuclear power.

A. Different Conclusion in Second Report

But Environment Minister Michael Meacher said the government's targets were still reachable. Speaking Feb. 11 at the launch of another government study--DEFRA's biannual report on atmosphere research--Meacher insisted the United Kingdom is on track to meet its greenhouse gas reduction targets. DEFRA's own report on the atmosphere said the United Kingdom has exceeded its international target of stabilizing its greenhouse emissions at 1990 levels by 2000. The *Global Atmosphere Research Program 2000-2002* also said that greenhouse gases in 2001 reached their highest levels ever recorded in the atmosphere.

Meacher, however, said the report "does show that the U.K. is making good progress to tackle its greenhouse gas emissions."

"But much more needs to be done if we are to stabilize concentrations in the atmosphere at a safe level," he continued. "However, this report does also show that the United Kingdom more than met our target under the United Nations Framework Convention on Climate Change to return

emissions to 1990 levels by 2000. And we are on track to exceed our Kyoto Protocol target of a 12.5 percent cut in emissions below 1990 levels by 2008-12."

B. Key Findings

The key findings from DEFRA's report, based at the United Kingdom's Hadley Center for Climate Prediction and Research, include:

- Atmospheric concentrations of many greenhouse gases reached their highest-ever levels in 2001.
- The three hottest years on record were 1998, 2001, and 2002.
- Positive carbon cycle feedbacks from forests and vegetation could accelerate warming.
- Action being taken in the United Kingdom could reduce its total greenhouse gas emissions to 23 percent below 1990 levels by 2010.
- The world's protective ozone layer should recover by mid-century.

Meacher said the Department of Transport findings are "not a statement of DEFRA's views or government policy." He said the two reports, while at odds on greenhouse reduction forecasts, were nevertheless "a serious wake-up call."

8. UK Power Plants Under Threat As Pollution Laws Bite

Britain's coal-fired power stations, starved of cash by slumping electricity prices, face a deepening crisis as anti-pollution laws force them to spend millions on cutting greenhouse gas emissions. Plant closures loom as stricter limits on emissions demand

big investments in pollution control technology at a time when weak power prices have hammered down margins on generating electricity in the UK.

UK power prices have slumped 40 percent since 1998 on government-led moves to introduce greater competition among generators.

Coal stations, which generate a third of the country's power and produce more greenhouse gases than gas-fired plants, face tighter limits on emissions of sulphur dioxide, carbon dioxide, nitrogen oxide and dust as European Union regulations kick in over the next few years.

To comply with the European Union's forthcoming Large Combustion Plant Directive on emissions, which comes into force in 2008, all UK coal-fired plants will need FGD kit, analysts say. Generators will have to commit to these investments by June next year, which is the deadline for opting out of the Directive. Plants opting out can operate for 20,000 hours after the Directive comes into force. Then they must close.

Only two of Britain's coal-fired stations have FGD. Powergen's Ratcliffe plant in central England has a 250-million pounds system in place. AES Drax in northern England, the country's biggest power station which faces a cash crisis at its struggles to service hefty debts, is also equipped. LE Group, part of state-owned Electricite de France, is building FGD plants at its West Burton and Cottam stations, while financially crippled British Energy is putting in a system at its Eggborough station.

International Power's Rugeley station in central England is also planning an FGD system. Need for the investment in FGD comes as the plant tries to adjust to life

without its main sales contract, which ended with last year's collapse of U.S.-owned utility TXU Europe.

Last week the government, outlining a national energy strategy for the next 50 years which called for big cuts in emissions, said coal still had a role in Britain's future energy mix - but only with the use of cleaner technologies (see above).

9. Report Says French Air Pollution Declining, But Motor Vehicle Emissions Still a Problem

Air pollution continued its downward trend across France in 2002, with emissions of all key pollutants registering important declines, according to a new report released Feb. 27 by the Ministry of Ecology and Sustainable Development. However, the report, titled *The Evolution of Air Quality in France*, said more must be done to reduce vehicle-based emissions and pollution in some large industrial zones.

The report--culled from analyses of 2,200 monitoring stations installed nationwide since passage of a framework clean air act in late 1996--said that concentrations of sulfur dioxide declined 10 percent per year over the past five years, principally due to fuel improvements, SO₂ reduction campaigns for smoke from large-scale heating facilities, and new emissions treatment programs at large municipal waste incinerators. Concentrations of SO₂ remain "preoccupying" in several industrial zones, the report said, adding that it is "imperative" that the government put "new reduction measures" in place in these areas.

Similarly, the report cited important declines in nitrogen oxides, with nitrogen dioxide concentrations down by about 20 percent in

the majority of French cities over the past six years. Monitoring sites located near highways and other high-traffic areas represents the only exception to the nitrogen dioxide reductions, the report said, noting that large cities such as Paris, Lyons, and Marseilles have failed to meet national and European Union targets in this area.

The report said that the elimination of lead from standard vehicle fuels on Jan. 1, 2000, has contributed to a three-fold decrease in lead concentrations in air. Industry is now the principal emitter of lead into the atmosphere, the report said, adding that the reduction of these emissions is now one of the government's key air pollution goals. Ongoing pollution reduction actions led by the environment ministry's regional offices have seen industry's lead emissions drop by 19 percent between 1999 and 2001, the report said.

The report provides further insight into ongoing efforts to improve monitoring and then reduce emissions of fine particulates and benzene, described as two of the government's other priority objectives.

The government said the results of the air monitoring survey indicate the success of ongoing work, but it also pointed out the need to continue efforts to reduce air pollution, whether from industry, municipal waste incinerators, urban heating facilities, or vehicles.

Among the benchmarks France has set for itself is compliance with a European Union requirement to reduce emissions from new vehicles by half, from 2005, and to meet international treaty obligations set under amendments to the 1979 Convention on Long-Range Transboundary Air Pollution to reduce a series of pollutant emissions by 40 percent over the 2001-2010 period.

10. Success of London Zone Charges Makes Expansion Likely in 2004

London's mayor said March 4 that the city's congestion charge zone would likely be expanded by the end of 2004 on the strength of its early success. A fee of £5 (\$7.91) a day for driving in central London between 7 a.m. and 6:30 p.m. was introduced Feb. 17. London Mayor Ken Livingstone said the boundaries of the zone, which currently cover an 8.5 square mile area in central London, would grow to include the west London boroughs of Westminster, Kensington, and Chelsea.

Livingstone said fears of chaos have proved unfounded and that other cities in the United Kingdom and around the world are looking at what London has done. "We are fine-tuning this system and monitoring it, and by the summer we will be in a position to say if it has been a clear success," he said in a statement. "Then we could start public consultation about extending the zone so that people going to the ballot box next year will know where everyone stands."

Livingstone has fought traffic congestion as a problem that is also a major factor in air pollution in the United Kingdom. In London, traffic is responsible for 99 percent of carbon monoxide, 76 percent of nitrogen oxides, and 90 percent of hydrocarbons. Also, when pollution levels are high, the contribution of road transportation is greater. Environment Agency figures show that when particulate levels exceed health standards, then road traffic's contribution exceeds 75 percent.

Road traffic is also the cause of summertime smog through chemical reactions between nitrogen oxides and hydrocarbons. Levels of nitrogen oxides, carbon monoxide, hydrocarbons, and particulates are highest in towns and cities

with heavier traffic.

Livingstone has raised the prospect of using income from congestion charges, which he estimated at £160 million (\$253 million) in the first year, to finance capital projects. He said he will be lobbying the government during the passage of the Local Government Finance bill to make cross rail programs available for London without requiring extra financing from the treasury.

Livingstone said national expansion of the congestion charge scheme would depend on government progress on a plan to use more advanced satellite technology. "My guess is that the government will massively accelerate their timetable for a national strategy," he said.

Transport Secretary Alistair Darling said congestion charges in London have worked "far better" than many had anticipated, but he added it would be "some months" before the program is evaluated officially within the Department of Transport.

Initial reports have shown around a 20 percent reduction in traffic in the zone since it was launched. Delays on London's roads show overall commuter times fell in the first two weeks of the charge compared with the previous year, but they were higher on 12 key routes during the second compared with the first week of the charge.

Transport for London, which runs the congestion charge program, had predicted it would raise £130 million (\$205 million) in its first year. Transport for London said it expected an average of 750,000 payments a week, but only 460,000 payments were received in the first week due to the success of the program in lowering traffic. At the same time, fears that thousands of extra commuters would take to the London Underground were also unfounded.

Livingstone said he had originally thought the charge would need to be raised to £6 (\$9.49) a day. "It won't now be necessary. It's now quite clear that £5 [\$7.91] was enough. I can't conceive of any circumstances in the foreseeable future where we would want to change the charge, although perhaps 10 years down the line it may be necessary."

A London Chamber of Commerce survey of 13 major retailers in central London published March 4 said the number of shoppers visiting the congestion zone has declined 5.5 percent, while the charge has also created a boom in suburban shopping. Larger surveys of business are expected in April.

Department of Transport figures showed that up to six out of every 10 London commuters are now taking buses, trains, or subways. In England as a whole, however, just one out of every seven people uses public transportation, according to Department of Transport figures.

11. Report Concludes Germany Unlikely To Meet CO2 Reduction Targets

Germany is unlikely to deliver on its pledges to curb emissions of carbon dioxide (CO₂), despite a further reduction last year, the Berlin-based German Institute for Economic Research (Deutsches Institut fuer Wirtschaftsforschung DIW) said. In 2002, CO₂ emissions in Germany fell 1.5 percent to 834 million tons, as the weak economy and mild weather limited consumption of primary energy sources, the main factors generating greenhouse gases, it said. "In the period 1991-2002, emissions were, however, only reduced by an annual average of just about one percent. On the back of these figures, it seems hopeless

that (Germany) will meet its targets set for 2005," DIW said in a statement.

Germany aims to cut CO₂ emissions by a quarter by 2005 compared to 1990, but to deliver on its pledges the country would need to reduce CO₂ emissions by an annual 3.8 percent or around 30 million tons, it said.

Germany might also fail to meet targets on total greenhouse gas emissions set out in the Kyoto Protocol, it said. Under Kyoto, Germany has committed itself to cutting total greenhouse gas emissions by 21 percent from 1990 levels over the period 2008-2012.

Environment minister Jürgen Trittin nevertheless underlined that Germany was extremely close to meeting the 21% CO₂ emissions reduction target enshrined in the Kyoto protocol, as it had already cut emissions by 19.4% from 1990 levels.

12. Wallström Threatens Curbs On Car Air Conditioning

The European Commission is preparing a crackdown on climate emissions from air conditioning units in cars. The appliances are responsible for producing more than 10% of the sector's greenhouse emissions but are totally unregulated at EU level. The Commission's approach may include phasing out the most commonly used HFC refrigerant.

Until now the climate impact of mobile air conditioners (Macs) has been virtually ignored by Brussels. Attention has focused on the more obvious benefits of reducing carbon dioxide (CO₂) emissions through greater fuel efficiency. But the importance of Macs has rocketed, and emissions are projected to rise further as air conditioning

moves from being a luxury option to becoming a standard feature in cars.

Macs contribute to global warming in two ways: directly, through emissions of refrigerant gas, mainly HFC-134a, which is 1,300 times more potent as a climate gas than CO₂; and indirectly, by drawing extra power from the engine and thus increasing fuel consumption. Neither aspect is included in the EU's agreement with carmakers to cut climate emissions.

At a conference, environment commissioner Margot Wallström told industry and non-governmental groups that the Commission was "seriously considering" phasing out HFC-134a but would wait until the end of a consultation period next month before deciding whether to go down this route. Several options are possible, such as retaining the conventional HFC-134a refrigerant but improving containment standards to reduce leakage, or using alternative refrigerants. These include hydrocarbons, CO₂ itself or the less potent HFC-152a.

13. EU Environment Council Meets

EU environment ministers met in Brussels in early March for their first council of the year, under the presidency of Greek minister Vasso Papandreou. A public debate on European Commission proposals to revise the EU's bathing water directive provided an early focus of attention. Other major issues at the gathering concerned environmental liability and genetically modified organisms (GMOs).

Among other business, Germany and France pressed the Commission to come forward with ideas on introducing a Euro V standard for diesel engine emissions from 2010 (see below). The call was supported

by Denmark, Sweden and Austria, but opposed by Italy.

14. Franco-German Summit Pushes For New EU Rules

France and Germany have pledged a united campaign to get EU agreement on a host of environmental protection initiatives. They include more stringent emissions rules for diesel engines, quick enactment of new rules on chemicals and a ban on foreign tankers carrying heavy oils from EU ports.

The joint strategy was devised at a summit in Potsdam between German environment minister Jürgen Trittin and his French counterpart Roselyne Bachelot.

On diesel vehicle emissions, the two ministers said they would push for legislation on tighter emissions standards to come into force by 2010 at the latest. This would lead to a considerable reduction in emissions of particulates and nitrogen oxides, Mr. Trittin said.

The EU members have already agreed on tighter clean air regulations for cars and other motor vehicles, the so-called Euro IV standard, which becomes binding in 2005. Under Euro IV standards, diesel cars may emit up to 0.25 grams of nitrogen dioxide and 0.025 grams of particles per kilometer. The German-French initiative aims at an even tougher Euro V standard to go into effect after that, by 2010 at the latest, although Trittin did not specify how much stricter the two nations want to make the next generation of emissions standards.

The Automobile Manufacturers Association (Verband der Automobilindustrie, VDA) objected to the initiative. "Car manufacturers are currently investing billions to meet the ambitious Euro IV

standard," VDA spokesman Eckehart Rotter said in a news release Feb. 27. "Discussing even stricter standards now devalues the Euro IV standard," he said. "It, therefore, threatens amortization of the high investments in this field." In addition, VDA said it sees little necessity for the initiative as diesel exhausts contribute only about 4 percent to the total emissions of soot particles and nitrogen dioxide, Rotter said. The auto industry has been able to cut diesel emissions of soot particles by 93 percent over the past 10 years, he said.

Soot particles are considered detrimental to human health and possibly carcinogenic. Nitrogen dioxide is one of the factors blamed for high concentrations of tropospheric ozone in hot summer weather.

In Germany, an alliance, "No Diesel Without Filter," consisting of environmental groups, an alternative motor club, and the Federal Environment Agency (Umweltbundesamt), has been pushing since November for soot filters in diesel cars. So far, German auto manufacturers have resisted the push, as they consider the filter technology too costly, the alliance said during a Feb. 27 news conference. French car manufacturers, however, have been the leader in soot filter technology, according to the alliance. Peugeot is already offering a number of diesel models with soot filters, and Citroen and Renault are following suit, said Juergen Resch, director of the environment foundation Deutsche Umwelthilfe and coordinator of the alliance.

At the recent Geneva Motor Show, Renault announced that they would introduce, during the 2nd quarter of 2003, passenger cars in Europe equipped with a new diesel particulate filter system. These vehicles will be equipped with Renault's new 2.2 liter dCi common rail diesel engine equipped with an EGR system. The filter system is based on

periodic regeneration without the use of a fuel-born catalyst. The Renault system includes a silicon carbide-based wall flow filter substrate coated with a catalyst material and an oxidation catalyst installed just down stream of the turbocharger. The vehicle's on-board computer makes use of inputs from temperature and pressure sensors installed in the exhaust system to control filter regeneration. Active filter regeneration occurs approximately every 300 to 500 km based on these sensor inputs using a modified fuel injection strategy facilitated by the common rail fuel injection system. Regeneration also occurs naturally whenever the exhaust gas temperature exceeds 570 °C.

Trittin said existing technological solutions could reduce current emissions of soot particles and nitrogen dioxide by 99 percent. About 270,000 diesel cars on German roads are equipped with soot filters and already meet stricter emissions standards, he said. It is imperative that the tougher standards be officially agreed upon in the EU now, as an official Euro V standard--though it would not go into effect for several years--would enable Germany to start granting tax breaks for early implementation, he said.

15. Urban Pollution Still Putting Swedes At Risk

Despite rapid progress in cutting emissions since the mid-eighties, the air quality in Sweden's cities and other built-up areas is still so poor as to pose a hazard to public health, the environmental protection agency (EPA) has announced. As a result, "thousands of people have breathing problems, others' illnesses are aggravated and an unknown number die each year", the agency said in a statement. In "well over half" of 46 municipalities surveyed last winter, measurements of particulates and

benzene exceeded acceptable levels. Nitrogen oxides were also a cause for concern in the larger cities.

The EPA concludes that the rate of improvement, which accelerated during the 1980s thanks to new measures such as the fitting of catalytic converters, has now "flattened out", while the volume of road traffic has continued to rise. Wood burning is an additional source of pollution that particularly affects urban areas.

16. Denmark Eyes Kyoto Mechanisms To Cut GHG Emissions

Denmark plans to use international environmental improvement projects over the next 10 years to meet a significant fraction of its greenhouse gas reduction commitments under the Kyoto Protocol, according to a government proposal released Feb. 26. In its "Proposal for a Climate Strategy for Denmark," the Danish government said investing in emissions reduction and avoidance projects abroad, as well as using emissions trading, will be much less expensive than meeting the nation's Kyoto target through domestic actions alone, possibly slashing compliance costs up to 40 percent a year between 2008 and 2012.

Under the Kyoto accord and the European Union's burden-sharing agreement, Denmark must reduce emissions of greenhouse gases 21 percent by 2012, based on 1990 emissions levels, one of the most ambitious reductions required of any EU member nation.

Although all Cabinet officers were consulted during its preparation, the Danish strategy was largely the work of the ministries of Environment, Economic and Business Affairs, and Finance. The strategy was

released as Denmark and other nations begin to draw up concrete plans outlining how they will comply with the Kyoto Protocol. The strategy says Denmark will rely heavily on a mix of the three Kyoto "mechanisms"--joint implementation, the Clean Development Mechanism, and emissions trading--that allow countries to earn credits toward their emissions-reduction target by reducing emissions abroad.

Under joint implementation, developed countries such as Denmark receive emissions reduction credits when they finance projects that reduce net emissions in another developed country, including nations with economies in transition. The Clean Development Mechanism enables industrialized nations to finance emissions-avoiding projects in developing countries and receive credit for doing so. International emissions trading, on the other hand, allows developed countries to trade greenhouse gas emissions allowances granted under the protocol.

Achieving the reductions exclusively at home, without using the mechanisms, could cost up to \$725 million per year during 2008-2012, the Kyoto accord's first commitment period, the strategy said. But by using a mix of the mechanisms, the government can save up to \$295 million each year and still meet its reduction target.

The government does not know which mechanisms will be used, and to what extent, because such decisions are dependent on available projects, their cost, and other current unknowns. The exact percentage foreign projects will contribute to the country's overall reduction is not known as well.

Parties to the Kyoto accord, in political statements issued at conferences of the

parties during 1999-2001, said domestic cuts should constitute a "significant element" in a country's overall reduction strategy.

A report published alongside Denmark's new climate strategy explains the calculations behind the government's decision to rely on the Kyoto protocol's three flexible mechanisms for meeting its obligations.⁴ Without the option of buying up carbon emissions quotas and credits abroad, the environmental protection agency suggests, Denmark would exceed its target for cuts in greenhouse gas emissions by 45%. Average emissions between 2008-12 are expected to be 80m tons of carbon dioxide equivalent, compared with Denmark's target of 55m tons.

This report presents the results of a project financed by the Danish Environmental Protection Agency. The purpose of the project is to make "with measures"-projections of the emissions from Danish sources of the greenhouse gases CO₂, CH₄, N₂O, HFCs, PFCs and SF₆. The 'with measures' projection encompasses currently implemented and adopted policies and measures.

17. Moscow Pressured To Ratify Kyoto Pact by EU

After a three-day visit to Moscow to press for ratification of the Kyoto Protocol, the European Union expressed disappointment March 7 that the Russian government has not yet drawn up a timetable for voting on the global warming treaty in the nation's parliament, the Duma.

⁴ **Environmental Project no. 764, 2003**, Denmark's Greenhouse Gas Projections until 2012, an update including a preliminary projection until 2017

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 Feb. 24, 105 nations accounting for 43.9 percent of industrialized emissions had ratified the treaty, according to the United Nations Framework Convention on Climate Change Secretariat. But that is still short of the 55 percent mark. Accounting for 17.4 percent of the world's CO₂ emissions in 1990, Russia's ratification of the Kyoto pact is needed to reach the 55 percent threshold. Without Russia's approval, the climate change accord cannot enter into force.

Turning up the political pressure a bit, Wallström also said that many of Russia's concerns had been addressed to its benefit while negotiators hammered out the protocol's details. The EU also emphasized that Russians companies will have access to joint implementation projects, one of the Kyoto pact's so-called flexible mechanisms, which allows developed countries to receive emissions reduction credits when they finance projects that reduce net emissions in another developed country, including economies in transition such as Russia. In addition, the Commission emphasized the environmental benefits that Russia would gain with reduced worldwide greenhouse gas emissions.

18. Environmental Scientist Picked To Lead European Environment Agency

The European Environment Agency Feb. 25 selected Jacqueline McGlade to be the agency's second executive director. McGlade was selected for the post by the EEA management board, which comprises

representatives from the 15 European Union nations, the executive European Commission, and the European Parliament. The board appointed her to a five-year term; she is expected to assume her responsibilities by June 1.

McGlade, an environmental scientist, is currently a professorial fellow in environmental information at London's University College. Previous United Kingdom-based positions include director at the Natural Environment Research Council's Center for Coastal and Marine Sciences and professor of biological sciences at the University of Warwick. She was director of a Jülich, Germany, ecological research center as well.

Its first executive director, Domingo Jiménez-Beltrán, led the EEA, established by EU regulation in 1990 and operating in Copenhagen since 1994, until he resigned the post in May 2002. EEA Program Manager Gordon McInnes, the agency's most senior manager, served as interim executive director during the selection process for a permanent EEA leader.

McGlade will supervise an EU institution evolving from a data collector and report producer to a provider of analysis and information intended for EU policymakers and, increasingly, the public. An emphasis on the rapid electronic dissemination of environmental news on timely subjects in several languages is a chief feature of the current EEA.

19. Road Traffic Remains Serious Problem In Italian Cities

Italian environmental group Legambiente has criticized rising levels of car use in its latest annual report on Italy's environmental challenges. A controversial new planning

law fast-tracking infrastructure projects, including road building, will only exacerbate the problem, it warns. Legambiente complains that vehicle-related air pollution, especially fine particles (PM10s) and benzene, continues to exceed legal limits in most Italian cities with alarming frequency. Emergency traffic curbs continue to be required in response, despite the launch last year of an action plan to address the problem.

The report, *Italy's Environment in 2003*, released Feb. 13, includes reports on more than 100 environmental issues based on information gathered starting in 2001. The conclusion, according to Legambiente officials, is that Italy's environmental performance in recent years had some bright spots but was generally unexceptional. That overall report card was more critical than a recent environmental report on Italy from the Paris-based Organization for Economic Cooperation and Development (OECD), which released its findings on Italy's environmental progress between 1994 and 2002 on Feb. 4.

Among the areas that Legambiente said should be focused upon in 2003 are Italy's greenhouse gas emissions, which, according to the terms of the Kyoto Protocol that Italy already has ratified, must be reduced by 6.5 percent compared to 1990 levels no later than 2012. Instead, they have risen by around 5.8 percent since 1990. Other problem areas include public transportation, where the number of cars per capita has risen over the last decade rather than declined as it has in the EU as a whole.

In specific terms, Legambiente said the easiest progress regarding greenhouse gas emissions could be made by creating incentives for Italians to use public transport rather than cars, either by adding taxes for

cars that record over a certain number of kilometers per year or by lowering public transport costs.

The areas where the country's environmental performance was praised included land conservation, where the amount of land under protection in Italy has increased faster than the EU average over the last decade; an increased emphasis on organic farming; and a rise in the percentage of Italian energy that comes from renewable sources.

20. Report Outlines Issues Needing Attention in Italy, Could Shape Policy

A system for the low-impact disposal of solid waste, uncontrolled urban growth, a lack of quality control initiatives for water, and incentives for the protection of biodiversity are among the environmental issues that will require increased attention over the coming year, according to an assessment study released on Feb. 18 by an Italian government agency. The 244-page report--the first of what will become an annual *Environmental Yearbook* produced by the government--was researched and published by the year-old Agency for Environmental Protection, best known as APAT.

Although APAT is an autonomous agency funded by government money, expert observers say the recommendations in the report can be seen more or less as a list of future policy initiatives that are much more likely to be initiated than those released by the OECD or Legambiente.

As would be predicted, the APAT report was not as critical as the other two. But it was the most comprehensive of the publications, including full chapters on a dozen separate environmental topics, including air quality,

water protection, industrial production, and even noise pollution. All told, it presented 160 environmental indicators on an array of topics ranging from soil, air, and water quality to the makeup of industrial smog, the size of protected areas in the country, and the average impact of public transportation in major cities.

The report was critical of regulations on garbage-related issues, urban growth, water quality, and biodiversity protection as well as protection of the ozone layer and the spread of electro-smog, an increasingly hot topic in Italy, where some believe that living near certain kinds of electric generators or transmitters can represent a health risk. The report, however, did not stress the issue of greenhouse gas emission levels. Under the terms of the 1997 Kyoto Protocol, Italy must reduce its greenhouse gas emissions by 6.5 percent compared to 1990 levels by no later than 2012. According to Legambiente, emissions have instead increased by 5.8 percent between 1990 and 2002.

What the report did stress was the progress likely to be made by turning the progress report represented by the *Environmental Yearbook*, which had in the past been published on an occasional basis by the Ministry of Environment itself, into an annual project under the auspices of APAT.

21. Italian Agency Unveils 'Ecological Map' Environment Ministry Will Use in Rulemaking

Italy's Agency for Environmental Protection March 6 unveiled the first comprehensive "ecological map of Italy" project, the culmination of a 12-year-old project that will be the centerpiece of the Ministry of Environment's database for the development of regulations that will direct the development of Italy over the coming

years.

The project was made public at the end of a special meeting held in the northern Italian city of Udine, and it was the result of a project originally commissioned with the 1991 Italian Natural Area Protection Act (Law 394/91). Since then, government environmental officials have worked on it through 11 governments and 13 different ministers for the environment.

Expert observers say the final product revealed in Udine will have an impact on Italian environmental policy for years. The 2,060 maps and documents available immediately are on the scale of 1-to-250, 000, with a 1-to-50, 000 scale set of ecological map expected to be available late in the year.

The information covered by the project--which includes underground water supplies, topography, air movement patterns, soil type and quality, flora and fauna, pre-existing development, and a host of other information--will be updated continually, as environmental situations change due to natural reasons or development.

The information was gathered using on-the-ground testing, satellite data, and archive data from local officials. The budget for the project was not released, but the local media estimated that it cost around \$16 million over the course of 12 years, with most of that sum spent since 1999.

Only parts of the information from the map project will be available to the public, and the data will be used exclusively by the ministry as it evaluates development projects that can be approved only by submitting plans to seek an "evaluation of environmental impact," which will be based in large part on information from the map project. Local environmental officials will

also have access to the information.

APAT was created in 2002, combining the regional regulatory and technical agencies that had previously operated under the auspices of the Ministry of Environment. But the project, which was initiated by the regional authorities, was finished by APAT with many of the same officials who started it.

22. Italian Council Approves Reorganization of Environment Ministry

Italy's Council of Ministers Feb. 14 approved the first complete administrative reorganization of the Ministry of Environment, streamlining its organizational structure and expanding departments that deal with increasingly sensitive environmental areas. In the most wide-ranging of the changes, the 11 ministerial departments that handled specific environmental risks--such as desertification, water protection, and emissions control--will be scrapped and replaced by six general management divisions that will oversee wider-ranging environmental issues, such as long-term strategy development, protection of natural resources, research and development, and testing. The reorganization also reduced the number of sub-ministers to six from 15.

The measures also call for a similar reorganization of several autonomous agencies that operate under the auspices of the ministry, most notably the Agency for Environmental Protection (APAT).

23. Europeans Criticize Voluntary U.S. Program To Reduce GHG Emissions

The European Commission Feb. 13 said new voluntary agreements by U.S. companies to reduce emissions of

greenhouse gases were not likely to have any real effect in combating climate change. The European Union executive body criticized the plan announced Feb. 12 by the Bush administration because most of the industry commitments do not include the objective of cutting greenhouse gas emissions in absolute terms.

The Bush administration plan--Climate VISION, or Climate, Voluntary Innovative Sector Initiatives: Opportunities Now--enlists U.S. companies to reduce, avoid, or sequester greenhouse gas emissions. (See below)

While some of the commitments do call for actual emissions reductions, many trade associations and companies are committing to improve the ratio of emissions to economic output, a yardstick known as greenhouse gas intensity. By reducing greenhouse gas intensity, emissions would continue to increase as the economy grows, but at a slower rate than would otherwise be the case. A reduction in greenhouse gas intensity was the centerpiece of the Bush climate change plan announced in February 2002.

In announcing the Climate VISION program Feb. 12, Bush underscored the importance of engaging in climate change policy that does not undermine U.S. economic growth. According to the European Commission, actual U.S. emissions under the Bush plan are likely to be 30 percent higher in 2012 than they were in 1990, the year used as the baseline measurement for the Kyoto Protocol.

The European Commission also pointed out that while emissions likely would increase under the Bush plan, the European Union is legally obligated under the Kyoto Protocol to reduce emissions by 8 percent by 2012 from 1990 levels.

24. Swiss Urged To Shun High-Emission Cars

Swiss consumers are being challenged to buy environmentally friendly cars, as part of a new government push to stem the sale of gas-guzzlers. Car dealers are now required to rank new cars according to their fuel efficiency, as part of efforts to meet the country's commitments to the Kyoto Protocol.

Moritz Leuenberger, the Swiss transport minister, said the measure was designed to help Switzerland reduce its annual carbon dioxide (CO₂) emissions. Under the Kyoto Protocol on climate change, emissions must be cut below 1990 levels by 2010. Private vehicles, along with other forms of transport, account for more than 30 per cent of the country's yearly CO₂ emissions. By 2008, the government wants to reduce the average fuel consumption of new cars by 24 per cent from 8.4 liters per 100 kilometers to 6.4 per 100km.

Already common on electrical goods, the new energy stickers provide data about fuel consumption rates, CO₂ emissions and energy efficiency. Urban and environmentally friendly vehicles will be awarded an A ranking, while the least efficient will be condemned with a G ranking. Government regulations also require car dealers to display or mention the energy stickers whenever putting up a price list of new models, in advertisements and during a sales pitch. The authorities are also launching a series of TV and newspaper advertisements to explain the new scheme.

Leuenberger said the energy stickers were just the first step in tackling the environmental impact of Switzerland's 3.6 million vehicles. The government has not

ruled out the possibility of imposing a CO2 tax on fuel sales should Switzerland fall short of its reduction targets. Nevertheless, the Swiss approach is considerably gentler than that of the German government's, which has imposed a tax regime to reward consumers who opt for environmentally friendly cars and punish those who jump into big four-wheel drives. Leuenberger said he preferred to give consumers a chance to voluntarily choose efficient vehicles, and would not make a decision on the proposed tax before year's end. The government also wants to increase the sale of diesel-powered cars, which use less fuel than regular vehicles. Only 18 per cent of new cars sold in Switzerland run on diesel, compared with rates of almost 50 per cent in other European countries.

Worried by the potential impact of a CO2 tax, which some analysts fear could be as high as SFr 0.20 per liter, the Swiss petroleum association recently launched its own initiative to reduce CO2 emissions. The plan centers on a fund, financed by an SFr 0.01 fuel tax that would invest in emission-reduction schemes such as car-pooling or alternative fuel research. Sonya Studer, from the association, said the fund could also be spent on CO2 reduction programs abroad, enabling Switzerland to earn carbon credits if, and when, a global trading system is introduced.

25. U.S. and Europe in Fuel Cell Pact

As part of the Bush administration's push to develop hydrogen as the fuel of the future, the Energy Department and the European Union agreed to start a cooperative effort aimed at bringing hydrogen-powered cars and electricity generated from fuel cells to market over the next two decades. But important differences emerged in their approaches to the energy technology,

largely driven by a much greater urgency in Europe than in the United States to reduce emissions of carbon dioxide and other gases scientists say contribute to global warming. The European Union, for instance, plans to derive significant quantities of hydrogen from water using renewable energy sources, while the Bush administration is focusing on experimental coal technology.

More significant, the European Union has set aggressive goals, including a plan to replace 20 percent of the fuel now used to run vehicles with alternative energy sources by 2020, while the Bush administration has no firm goal. The European Union also plans to develop the hydrogen technology while trying to reduce gasoline consumption now by sharply tightening vehicle fuel efficiency standards, an effort that has stagnated for more than a decade in the United States.

The agreement was announced in Brussels after a meeting between Romano Prodi, the president of the European Commission, and Spencer Abraham, the United States Energy Secretary. The agreement had sat unsigned for several years, a senior energy department official said, but was dusted off after President Bush announced the government's renewed interest in supporting hydrogen technology during his State of the Union address this year.

Electricity has to be used to isolate hydrogen from water, and a point of contention among the many parties interested in hydrogen technology is how that energy is generated, whether by using natural gas, coal or renewable sources. Right now, less than 5 percent of the world's limited hydrogen production comes from renewable sources.

The European Union plans to invest 2.2

billion euros (\$2.4 billion) over five years in its hydrogen project, compared with the Bush administration's proposal to spend \$1.7 billion for a similar period. Some of that money will go to fostering research among large automakers, utilities and oil companies into fuel cell technology and an infrastructure of hydrogen service stations. Companies maintain they need government aid and broad-based partnerships with other corporations to make their technology commercially viable.

26. French Scheme To Promote Environmentally Friendly Transport

The Commission has given the go-ahead to the French authorities for the establishment of an aid scheme aimed at limiting greenhouse gas emissions connected with the transport sector and transport activities. This multiannual scheme, which will be run by the French Environment and Energy Management Agency (Ademe), is in line with sustainable development objectives in accordance with the commitments entered into by the EU under the Kyoto Protocol.

The Environment and Energy Management Agency will be able to grant aid totaling over EURO 20 million per annum until the end of 2007 in order to promote a series of measures designed to:

- Review transport organization,
- Encourage the development of clean and economical vehicles, and
- Promote energy savings in the inland waterway transport sector.

The measures proposed by France follow the guidelines of the Green Paper "Towards a European strategy for the security of energy supply" and the White Paper

"European transport policy: Time to decide" which advocate the use of more energy efficient and cleaner modes of transport in order to reduce our dependence on imported energy and meet Europe's environmental commitments.

This scheme will give the local authorities the opportunity to take better account of the environmental dimension in transport projects, will financially support the development of combined transport and modal transfer operations, and encourage individuals and companies to acquire electric or hybrid vehicles and make use of other low-fuel technologies.

The Commission considered that some of these measures could be regarded as State aid. However, it took the view that the aid is compatible with the common market:

- Because it has an environmental objective and meets certain criteria or,
- Because it is aimed at the development of combined transport and modal transfer operations which are of common interest.

27. Parliament Allows Austria To Keep Controls On Trucks Crossing Alps

The European Parliament Feb. 12 approved by 430-79 a legislative draft allowing Austria to retain national controls over trucks making international transit journeys across Austrian territory.

Major European arteries traverse Austria, including passes across the Alps, the mountain range that separates industrial northern Europe from the Mediterranean basin. Under the terms of Austria's accession to the EU in 1995, Vienna negotiated the right to retain controls

designed to limit buildup of exhaust pollution in sheltered mountain valleys. But the concession was transitional and expires at the end of the year.

Parliamentarians want radical changes as the price of their consent to renewal. Instead of distributing transit quotas to haulage companies, parliamentarians favor a phased changeover to a system in which the most polluting truck categories would be banned from 2005, while all restrictions on the best-performing vehicles would be lifted. Parliamentarians also want to restrict the scheme to key Alpine routes.

The Parliament set out its demands in amendments to a legislative draft from Transport Commissioner Loyola de Palacio. Commending the proposal to the Parliament, Commissioner de Palacio said that emissions from the transit operations covered by the Austrian scheme had been reduced by 60 percent over the past 12 years.

The Parliament's ideas for major changes are likely to be resisted by transport ministers representing the EU's 15 national governments, who must also approve the legislation. In December, ministers signaled that they would favor a relatively straightforward three-year extension of the current scheme. Ministers have yet to adopt a formal position, pending the Parliament's verdict.

If the Council resists the changes demanded by the Parliament, the two sides would have to settle their differences through negotiation procedures likely to stretch into 2004.

The Parliament introduced a new section to the draft's preamble insisting that it is "essential" to find nondiscriminatory ways of reconciling EU treaty guarantees covering

freedom of movement for goods and services with other obligations imposed by the same treaty on protection of the environment and local populations. In its amended form, the preamble cites EU commitments under the Kyoto Protocol on curbing greenhouse gas emissions and the 1991 Convention on the Protection of the Alps, an agreement in force since 1996. Parties to the accord agreed to work together on protecting the Alps--"one of the largest continuous unspoiled natural areas in Europe". Austria, France, Germany, and Italy have ratified the convention, which imposes requirements on transport-related pollution, along with non-EU countries Liechtenstein, Slovenia, and Switzerland and by the EU in its own right.

The Parliament also said it stands ready to reconsider its position on the Austrian system in the event that Commissioner de Palacio publishes long-awaited proposals for an EU-wide system of road tolls and infrastructure charging and if those proposals are agreed to by the end of 2004. In her reply to the debate, the commissioner did not respond to the Parliament's offer. Instead, she urged the Parliament to approve the Austrian proposals, "pending publication of proposals that will lead to a more rational system of infrastructure charging throughout the EU."

Under Austria's current transit system, truck operators are allocated a quota of "eco-points." The number of points required for a transit journey is dictated by the emissions performance of each truck. Journeys by low-emission trucks require fewer points, so the owner can complete more journeys within the quota. Journey data are logged electronically by roadside scanners that "read" data from transponders fitted behind the truck's windshield. The simpler system proposed by the Parliament for determining whether trucks should be banned or allowed

to operate without restriction would rely on the categorization of trucks by overall emission performance standards laid down in EU clean air legislation.

28. Global Transformation Of Energy Systems Is Necessary And Feasible - German Study

The German Advisory Council on Global Change (WBGU) has submitted to federal ministers Jürgen Trittin (Environment) and Heidemarie Wiecek-Zeul (Economic Cooperation) and to the State Secretary Dr. Uwe Thomas (Research) its new report "[World in Transition: Towards Sustainable Energy Systems](#)". The report underscores the urgent need to transform global energy systems so that the world's population has access to energy based on renewable sources. This is necessary to protect the global climate and to liberate 2.4 billion people in developing countries from energy poverty. Such an approach would also reduce dependence upon regionally concentrated oil reserves. The scientists stress that such a transformation of energy systems is feasible and fundable if rapid and resolute action is taken in the coming two decades. To this end, they propose a roadmap for implementation.

Using energy more efficiently The key precondition to turning energy systems towards sustainability is to convert and use energy more efficiently. Here the goal should be to produce three times the goods and services with the same amount of energy worldwide by 2050. This requires, in particular, the establishment of international standards for fossil-fuelled power plants, and the promotion of combined heat and power production. For industrialized countries promising avenues are to launch ecological financial reforms and establish mandatory labeling for buildings, energy-

intensive appliances and services.

Substantial expansion of renewables

Promoting renewable resources is an essential element in this transformation. The share of renewables in global energy production should therefore be raised from 12.7 per cent today to 20 per cent by 2020, and finally to more than 50 percent by 2050. Those types of renewables that can only be expanded to a limited extent (e.g. wind power, modern bioenergy) are in many cases already available at competitive prices today. In contrast, those technologies that can be expanded virtually without limit (e.g. photovoltaic, solar thermal power generation) are still comparatively expensive from the business management standpoint. Since the development of non-solar forms of renewable energy will reach its limits over the medium term it is essential to start now to comprehensively expand and promote solar energy.

Future Energy supply systems will require forward-looking investment in appropriate infrastructure. Priorities include improving the performance of grid control systems, enhancing load management, expanding rapidly dispatchable generating plants, extending networks to a global link and, over the long term, establishing an infrastructure for hydrogen storage and distribution.

Shaping the transition The use of coal for energy production should be terminated within this century. Nuclear power should be phased out worldwide by 2050. Among other aspects of nuclear energy, illegal proliferation of nuclear material and the unresolved issue of final storage pose intolerable risks. For a transition period, intensified use of gas is advisable and storage of carbon in geological formations is presumably necessary.

Focusing North-South cooperation more strongly on sustainability Overcoming energy poverty is key to improving living conditions in developing countries and achieving internationally agreed development goals. Indoor air pollution from the combustion of traditional biomass causes serious health risks. Some 1.6 million people are dying every year as a consequence – many more than the toll taken by malaria. Similarly, the pollution of ambient air, notably in the cities of many developing countries, has assumed extreme proportions in some instances.

To resolve these problems, international cooperation needs to focus more strongly upon sustainable development principles. In the view of the Council, an important measure in this context is to redirect assistance delivery by the World Bank and regional development banks in favor of renewable energy sources.

Exploiting all available funding opportunities The transformation of energy systems can be financed – provided all available opportunities are exploited. In industrialized and transition countries, subsidies for fossil fuels and nuclear power need to be removed completely by 2020. To this end, the Council recommends negotiating a Multilateral Energy Subsidies Agreement by 2008. At the same time private-sector investment in sustainable energies needs to be promoted. Official development assistance funding has to be increased substantially in order to support the poorest countries. As a supplementary measure, the Council recommends that OECD countries introduce user charges on international aviation from 2008 onwards.

Advancing research and development To master the technological challenges, substantial research and development efforts will need to be undertaken. In

industrialized countries, government expenditure on research into renewables should be increased at least ten-fold by 2020, through re-allocations from other areas. As a supporting measure, the Council recommends the creation of a World Energy Research Coordination Program.

Maintaining the momentum of the Bonn World Energy Conference Turning energy systems towards sustainability on a global scale will require capable institutions. The existing global energy policy institutions should therefore be strengthened and expanded in a stepwise process. To establish a common platform for action, the Council recommends the adoption of a World Energy Charter. The World Conference for Renewable Energy proposed by the German federal government, which is to take place in 2004 in Bonn, provides an excellent opportunity to launch this process. Building on this foundation, the establishment of an International Sustainable Energy Agency warrants consideration by about 2010.

29. EU Can Have Hydrogen Economy By 2050 Says Draft Report

The EU can become a "hydrogen society" within fifty years, according to a high-level group set up to advance a vision for a low-carbon energy future based on fuel cells. In a draft report just released, the European Commission-led group says low cost and reliable fuel cell systems could power vehicles, industrial processes and homes even as early as 2030. But it warns that the EU must at least match the US\$1.7bn (€1.6bn) already committed by the USA in research and development. It urges investment not only in renewable energy but also in **nuclear** power to provide a full non-fossil carbon-derived hydrogen

infrastructure by 2050.

The paper pictures a world in which hydrogen will "be commonly available on fuel station forecourts, in new housing developments and in large commercial and industrial facilities." Hydrogen ferries will transfer tourists to "remote islands which are self-sufficient in energy, and where hotels and hire cars run on the same fuel". After a period of consultation the group's report will be formally presented in June.

30. The EU Parliament and Council Reach Agreement On Recreational Craft

The Council and the European Parliament, in the framework of the co-decision procedure, reached agreement in mid March on a draft Directive concerning recreational craft. The agreement must be endorsed by the Parliament (majority of votes cast) and the Council (qualified majority voting procedure) for the Directive to be adopted.

The proposed Directive includes design and construction requirements for personal watercraft and regulates noise and exhaust emissions produced by propulsion engines for recreational craft and personal watercraft that were not covered by the previous Directive (94/25/EC). Moreover, it fixes limit values for exhaust emissions of carbon monoxide (CO), hydrocarbons (HC), nitrogen oxide (NOx) and particulate pollutants. As far as noise emissions are concerned, the limit values are broken down according to engine power.

In view of the growth of the motorized water sport sector, noise and exhaust emission nuisances caused by these types of craft have increased. Measures were therefore required for the protection of health and the environment, especially since these

activities are generally undertaken in recreational areas or in a sensitive natural environment.

Furthermore, it aims at modifying Directive 94/25/EC on the approximation of the laws, regulations and administrative provisions of the Member States relating to recreational craft. It is also aimed at preventing distortions of competition among Member States in line with the objectives of the Internal Market.

It is recalled that the Council adopted its common position on 22 April 2002.

The following main issues were settled in conciliation:

Exemptions from noise emission provisions

With a view to broadening its scope, an allowance of 3 decibels may be applied above the maximum sound levels contemplated by the proposed Directive as regards twin-engine and multiple-engine units of all engine types.

Exemptions for craft built for own use

An exemption from the scope of the Directive with regard to exhaust emissions was granted to craft built for own use as well as to original historical craft and individual replicas based on a pre-1950 design and built predominantly with the original materials. The exemption will apply provided that craft are fitted with original and individual replicas of historical engines based on a pre-1950 design not produced in series.

In-use compliance. system

The Commission is asked to submit by 31 December 2006 a report on the possibilities of further improving the environmental characteristics of engines and to consider, inter alia, the need to revise boat design

categories. In this context, the Commission shall look at the possible benefits of a system for in-use compliance. Such a system would be aimed at verifying the conformity of recreational craft with noise and exhaust emission limit values. Its role would be similar to that of the annual technical monitoring of cars.

Committee

A regulatory committee will assist the Commission, in the light of evolution of technical knowledge and new scientific evidence, with issues relating to the reference fuels and the standards to be used for exhaust and noise emissions testing. The committee will not deal with direct or indirect modifications to exhaust or noise emission values and with the values used to measure propulsion power.

Exemptions for steam powered craft

An exemption to the scope of the Directive with regard to design and construction was granted to steam powered craft. The latter is defined as external combustion steam powered craft fuelled by coal, coke, wood, oil or gas.

Transposition and implementation

In order to facilitate compliance by Member States and the Commission transposition, implementation and reporting dates referred to in the proposed Directive were pushed forward by 12 months. The transposition to national law is due to take place by 30 June 2004 and its measures are due to be applied by Member States as from 1 January 2005.

31. Aviation And The Environment: UK Considering Economic Instruments

The Economic Secretary to the UK Treasury, John Healey, has published a government discussion paper on how

economic measures could be used to encourage the aviation industry to take more account of its environmental impact. According to Mr. Healey, "The Government recognizes that the aviation industry has a vital role to play in the UK economy and will continue to foster this. However, aviation also raises significant environmental challenges at local, national and global levels. The Government is committed to finding ways to tackle these impacts in the most efficient way, while recognizing the benefits that aviation delivers".

The Government will organize a number of sessions to discuss these issues with key representative stakeholders, and to seek their views at first hand. The Government's Air Transport White Paper, due later this year, will set out a policy framework for sustainable air transport over the next 30 years. It will include conclusions on airport capacity, taking into account responses to the consultation and discussions with interested parties on economic instruments.

The 2002 Pre-Budget Report announced that the Government would discuss with stakeholders the most effective economic instruments for ensuring that the aviation industry is encouraged to take account of, and where appropriate reduce, its contribution to global warming, local air and noise pollution. The discussion paper is intended to provide background and support to the planned discussions. It covers:

- The Government's objectives for aviation. The Government believes that aviation should aim to maximize its significant social and economic benefits and minimize its environmental impacts.
- The Government's approach to using economic instruments in general, following the Government's environmental tax principles set out in

Tax and the environment: using economic instruments, published alongside the 2002 Pre-Budget Report.

- The Government's estimates of aviation's environmental costs, including its impacts on climate change, local air quality and noise.

It also sets out a range of questions that the Government would like to discuss in more detail with stakeholders at the planned discussions. The Government will be sending out invitations to national representative stakeholder groups to attend one of a number of workshops shortly.

The U.K. Treasury Department said fiscal measures might nudge industry and consumers alike toward a fuller account of the real environmental costs of flying. It published the paper following a Department for Transport consultation that examined how the United Kingdom's air services and airports should develop over the next 30 years.

The proposal asked for views on how particular aspects of climate change, such as aviation's contribution to carbon dioxide emissions, might be tackled. It suggests including international aviation in the second Kyoto Protocol commitment period that begins in 2012. Emissions from domestic aviation are currently included only in the national targets under the Kyoto Protocol, but emissions from international aviation are subject to separate commitments under the auspices of the International Civil Aviation Organization.

ICAO, which reports aviation emissions to the Conference of the Parties to the United Nations Framework Convention on Climate Change, estimated that aircraft contribute about 3.5 percent of the total radiative forcing--a measure of change in climate--by

all human activities, and said this percentage was projected to grow. According to the IPCC, in a reference scenario, aviation's contribution would rise to 5% in 2050; more importantly, in absolute terms, forcing in 2050 would be 3.8 times as high as in 1992.⁵

Healey said the Treasury wanted views on whether policies should aim for long-term international agreements, which would have the greatest environmental benefits, or pursue domestic measures in the short term even if unilateral action would be damaging to the U.K. economy. "Or would action at the EU level be preferable?" Healey asked.

32. OECD, European Agency Launch Database On Using Economic Tools in Policymaking

The Organization for Economic Cooperation and Development and the European Environment Agency released April 3 a new database to help governments make better use of economic instruments when setting environmental policy. The new database contains information on the existing use of economic instruments--such as environmentally related taxes and charges, environmentally motivated subsidies, tradable emissions permits, and deposit refund schemes--already in use across the 30-member OECD as well as 13 other nonmember countries.

The database, developed by environmental and economic policy experts at the OECD and EEA, also outlines a series of public-private initiatives in which industry has agreed to cooperate with government to achieve specific policy objectives, such as the reduction of greenhouse gases or other

⁵ "External Costs of Aviation", Dings, Wit, Leurs, Davidson and Fransen, February 2002.

types of pollution.

The OECD has long made greater use of economic instruments and voluntary agreements with industry the bedrock of its environmental policy recommendations to member governments. It argues that environmentally motivated taxes and subsidies are often more effective than end-of-pipe regulatory solutions and suggests that governments supplement or replace constrictive or inflexible regulations whenever possible with better use of economic instruments.

The new database is offered as a tool for policymakers, researchers, and the public to compare and contrast approaches taken in the 43 countries surveyed. Copies of the OECD/EEA Database are available at <http://www1.oecd.org/scripts/env/ecolnst/index.htm>

33. New Head of OECD Environment Directorate

On April 4th, the OECD appointed Norwegian government official and climate change expert Lorents Lorentsen to head the Environment Directorate. Lorentsen, acting secretary-general of the Norwegian Ministry of Finance, is an environmental policy and economic forecasting expert with experience in natural resource policy, energy consumption, pollution control, and the taxation of fossil fuels.

OECD Secretary-General Donald Johnston said Lorentsen's long-standing expertise in environmental economics--including publication of work in areas ranging from natural resource accounting to the modeling of energy markets and multi-sector growth models--will prove an asset to the Paris-based OECD, a think tank that advises 30 of the world's leading industrialized democracies on economic policy.

The OECD's Environment Directorate coordinates research and policy recommendations in a range of areas, from implementation of sustainable development at the governmental level to climate change strategies, and it has often provided key economic input to negotiations on multilateral environmental agreements. These include its work on emissions trading and the use of other economic instruments eventually incorporated into the Kyoto Protocol to the United Nations Framework Convention on Climate Change.

Lorentsen has served in recent years as part of Norway's delegation to key OECD committees on economic policy and sustainable development, and he has played a leading role in pushing the OECD to put greater emphasis on sustainable development in its policy recommendations. Aside from his Norwegian government duties and previous representative activity at the OECD, Lorentsen currently heads a working group on economy and the environment under the Nordic Council of Ministers and served as vice-chair of the Intergovernmental Panel on Climate Change over the 1994-2001 period.

34. Italy Expands Incentives Program To Push Purchases of Cleaner Vehicles

The Italian government April 4 said it would restart and expand a highly successful set of incentives for car buyers to purchase environmentally friendly vehicles, beginning April 15. The incentives, which were sponsored by Minister of Industry Antonio Marzano, were originally set to expire at the end of 2002 but were extended until the end of March. The incentives have been successful, resulting in a 19 percent increase in new car sales last year compared to 2001 and a 40 percent

increase in the sales of "green" vehicles over the same period. A statement from the Ministry of Industry said the incentives would be "more generous" than the previous version.

Unrae, the association of foreign car makers in Italy, estimated that around 150,000 environmentally friendly cars were sold in Italy in 2002, with another 30,000 sold over the first three months of 2003. The rules treat a wide variety of vehicles as environmentally friendly cars, though the range of incentives favors those with the lowest environmental impact.

Cars are eligible for the tax breaks and rebates if they have smaller or more efficient engines or use some kind of hybrid technology.

35. DG Environment Outlines Priorities For 2003

The European Commission's environment department is putting an increasing emphasis on ensuring full implementation of existing European green laws, its 2003 management plan shows. Just over one-third of DG environment's 550 staff are working on implementation of environmental policy, compared with 19% on development of new environmental policies. Persistent failures by member states to comply with EU environmental laws has risen up the bloc's political agenda in the last few years.

DG environment's 2003 management plan sets out the department's main priorities for the year within the framework of the strategic objectives of the EU's sixth environmental action program, running to 2012. It promises the production of 28 policy initiatives in 2003. Most of these were already included in the European Commission's full work program for 2003,

released last autumn. Also included is a list of six reports due this year evaluating the implementation of existing EU environmental policies or laws.

Among the motor vehicle related activities are the following:

Communication on Environmental Targets for Transport. - An appraisal of where we stand vis-à-vis where we would like to be on the effects of transport on the environment.

Communication on Future Technologies for Clean Vehicles. - This is being developed in response to the Council Resolution that followed the report on 'Auto-Oil II'. The Resolution calls upon the Commission to come forward with a description of future vehicle technologies, facilitating priority setting in the field.

Proposal for a Transport & Environment Reporting Mechanism (TERM). - To improve statistics, enhance TERM's role in policy-making and institutionalize the financing.

Other proposals in preparation for 2003 include a Communication on CO₂ emission reductions from light commercial vehicles; a Strategy to reduce CO₂ emissions from cars (Communication); and the 2nd Stage Progress Report on the EC Climate Change Program.

36. Sweden To Review Progress On Kyoto Targets

The Swedish government has asked the environmental protection agency and national energy authority to review progress in national climate policies. "Checkpoint 2004" is to be completed by the end of June next year. It will "evaluate what results the climate policy has achieved, how emissions trends are looking and whether further measures are required to reach the targets

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which have been set", the environment ministry said yesterday. Sweden is aiming for a 4% cut in greenhouse gas emissions between 1990 and 2008-12.

NORTH AMERICA

37. EPA Issues Nonroad Tier 4 Proposal

EPA has issued its long awaited proposal to control non-road diesel engines and fuels. Since these vehicles, engines and fuels have had only very limited controls to date, and since EPA is attempting to impose controls similar to those previously adopted for on road vehicles, this rule will likely have greater overall benefits than any previous mobile sources rule.

A. Proposed Emissions Standards

The proposal will phase in differing standards for both particulate (PM) and oxides of nitrogen (NOx) for different horsepower categories of engines over the period from 2008 to 2014. These standards are expected to result in the widespread use of diesel oxidation catalysts (ox. Cat), diesel

particulate filters and NOx adsorbers as summarized below.

- 2008 - transitional PM standards based on diesel oxidation catalysts (DOCs) for engines less than 76 hp
- 2011 - 2013 PM standards based on filters for engines greater than 25hp
- 2011-2014 NOx standards based on NOx adsorbers phased-in like highway for engines above 75 hp
- Technology review in 2007 will consider PM traps for <25 hp engines and NOx adsorbers for <75 hp
- Agency commitment to an ANPRM for locomotives and marine engines by Spring 2004, FRM by 2007
- ABT program based on existing nonroad Tier 2/3 and HD 2007 rules
- Flexibility program for equipment manufacturers based on existing nonroad Tier 2/3 rule

Horsepower Range	2007	2008	2009	2010	2011	2012	2013	2014
<25	Tech rev	100% PM ¹						
		OxCat. ² (30-50%)						
		No add'l NOx						
25-75	Tech rev	100% PM					100% PM	
		OxCat (30-50%)					Traps	
		No add'l NOx					100% NOx	
							40% (engine-out only)	
75-175						100% PM		
						Traps		
						50% NOx		100% NOx
						Adsorbers		Adsorbers
176-750					100% PM			
					Traps			

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				50% NOx			100% NOx
				Adsorbers			Adsorbers
750+				50% PM			100% PM
				Traps			Traps
				50% NOx			100%NOx
				Adsorbers			Adsorbers

1. Percentage of engines covered under new PM standard (e.g., "100% PM" means all new engines must meet new PM standard, starting that year)
2. Expected emission control technology and/or emissions reductions

B. Fuel Program

The fuels program also has a phased approach as summarized below:

- 500 ppm S for nonroad, locomotive and marine in 2008
- 15 ppm S for nonroad in 2010
- Comments requested on possible 15 ppm S for locomotive/marine fuel in 2010

- Over 90% NOx and PM reductions per engine
- 120,000 tons of PM_{2.5} reduced in 2030 (~ 90 % reduction)
- 390,000 tons of SOx reduced in 2030 (~ 95 % reduction)
- 827,000 tons of NOx reduced in 2030 (~ 70 % reduction)

iii. Cumulative Economic Impacts through 2030 (Net present value; 3% discount factor)

C. Benefits

i. Direct Health Benefits In 2030

- ~ \$80 billion in health benefits (~ \$1.5 billion in costs)
- 9,600 premature deaths prevented
- 16,000 heart attacks prevented
- 8,300 hospitalizations prevented
- 5,700 emergency room visits prevented due to asthma for children 18 or younger
- Nearly 1,000,000 work days lost prevented for adults missing work due to their own respiratory symptoms

- Cost: ~ \$17 B
- Benefits: ~ \$550 B
- Emissions: 1.1M tons PM, 5.7 M tons NOx, 4.9 M tons SOx

D. Background

i. This Nonroad Rule Is Significantly More Challenging than Highway Rule

- Fuel sulfur levels have been unregulated - anywhere from 2,000 - 5,000 ppm
- Limited emissions control to date; some engines only recently regulated for first time

ii. Emission reductions

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- Nonroad engines/equipment are much more diverse than highway

	On-highway Diesel	Nonroad Diesel
Total US Sales (units)	~800,000	~800,000
Power Range	250 - 600 hp	3 - 3,000+ hp
# of Engine Manufacturers	~ 10	~ 60
# of Vehicle/Equipment Manufacturers	<16	>800
# of Engine Families	107	650
# of Vehicle/Equipment Models	<200 (trucks)	> 6,000 (anything you can think of)
Volume of "identical" products	- 100,000 LH duty - 10,000 HH duty	- average < 200 units - 1,200 models < 50 units

ii. Scope Of Nonroad Rule Greater Than Highway

- Fuel reduction is 10 times what was achieved in 2007 highway rule
- In-use control: adding transient test, cold start, NTE in one rule
- Engines go from ~3 to ~ 3,000 hp
- 10 year implementation time frame (2004 -> 2014) is the same as for LD Tier 2 and HD 2007

iii. Nonroad Rule Approach, Coordination With Existing Rules

- Like highway, tying emission standards to fuel sulfur reductions
- Implementation of program coordinated with HD2007 fuels/engines requirements and existing nonroad Tier 3 program

- Existing nonroad standards still being implemented
- Tier 2: 2001 - 2006
- Tier 3: 2006-2008

iv. Small Business Provisions

- Small refiner provisions similar to 2007 highway program
- Small engine/equipment manufacturer provisions based on existing Tier 2/3 rule

E. Areas Of Special Note

i. Nonroad Retrofit Credit Program

- Ask for comment on the use of nonroad retrofit emission credits to meet Tier 4 standards
- 20% discount factor to ensure environmental benefit

- Certification/Compliance provisions the same as for new engine (rigorous performance requirements – certification, enforcement)
- Program designed (bin structure) to effectively require the use of advanced aftertreatment
 - ii. No Cross-Sector Trading - Has Been Purged From The Proposal*
 - iii. Transparency With Existing ABT Program*
- EPA commitment to issue periodic reports on how the ABT program is being used

iv. Fuel Program Implementation

- Proposing baseline method
- Requesting comment on designate and track

F. Next Steps

- Hearings in NY (6/10), Chicago (6/12), and LA (6/17) (dates tentative)
- Comment period open until 8/20
- Final rule Spring 2004

38. Interagency Group Tracking Work On Johannesburg Initiatives

The U.S. government has formed an interagency task force to track its work on carrying out initiatives approved at the 2002 World Summit on Sustainable Development. John Turner, assistant secretary of state for oceans and environmental scientific affairs, told the annual meeting of the Global

Environmental Management Initiative (GEMI) that the interagency team is looking at the 20 projects initiated during the summit. Among areas covered will be fresh water, clean energy, forestry, and oceans, he said.

The interagency panel includes representatives from agencies such as the State Department, the Environmental Protection Agency, Treasury Department, the Agency for International Development, the Agriculture Department, and Interior. The panel meets monthly to track work on issues highlighted at the Johannesburg meeting, looking at the partnerships already set up with industry and nongovernmental organizations, as well as looking at opportunities for new ones.

Turner cited "three landmark world gatherings in the last several months": the November 2001 meeting in Doha of the World Trade Organization; the March 2002 meeting in Monterrey, Mexico, concerning international development financing; and the August-September meeting in Johannesburg of the World Summit on Sustainable Development. These meetings, he said, have led to a "new world vision" on trade as the engine for lifting nations out of poverty, on donor nations providing more effective development assistance for developing nations, and on the importance of "concrete actions" to address sustainability by creating new partnerships in water sanitation, forestry, energy, chemicals, health, and other environmental areas.

The plan of action approved at the Johannesburg summit was the "first time that there was a world consensus to come together around the importance of domestic good governance--such things as fighting corruption, supporting rule of law, transparency, having a good judiciary, having good science to

support policy, fair and predictable regulations and standards, the craft of law, and the recognition of private property rights." The showcasing of public/private partnerships by the U.S. officials at the summit was "truly one of the greatest achievements of the world conference. We tried to make the message that it's the private sector--foreign investment, trade, building capital at home, donations of private philanthropy--that is really the engine of prosperity for the developing world. "The United States announced 20 partnerships at the summit, and the summit produced 200 initiatives from the nations participating in it.

The biggest challenges, he added, are in the areas of fresh water provision and access to modern energy services. On energy, he said, the United States in 2003 will invest over \$42 million to leverage \$400 million in investments from the U.S. government, business, and other sources for providing modern energy services around the world. "The clean energy initiative will help catalyze economic and social development by providing clean, efficient, healthy energy services so central to sustainable development," he told GEMI.

39. FedEx, ED Form Alliance To Design, Develop Cleaner Delivery Truck

The world's largest express transportation company and an environmental group have entered into a partnership that will lead in late 2004 to the availability of a hybrid diesel-electric powered delivery truck with lower emissions and greater fuel efficiency than the company's existing truck fleet. The new design ultimately will be used by FedEx to replace its existing fleet of 45,000 medium weight trucks--the trucks seen most often making deliveries in cities and towns, according

to Gwen Ruta, director of the Alliance for Environmental Initiatives, which is part of the Environmental Defense group.

The truck, Ruta told a session conducted at the annual meeting of the Global Environmental Management Initiative (GEMI), will have 90 percent fewer emissions than FedEx's current trucks, 50 percent better fuel efficiency, and equivalent lifetime costs.

FedEx and the alliance set the emissions, fuel efficiency, and equivalent lifetime costs as their primary goals--goals the supplier of the new trucks had to meet. They also set secondary goals on managing the use of heavy metals such as lead and mercury, creating a vehicle that could be taken to a service station for fueling rather than require a centralized fueling operation, maximizing the ability to recycle and reuse parts, and maximizing use of recycled products.

FedEx and the alliance entered into a four-year project, with the final leg of the project coming in late 2004 with the delivery of the hybrid trucks. FedEx in September 2002 took delivery of two prototype trucks for testing, and it has now settled on a single model, with the announcement of its final choice coming soon. The project has now moved to a "preproduction test" of a small number of trucks that are being put on the road in four major markets. This will be followed in late 2004 with the first order for a "significant number of trucks" based on the new technology, Ruta said. She did not say how many trucks FedEx would be getting at that time.

By 2007, the diesel-electric hybrid truck will be the only type that FedEx will be purchasing for its medium weight truck line. The alliance and FedEx will be announcing the winner of the competition soon, she said, adding that

the agreement with FedEx also requires the winning technology to be available for use by other companies with truck fleets.

40. United States Settles Clean Air Act Case Against Toyota

The Department of Justice and the Environment Protection Agency finalized a settlement of the government's lawsuit against Toyota Motor Corporation for Clean Air Act violations involving 2.2 million vehicles manufactured between 1996 and 1998. Under the settlement, Toyota will spend \$20 million on a supplemental environmental project to retrofit up to 3,000 public diesel fleet vehicles to make them run cleaner and extend the emission control system warranty on affected vehicles. In addition, Toyota will accelerate its compliance with certain new emission control requirements, and pay a \$500,000 civil penalty. The settlement will cost Toyota an estimated \$34 million.

The United States alleged Toyota sold 2.2 million vehicles that were different from those described in its application for Certificates of Conformity, which allow vehicles to be legally sold if they meet Clean Air Act emission standards. The government's lawsuit charged Toyota failed to disclose limitations in the operation of that part of the on-board diagnostic system that checks for leaks in vehicles' evaporative emission control systems. As a result, the on-board diagnostic system would not promptly signal drivers to a problem by lighting their dashboard light.

The supplemental environmental project requires Toyota to spend \$20 million to retrofit up to 3,000 diesel vehicles, including older, high-polluting school buses and municipal buses (which are not manufactured by Toyota) with

pollution control equipment, such as catalytic converters, filters or whole engines. This retrofit, along with the purchase of ultra-low sulfur fuel (which Toyota may subsidize) is expected to eliminate up to 220 tons of particulate matter emissions, 1,200 tons of hydrocarbon emissions, and 15,000 tons of carbon monoxide emissions.

The settlement also requires Toyota to accelerate, by approximately one year, its compliance with EPA's new "near-zero" evaporative emissions regulation, which requires the capture of more gasoline vapors. Due to this accelerated compliance, about 1.4 million new Toyota vehicles manufactured from 2004 to 2006, which would not yet be subject to the new regulation, will be built with more robust evaporative emission control systems. The accelerated compliance schedule is estimated to cost Toyota about \$11 million.

41. ARB Conducts Workshop for Non-Urban Bus and Public Fleet PM Retrofit Rulemaking

A public workshop was held in El Monte, CA on April 3, 2003 to review ARB staff proposals for mandatory PM retrofits on diesel vehicles operating in California municipal fleets and for non-urban bus fleets. The public fleet rule would apply to heavy-duty diesel vehicles (GVW over 14,000 lbs), including non-urban buses, owned and operated on public roads by a public agency or operated under contract to a public agency. The proposal requires that Best Available Control Technology (BACT) be applied to an increasing percentage of the fleet, starting with 25% of selected model year (MY) vehicles in 2006, with 100% BACT implementation for 1960-2006 MY vehicles in 2009/2010.

Any of the following technologies can be

applied as a BACT:

- A diesel engine certified to the 0.01 g/bhp-hr PM emission standard
- An alternative fuel engine or a dual fuel engine certified to the lowest optional California PM emission standard
- The highest level diesel emission control strategy (retrofit) that is verified by the California ARB for an engine to reduce diesel PM emission

After December 31, 2004, fleets would be also required to use diesel fuel with a sulfur content of maximum 15 ppm.

Some fleet operators are raising objections, not the least of which is the rule's inclusion of fleets that are contracted by municipalities, regardless of their size. A Los Angeles County official said the requirement is "completely unworkable" because the municipality is incapable of determining which of the hundreds of heavy-duty construction and maintenance trucks that the city's contractors use would need to be upgraded.

Reportedly another problem with the proposal for Los Angeles County operations is that it potentially conflicts with the South Coast air district's clean-fleet Rule 1193. For example, the county sanitation district plans to purchase 43 dual-fuel trucks to comply with the district rule. Under the CARB regulation, these trucks would not meet the state rule's emission limits.

Other fleet operators are complaining that only two companies currently make the PM filter traps that are needed to comply with the CARB rule and these companies are already telling potential customers that there is an order backlog for the technology, which could jeopardize compliance with the state rule.

Formal Board action on this rule is

scheduled for November 2003. ARB's refuse hauler PM retrofit rule is still scheduled for Board approval at the June 26-27, 2003 Board hearing with the formal staff report outlining the details of the final proposal due to be published by May 9, 2003. ARB also intends to complete rulemaking on PM retrofit requirements for fuel delivery tanker trucks before the end of this year (Board action tentatively scheduled also for November 2003). Rulemaking on retrofit requirements for public off-road fleets is targeted for 2004 with rulemaking for private on- and off-road fleets targeted for 2005.

42. Hydrogen Vehicle Won't Be Viable Soon But Work Should Continue, Study Says

Even with aggressive research, the hydrogen fuel-cell vehicle will not be better than the diesel hybrid (a vehicle powered by a conventional engine supplemented by an electric motor) in terms of total energy use and greenhouse gas emissions by 2020, says a study recently released by the Laboratory for Energy and the Environment (LFEE).

And while hybrid vehicles are already appearing on the roads, adoption of the hydrogen-based vehicle will require major infrastructure changes to make compressed hydrogen available. If we need to curb greenhouse gases within the next 20 years, improving mainstream gasoline and diesel engines and transmissions and expanding the use of hybrids is the way to go.

These results come from a systematic and comprehensive assessment of a variety of engine and fuel technologies, as they are likely to be in 2020 with intense research but no real "breakthroughs." Malcolm A. Weiss, LFEE senior research staff member,

and John B. Heywood, the Sun Jae Professor of Mechanical Engineering and director of MIT's Laboratory for 21st-Century Energy led the assessment.

Release of the study comes just a month after the Bush administration announced a billion-dollar initiative to develop commercially viable hydrogen fuel cells and a year after establishment of the government-industry program to develop the hydrogen fuel-cell-powered "FreedomCar."

The new assessment is an extension of a study done in 2000, which likewise concluded that the much-touted hydrogen fuel cell was not a clear winner. This time, the MIT researchers used optimistic fuel-cell performance assumptions cited by some fuel-cell advocates, and the conclusion remained the same.

The hydrogen fuel-cell vehicle has low emissions and energy use on the road—but converting a hydrocarbon fuel such as natural gas or gasoline into hydrogen to fuel this vehicle uses substantial energy and emits greenhouse gases.

"Ignoring the emissions and energy use involved in making and delivering the fuel and manufacturing the vehicle gives a misleading impression," said Weiss.

However, the researchers do not recommend stopping work on the hydrogen fuel cell. "If auto systems with significantly lower greenhouse gas emissions are required in, say, 30 to 50 years, hydrogen is the only major fuel option identified to date," said Heywood. The hydrogen must, of course, be produced without making greenhouse gas emissions, hence from a non-carbon source such as solar energy or from conventional fuels while sequestering the carbon emissions.

The assessment highlights the advantages of the hybrid, a highly efficient approach that combines an engine (or a fuel cell) with a battery and an electric motor. Continuing to work on today's gasoline engine and its fuel will bring major improvements by 2020, cutting energy use and emissions by a third compared to today's vehicles. But aggressive research on a hybrid with a diesel engine could yield a 2020 vehicle that is twice as efficient and half as polluting as that "evolved" technology, and future gasoline engine hybrids will not be far behind, the study says.

43. US Regulators Nudge Mileage Rules For Trucks

U.S. regulators have raised future fuel economy standards for pickups, vans and sport utility vehicles by 1.5 miles per gallon, confirming an increase the U.S. National Highway Traffic Safety Administration (NHTSA) proposed in December. Regulators called it a step toward reducing American dependence on imported oil and improving the environment.

NHTSA estimated the higher standards for model years 2005 through 2007 would provide \$249 million in benefits to society and save 3.6 billion gallons of gasoline over a 25-year period. Representing about 1.5 percent of their total consumption over this period, this is certainly a very small step. NHTSA said it would consider reworking its rules for future years, including changing how vehicles are classified and how fuel economy is measured.

The changes raise the average fuel economy for all the pickups, vans, minivans and SUVs sold by an automaker from 20.7 miles per gallon today to 21 mpg in model year 2005, 21.6 mpg in 2006 and 22.2 mpg for 2007.

While fuel economy standards have been steady for years, the amount of fuel burned by Americans - and the engine emissions linked to global warming - has been climbing steadily as buyers swap cars for trucks and drive more miles every year. So far this year, the three top-selling vehicles in the United States are pickups.

NHTSA Administrator Jeffrey Runge informed a Senate Appropriations subcommittee on February 27 that NHTSA would publish an Advance Notice of Proposed Rulemaking later this spring to solicit comments for fuel economy standards beyond MY 2007. The Alliance of Automakers responded by confirming that they are "committed" to adhering to the new fuel standards, but that they continue to support the introduction of federal tax incentives for consumers who decide to purchase fuel-efficient vehicles.

44. Fuel Economy Improvement Measure Loses Overwhelmingly In House

After 30 minutes of debate on the House floor a bipartisan amendment to the energy bill calling for a 5 percent reduction in the amount of gasoline consumed by passenger cars and light-trucks was defeated by a vote of 268 to 163. The amendment offered by Reps Sherry Boehlert (R-NY) and Ed Markey (D-MA) to the "Energy Policy Act of 2003" would have led to an increase of the light-duty fleet fuel economy to 30 miles per gallon (mpg) by 2010, from the current 27.5 for cars and 20.7 for trucks, according to Boehlert, the Chairman of the House Science Committee. Rep. Billy Tauzin (R-LA) Chairman of the House Energy & Commerce Committee countered by claiming the amendment would actually result in an increase in fuel economy to 36 mpg, which could

only be achieved in the time allowed by reducing the weight of vehicles, making them unsafe. Rep. Mike Rogers (R-MI), saying it would force automakers to make smaller cars, likened the effort to "trying to limit obesity by mandating smaller pants. The Ranking Member of the Energy & Commerce Committee, Rep. John Dingle (D-MI), calling the amendment "wonderfully mischievous," added, "it is going to force every American to ride around in a minicar."

Rogers added to the debate by repeating an argument automakers have used to fight any increases in the Corporate Average Fuel Economy, that it would take away money from developing hybrids and fuel-cell vehicles. He added it would take away \$73 billion from research and development "and flush it down the tubes of re-engineering for less weight."

Last year the House approved a measure calling for the reduction of 5 billion gallons of fuel consumed by light-duty trucks, including minivans and sport-utility vehicles.

Any hope of reducing oil consumption by improving the fuel economy of cars and trucks now lies with the Senate where it is likely Sen. John McCain (R-AZ) will introduce a bill similar to one he introduced last year with Sen. John Kerry (D-MA). The measure, the "Fuel Economy and Security Act of 2002," called for an almost 50 percent improvement in CAFE, to 36 mpg by 2016. Facing certain defeat on the Senate floor the measure was not brought up during debate of the energy bill last year.

45. Court Weighs EPA Defense Of Hold On New Mobile Source Rules

A federal appeals court is considering EPA arguments aimed at defending the

agency's 2001 decision to require no further regulations on mobile source air toxics after environmental groups, along with several states, claimed the agency was not doing enough in the area. At the same time, an industry group that intervened to defend the rule is also claiming the agency has gone too far in addressing diesel emissions.

The U.S. Court of Appeals for the District of Columbia Circuit heard oral arguments in the case March 11. The suit was brought in May of 2001 after EPA in January of that year issued its mobile source air toxics rule that did not require any major new controls for vehicle engines or fuels.

In its legal briefs in *Sierra Club et al v. United States Environmental Protection Agency*, EPA argued that its Tier 2 automobile standards, which take effect in 2004, and heavy-duty diesel rule, which begins in 2006, would do enough to reduce air toxic and particulate matter emissions from the motor vehicle sector. EPA also criticized litigants for ignoring the significant emissions reductions these programs will achieve, with hundreds of thousands of tons of emissions expected to be reduced over the next few decades.

But in its brief, the Sierra Club argued that the agency is not living up to its obligations under the Clean Air Act and that EPA's brief confirmed their contention. Sierra Club attorneys claim that EPA "failed absolutely" to conduct a statutorily required study addressing the feasibility of controlling mobile source air toxics and then based its rulemaking on that study. "Nowhere in the administrative record did EPA even claim that its standards were 'based on' the study. Nowhere did EPA explain how its standards were so based," the environmentalists' brief says.

Meanwhile, several industry groups

intervened on EPA's behalf, including International Truck & Engine which, at the same time, is pushing the court to order a review of the agency's decision to list diesel exhaust as a mobile source air toxic. International argued in its petition that the act of listing diesel emissions as a mobile toxic constitutes a final agency action, a position EPA disputes. The mobile source air toxics list is reviewable by the court, International argues, because it "will be the basis for future regulations under" the Clean Air Act.

46. U.S. Left Out of Emissions Trading

During negotiations over the Kyoto Protocol, the United States preached the importance of market solutions to reduce greenhouse gas emissions against the objections of many countries. Now, with the Americans no longer at the table, the heart of the treaty is an emissions-trading plan that closely resembles what the United States originally proposed.

Other countries see opportunity in America's retreat. Britain introduced the world's first organized trading system two years ago. Denmark has begun a smaller plan, and in December the European Union issued plans to begin full-scale trading in 2005. With Kyoto shaping a multibillion-dollar commodities exchange, companies are already trading emissions reductions, which are expected to become increasingly valuable as other companies enter the market.

The idea behind what are called cap-and-trade arrangements is to issue a limited number of pollution permits and then allow companies to buy and sell them. Whoever can reduce emissions cheaply can sell unused permits to others, making creative ideas for

pollution reduction a profit opportunity. As overall reductions are realized, governments can slowly reduce the number of outstanding permits to keep both the price of permits and interest in further reductions high.

It is hard to quantify the benefit or loss to American businesses for not being part of the global market. Certainly, heavy polluters in the US are better off because they do not have to buy pollution permits or invest in new technology. Companies that could achieve low-cost reductions, however, cannot realize the profits by making those reductions, and the market infrastructure of brokers and trading experience is developing abroad. American multinational corporations are also forced to put in place two ways of accounting for carbon dioxide emissions, one for emissions inside the United States and one for emissions in nations that signed on to Kyoto.

So far, regulation in the US is strictly self-imposed. Trading at the Chicago Climate Exchange, a market based on voluntary compliance, is set to begin in June.

47. Canada Proposes New Rules To Govern Small Engine Emissions

Proposed regulations to restrict emissions from small gasoline-powered engines in equipment such as lawn mowers, chain saws, and snow blowers are the first step in Canadian efforts to address emissions of greenhouse gases and other pollutants from off-road engines, Environment Canada said March 29. The Off-Road Small Spark-Ignition Engine Emission Regulations will be harmonized with the U.S. Environmental Protection Agency's standards for small spark-ignition engines and would take effect for engines in the 2005 and later model

years.

The regulations would reduce or control emissions of hydrocarbons, nitrogen oxides, carbon monoxide, and a range of toxic substances, including volatile organic compounds. Small engines make a significant contribution to Canada's air pollution problems, producing in 2000 a total of 842 kilotons of carbon monoxide (CO), 58.9 kilotons of volatile organic compounds (VOCs), and 5.4 kilotons of nitrogen oxides (NOx). The CO emissions represent 27.7 percent of emissions from off-road sources and 12.6 percent of total mobile sources, while the volatile organic compounds emissions represent 20.7 percent of off-road sources and 8.7 percent of total mobile sources. NOx emissions represent 0.9 percent of off-road source emissions and 0.4 percent of total mobile source emissions. Small engines also emit particulate matter of less than 10 micrometers in diameter (PM₁₀), benzene, 1,3-butadiene, acetaldehyde, acrolein, and formaldehyde.

Although no regulations are currently in place, memoranda of understanding between Environment Canada, 10 manufacturers of hand-held machines, and nine manufacturers of engines used in hand-held machines have been in place since 1999-2000, under which the companies have voluntarily supplied small spark-ignition engines designed to meet the U.S. EPA's then-applicable Phase 1 emissions standards.

The proposed regulations apply to manufacturers, distributors, or importers of a range of small spark-ignition engines and machines and cover lawn and garden machines such as hedge trimmers, brush cutters, lawn mowers, garden tractors, and snow blowers; light-duty industrial machines such as generator sets, welders, and pressure washers; and light-duty logging

machines such as chain saws, log splitters, and shredders.

The impact analysis statement cites projections of significant reductions in emissions from small engines by 2025 as a result of implementing the proposed regulations: hydrocarbons, 46.9 percent; NO_x, 20.1 percent; CO, 0.7 percent; carbon dioxide, 8.9 percent; acetaldehyde, 48.6 percent; acrolein, 48.5 percent; benzene, 44.7 percent; 1,3-butadiene, 45.8 percent; formaldehyde, 48.2 percent; and PM₁₀, 3.3 percent.

48. Scientists Provide Guidance to Tackle Smog in North America

Forty-two air quality scientists from Canada, the U.S. and Mexico have completed a three-year review of the current state of knowledge on airborne particles, a major component of air pollution in North America. The report provides a comprehensive overview of the situation across the continent, identifies problem areas and provides guidance for effective action to reduce this health concern. The review was released at the opening of the annual conference of the American Association of Aerosol Researchers in Pittsburgh, Pennsylvania.

The report, Particulate Matter Science for Policy Makers, was produced to provide science-based guidance for governments and other agencies working to reduce air pollution throughout North America. The study concludes with a summary of current knowledge for nine key regions in North America, including smog-prone areas such as Los Angeles, Mexico City, the US East Coast, the lower Fraser Valley of Southern British Columbia, and the Windsor to Quebec City corridor. These descriptions provide a template for communicating science to air quality

managers.

The report was coordinated by a three-country agency of government, university and industry representatives, known as 'NARSTO'- the North American Research Strategy for Tropospheric Ozone and Aerosols. NARSTO's mission is to provide scientific advice to guide action to reduce smog, including ground-level ozone and airborne particles. The first NARSTO assessment completed in 2000 focused on ground-level ozone across North America.

Reducing airborne particles (also known as 'particulate matter' or 'PM') is a complex task, since they have a wide variety of sources, and can be formed under many different conditions. Some particles, such as from forest fires, are natural in origin. However, most of the finer airborne particles, which are the greatest health concern, originate from the burning of fossil fuels in motor vehicles, homes and industry. There is a considerable and growing body of evidence, which shows an association between adverse health impacts, especially on the cardio- respiratory system, and short- and long-term exposures to airborne particles. The finer particles are of greatest concern, because they are so small that they can penetrate deeply into the lungs, and aggravate existing heart and lung disease.

The report demonstrates that the science is a key input in developing the most effective strategies to reduce airborne particles. These strategies will have to take into consideration both local and distant sources of air pollution, as well as prevailing weather conditions, topography and seasonal variations. Management plans will have to be tailored specifically to each region, and actions that are effective in one area may not be applicable to another.

Canada is working to reduce airborne particles through federal, provincial and territorial actions, targeted to meet the Canada-Wide Standards for PM, which were set in June 2000. Environment Canada has already undertaken several initiatives to reduce airborne particles. For example, regulations reducing sulphur in gasoline and diesel fuel and mandating low emission vehicles for Canada are reducing particulate matter, which is harmful to human health. The new PM science assessment confirms that these actions, together with other measures in the Clean Air Agenda including international cooperation, are on the right track and will help to bring cleaner air to Canada.

49. US EPA Delays Utility Pollution Rule Until May

The Bush administration has temporarily delayed its plan to help old coal-fired utilities avoid pollution controls and will hold several public meetings for groups to voice their objections. The Environmental Protection Agency extended a March 3 deadline to finalize its "new source review" rules. The new deadline is May 2.

Existing rules require US utilities and refineries to invest in state-of-the-art pollution controls if a plant undergoes a major expansion or modification. But the Bush administration plan proposed last year a change in the definition of "routine maintenance," giving utilities more leeway to modify a plant without triggering extra pollution-reduction requirements. The EPA said the new rules will give utilities more flexibility to modernize their plants while cutting energy use and pollution emissions.

EPA said it would schedule five public meetings to give critics and supporters a chance to express their views. The agency said it will set meeting locations

at a later date.

Democrats and environmentalists call the rule changes a gift to the utility industry and a threat to public health. Emissions from the plants are linked to acid rain, smog and soot, and can aggravate asthma, chronic bronchitis and pneumonia. Nine Northeastern US states have also sued the Bush administration to block the new rules.

Unless the air pollution rules are eased, aging coal-fired utilities in the Midwest face hundreds of millions of dollars in new investments. Utility lobbyists approved the delay but called the new rules long overdue.

50. States to Sue EPA Over Standards on Air Pollution

Seven state attorneys general, all Democrats, mostly from the Northeast, announced that they would file a lawsuit accusing the Environmental Protection Agency of failing to enforce the Clean Air Act by neglecting to update air pollution standards.

Across the country, states are becoming increasingly active on environmental matters, with many officials criticizing the Bush administration as eager to roll back regulations and Congress as unable to demonstrate effective oversight.

The attorneys general sent a letter to the EPA Administrator, Christie Whitman, giving her the requisite 60-day notice of their intent to sue. The suit seeks new regulations of carbon dioxide, which is widely acknowledged to contribute to global warming but is not specifically listed under the Clean Air Act alongside other pollutants. The attorneys general contend that updated regulations required under the Clean Air Act would include the regulation of

carbon dioxide, a subject of debate over the last several years.

Two years ago, the Bush administration pulled out of the Kyoto Protocol climate treaty, advocating voluntary controls on heat-trapping gases instead. Last week, the administration announced some voluntary industry agreements in a ceremony at the Department of Energy, which the attorneys general say demonstrates the administration's lax attitude on carbon dioxide.

The states in the lawsuit are New York, Connecticut, Rhode Island, New Jersey, Massachusetts, Maine and Washington. The suit is similar to one announced last year by the Sierra Club and Our Children's Earth Foundation.

The lawsuit, which would be the third brought by states against the Bush administration over the Clean Air Act in the last seven weeks, shows the increasingly antagonistic relationship between the Northeastern states and the federal government over clean air. One lawsuit, filed on Dec. 31, which now has 10 state plaintiffs, tries to stall an effort by the EPA to weaken regulations governing coal-burning power plants. Another lawsuit, announced on Feb. 12 by three states, seeks to have carbon dioxide characterized as a pollutant. The new lawsuit contends that a section of the Clean Air Act requires the EPA to review and revise its regulation over pollutants every eight years, something the plaintiffs say the agency has not done in 20 years. It is a common environmental litigation strategy to sue over agency deadlines.

The states argue that for 20 years the agency has failed to do a review of power plants, which are responsible for some 40 percent of all carbon dioxide emissions in the United States. The agency says it updated its standards in 1998, when it tightened standards for

nitrogen oxides.

The states argue that carbon dioxide emissions from power plants clearly fit within the act's definition of an air pollutant, a position the administration disputes. Generally, the states assert, the Clean Air Act says a pollutant can be regulated if it is something released into the air that endangers public health or welfare.

51. Republicans Introduce Bush's Cleaner Air Plan

Congressional Republicans have proposed legislation to write into law the Bush administration's plan to cut emissions of three key pollutants by power plants. President George W. Bush's so-called Clear Skies proposal, announced a year ago, would allegedly cut emissions of sulfur dioxide, nitrogen oxides and mercury by 70 percent by 2018.

Louisiana Rep. Billy Tauzin introduced the bill in the House of Representatives at the request of the White House. Senate Environment Committee Chairman James Inhofe, of Oklahoma, introduced the companion Senate bill. Inhofe called the bill "the most aggressive presidential initiative in history to reduce power plant emissions."

The plan, which aims to control smog, acid rain and soot, is opposed by environmentalists because it fails to address global warming. Sen. Jim Jeffords, a Vermont Independent, has introduced a competing bill with stricter caps than the Bush proposal and a first-ever U.S. limit on carbon dioxide emissions.

Environmental Protection Agency Administrator Christine Whitman said the legislation would strengthen the

Clean Air Act and allow utilities to install pollution-reduction equipment without fear of more stringent future regulations.

The United States is the world's largest emitter of greenhouse gases such as carbon monoxide and methane, which are produced by automobiles and industrial facilities like power plants. Power plants are the largest source of carbon dioxide, accounting for about 40 percent of all U.S. emissions of the heat-trapping gas.

Separately, Energy Secretary Spencer Abraham said on Thursday the United States would lead a \$1 billion public-private effort to build the world's first pollution-free fossil fuel power plant. The Bush administration wants an industrial consortium to design a plant that will turn coal into a hydrogen-rich gas, rather than burning it directly. The hydrogen would be extracted for use in powering a turbine or fuel cell to generate electricity, or it could also be used in a refinery to help upgrade petroleum products.

52. EPA Backs Off Ozone Attainment Extension Policy

Following three appeals court losses, EPA is publicly conceding that its policy extending ozone attainment deadlines for areas impacted by pollution from upwind areas is inconsistent with the Clean Air Act. But agency lawyers are still seeking to avoid forcing penalties -- in the form of lost highway funds -- on localities that used EPA's deadline extensions by asking a federal appeals court to vacate a clean air plan for Atlanta. Vacating the plan would allow EPA to work with Atlanta officials to develop a new ozone plan that would include strict new control measures and a new deadline.

However, environmentalists contesting

the agency's policy are urging the U.S. Court of Appeals for the 11th Circuit to instead rule that EPA must "disapprove" Atlanta's ozone plan, which would immediately freeze any new highway dollars.

EPA lawyers told the appeals court that the agency is backing off its controversial five-year-old policy of giving areas like Atlanta additional time to meet air quality deadlines without requiring additional controls. The lawyers told the court during oral argument in *Southern Organizing Committee v. EPA* March 6 that the agency recognized that the policy was no longer valid.

If the court agrees with EPA's request, the agency will almost certainly have to downgrade Atlanta from its serious designation, which had a 1999 attainment date, to a severe designation with a likely 2005 deadline. Atlanta air quality planners would then have to offset growth in vehicle miles traveled, impose fees on stationary sources of pollution and mandate use of ozone-season reformulated gasoline.

EPA does not want Georgia to lose its transportation dollars or face the other sanctions, particularly since EPA offered Atlanta the extension in the first place. But the plaintiffs in the case asked the court to disapprove the Atlanta ozone attainment plan, which would result in a so-called transportation conformity freeze and loss of new federal highway transportation dollars until a state implementation plan reflecting the downgrade is in place, rather than remanding the plan back to EPA. It would also start an 18-month sanctions clock that could impose even more serious penalties for future non-attainment.

A similar case is pending in the Washington, D.C., area, where EPA has

reclassified the area as severe but is proposing to "conditionally approve" the remanded attainment plan rather than disapprove it after the U.S. Court of Appeals for the D.C. Circuit ordered EPA to act. Environmental groups have criticized the move as an attempt to avoid setting the precedent of freezing highway funding and are considering a legal challenge if the agency finalizes the conditional approval.

53. Canadian Transportation Policy Focuses on Environment, Competition

A new federal policy framework for Canada's transportation industry will promote a clearer focus on environmental issues, as well as improved competition in the airline and railway sectors and measures to reduce bottlenecks in key trade corridors with the United States, Transport Minister David Collenette said Feb. 25. The policy framework, accompanied by proposed amendments to the Canada Transportation Act to implement some of its key elements, follows on extensive public consultations and responds to many of the recommendations made by the Canada Transportation Act Review Panel and the federal government-appointed Independent Transition Observer on Airline Restructuring, Collenette said in a statement accompanying release of the policy document.

The new policy framework emphasizes the government's commitment to promoting improved environmental performance from Canada's transportation sector, which will be expected to assume its share of the responsibility to meet Canada's international obligations on climate change. "One key to success will be to focus our efforts where the biggest differences can be made. It is clear that

the focus for action must be on vehicles and fuels that produce fewer emissions, increased use of alternative means of passenger travel, and more efficient transportation of goods," it said.

The government will continue its efforts with industry to increase the introduction of more fuel-efficient vehicle technologies, with the goal of a 25-percent improvement by 2010, and it will work to stimulate public demand for more efficient vehicles, it said.

The government also will work with the provinces and territories toward targets of bringing gasoline containing 10 percent ethanol to a 35-percent share of the national gasoline supply and of increasing production of biodiesel fuel to 500 million liters by 2010, it said.

Pricing could also play a much broader role in addressing the environmental and social costs of transportation, but ongoing studies by Transport Canada have concluded that establishing a financial value for such costs remains very uncertain, the policy said. "The issue is also greatly complicated by the differing responsibilities of the various levels of government. The greatest concerns surrounding social costs relate to roads in urban areas, for which provinces, regions, or municipalities share primary responsibility," it said. "The government of Canada is interested in collaborating with industry, provincial, territorial, and municipal governments, and with academia, in the search for a broader consensus on the full costs of transportation and practical solutions."

Specific environmental initiatives outlined in the policy framework include:

- ◆ Increased efforts by Transport Canada to increase its understanding of the full cost implications of different modes of transportation;

- Greater integration by Transport Canada of environmental considerations into its decision making processes and specifically incorporation of environmental responsibility as a fundamental principle in the Canada Transportation Act;
- Full implementation of Transport Canada's commitments under the Sustainable Development Strategy 2001-2003;
- Continued efforts to improve standards and reduce air emissions from the transport sector;
- Continued implementation of the transportation component of the Action Plan 2000 on Climate Change;
- Efforts to promote development of additional transportation measures to reduce greenhouse gases emissions; and
- Support for development and implementation of advanced technologies to support environmental sustainability and to increase the availability of more environmentally respectful forms of transportation.

54. Canada Proposes New Spending On Environment in 2003 Budget

The Canadian government Feb. 18 proposed C\$3 billion (\$2 billion) in new environment-related spending over five years, a move Finance Minister John Manley said would help Canada meet its climate change commitments under the Kyoto Protocol while continuing to support other priority environmental initiatives. Dealing effectively with climate change is essential to protecting Canada's natural legacy, and it also offers economic opportunities for Canada, Manley said in delivering the 2003 budget speech in the House of Commons.

"Canada is already one of the world's leaders in environmental technologies.

But we can, and must, expand both our environmental and our economic advantage as we move forward on our Kyoto commitments," he said.

The budget outlined by Manley lays out the government's broad spending plan over the next several years, although actual allocations could change. The government will present specific estimates for each federal department in March for the fiscal year beginning April 1. The 2003 budget provides an additional C\$2 billion (\$1.3 billion) over the next five years for climate change investments, including additional spending on climate science, environmental technology, and specific climate change measures in areas such as renewable energy, energy efficiency, sustainable transportation, and alternative fuels. Another C\$1 billion in new spending would be designated for other environmental programs.

The budget includes new, environment-related spending of C\$4.2 million (\$2.7 million) in fiscal 2002-2003, C\$779 million (\$506 million) in fiscal 2003-2004, and C\$542 million (\$352 million) in fiscal 2004-2005. The spending plan did not spell out the specific fiscal year totals beyond 2004-2005.

The C\$2 billion in new climate change spending is in addition to the total of C\$1.7 billion (\$1.1 billion) allocated since 1997 to climate change investments, the budget document said.

Canada is committed under the Kyoto Protocol to a 6 percent reduction in emissions of greenhouse gases, from 1990 levels, by 2008 to 2012.

New climate change-related spending initiatives include:

- An additional C\$1.7 billion (\$1.1 billion) in funding for "cost-

effective" measures to reduce emissions of greenhouse gases, including a minimum of C\$200 million (\$130 million) to be dedicated to investments in longer-term climate change technologies;

- An additional C\$250 million (\$163 million) in funding in fiscal 2003-2004 for Sustainable Development Technology, which provides seed funding for partnerships to develop and demonstrate technologies with the potential to reduce greenhouse gases emissions;
- An additional C\$50 million (\$33 million) in funding in fiscal 2003-2004 for the Canadian Foundation for Climate and Atmospheric Sciences for new climate and atmospheric research activities;
- An extension to bio-diesel fuel of the current exemption from federal excise taxes that has been granted to the ethanol or methanol component of blended gasolines when they are produced from biomass or renewable feedstocks, as well as exemption of bio-diesel from the excise tax on diesel fuel when used as a motive fuel or blended with regular diesel fuel; and
- Improved tax treatments under the capital cost allowance provisions of the Income Tax Act for certain stationary fuel cell systems, equipment acquired for electricity generation using bio-oil, and certain types of equipment used in greenhouse operations, such as ground-source heat pumps, eligible for improved tax treatment.

The C\$1 billion (\$650 million) the budget commits to investments in traditional environmental issues would be used for contaminated sites, air and water quality, toxic substances, species at

risk, and parks and conservation areas. Specific initiatives include:

- Allocation of C\$175 million (\$114 million) over the next two years to establish a centrally managed fund to help clean up the highest-risk contaminated sites on federal government lands, including further support for cleanup of the Sydney, Nova Scotia, tar ponds;
- An additional C\$40 million (\$26 million) over the next two years to promote air quality best practices, to develop regulations to address air pollution, and to work with the United States to improve trans-border air quality, including pilot projects in key areas such as the British Columbia Georgia Basin/Washington Puget Sound Basin and the Canada-US. Great Lakes Basin air sheds;
- An additional C\$600 million (\$390 million) over the next five years, including C\$200 million (\$130 million) over the next two years, to upgrade, maintain, and monitor water and waste water systems on First Nations reserves;
- Allocation of C\$75 million (\$49 million) over the next two years to support programs under the Canadian Environmental Protection Act to deal with removal of toxic substances from the environment;
- Funding of C\$33 million (\$21 million) over the next two years for implementation of the new Species at Risk Act, in addition to the C\$45 million (\$29 million) per year originally allocated in 2000 for a national species at risk strategy; and
- Funding of C\$4 million (\$2.6 million) through March 31, 2003, and C\$13 million (\$8.5 million) over the

following two fiscal years for measures to implement commitments made at the September 2002 World Summit on Sustainable Development, including international health and environmental initiatives and international partnerships on forestry and sustainable cities.

The 2003 budget also includes C\$3 billion (\$2 billion) over 10 years in new spending on municipal infrastructure, in addition to the C\$5.3 billion (\$3.4 billion) in federal infrastructure support in recent federal budgets. Of the total, C\$2 billion (\$1.3 billion) will be used to double funding for large-scale projects under the Canada Strategic Infrastructure Fund, and C\$1 billion (\$650 million) will finance new municipal infrastructure projects over the next 10 years, focusing on projects that are typically smaller in scale, the Budget Plan said.

55. NY Utility To Buy 45 Fuel Cells, Some For Homes

The Long Island Power Authority has said it would buy 45 fuel cells this year as part of Governor George Pataki's goal of supplying 25 percent of New York's electricity with alternative energy within 10 years. LIPA's fuel cells, manufactured by Plug Power Inc., get their hydrogen supply from natural gas. LIPA will install 25 of the cells at its West Babylon fuel cell demonstration site and 20 of them will power and heat residences, the first time LIPA installs fuel cells in homes. In the past, LIPA has also placed fuel cells at commercial locations in Long Island, including Hofstra University and the West Babylon train station.

LIPA's fuel cells will provide a total of about 225 kilowatts, about enough to power the equivalent amount of average

homes.

LIPA Chairman Richard Kessel in a statement said he hoped thousands of Long Island homes and businesses eventually would have fuel cells to relieve LIPA of some of the resources needed to buy additional power plants on Long Island.

LIPA would not say how much the fuel cells cost.

56. Bush Climate Change Plan Lacks Focus, Scientists Say

The Bush administration's plan for research into global climate change lacks a "clear and consistent" focus to guide officials in setting U.S. policy, a National Academy of Sciences panel said. The panel reviewed the draft plan at the request of the White House and described it as "a good start" that needed revisions to clarify its priorities and goals.

At first glance, members said, it appeared the administration's proposed budget for fiscal 2004, which begins Oct. 1, left funding for climate change research relatively unchanged - despite important new initiatives that are proposed in the draft plan.

After withdrawing from the Kyoto Treaty on global warming, the Bush administration launched the Climate Change Strategic Program, for research into the issue, last fall.

"The draft plan lacks most of the basic elements of a strategic plan," the NAS panel wrote. It said there was no "guiding vision," set of executable goals, clear timetables, criteria for measuring progress or priorities for work.

The panel will review a revised version of the strategic plan for the Climate Change Strategic Program, which would

facilitate research by 13 federal agencies, later this year. "The revised strategic plan should articulate a clear, concise vision statement for the program in the context of national needs," the panel recommended. "The vision should be specific, ambitious and apply to the entire CCSP."

In their report, the NAS panel said the draft plan identified "some exciting new directions" for research and for "genuine overtures" to researchers and interested parties on how to improve the draft. Some of the most important initiatives in the draft, the panel said, were a call for reliable methods for forecasting climate change and "cutting-edge" research into aerosols and the carbon cycle, to improve scientists' understanding of climate change and variability.

Trustworthy climate forecasts would be of great value for policymakers at all levels, the panel said. As an example, it said the forecasts could be used by regional water managers or even by consumers deciding which appliances to buy.

Thomas Graedel, professor of industrial ecology at Yale University and chairman of the panel, said while research in the past tried to gauge how the climate was changing and its effects on nature, "future science must also focus on more applied research that can directly support decision-making." "Research is especially needed to improve our understanding of the possible impacts of climate change on ecosystems and human society as well as options for responding to - and reducing - these effects."

57. ARB Draft Report Details Benefits of Diesel Fuel Program

ARB's Fuel Section has posted a draft report summarizing emission benefits

from the current California regulations on motor vehicle diesel fuel. These regulations, adopted in 1988 and effective in 1993, limit sulfur levels to 500 ppm and limit aromatic content to 10% for large refiners and 20% for small refiners. In preparing this draft report, ARB staff analyzed the results of 35 different emission studies published since 1988, involving 300 fuels and 73 engines, concerning the emission impacts of diesel fuel formulations.

The ARB survey indicates that the original estimated benefits of 25% lower PM emissions and 7% lower NOx emissions made in 1988 for operations on diesel fuel complying with ARB regulations are still valid.

The draft report contains comparative fuel properties for motor vehicle diesel fuels sold in California prior to 1993 and post 1993, as well as comparative properties for diesel fuels sold outside of California in the United States and diesel fuels sold in Europe. In the 1995-2000 timeframe, California diesel fuel contained 130 ppm S with a cetane number of 52, on average, compared to averages of 330 ppm S and cetane number of 45 for diesel fuel for the rest of the United States (excluding Alaska). ARB is soliciting comments on this draft report including a peer review by faculty of the University of California.

ARB's Fuel Section is also planning another public workshop scheduled for the afternoon of April 10, 2003 in Sacramento to discuss their current activities including further limits on diesel fuel sulfur (15 ppm S cap), diesel fuel lubricity specifications, diesel lube oil specifications, and follow-up amendments to the California Phase 3 reformulated gasoline regulations.

58. Study Compares PM in South Bronx With Other NYC Locations

A new study is exploring PM and asthma levels in the South Bronx compared to other parts of New York City.⁶ The rate of asthma hospital admissions in the Bronx for all ages was twice that of Manhattan and Brooklyn between 1991 and 1996. In addition, most neighborhoods in the Bronx experienced a 110 to 120 percent increase in asthma hospitalizations between 1987 and 1996, as compared to 35 to 50 percent increase in most other neighborhoods in New York City. The objective of this South Bronx Environmental Study is to characterize the ambient air quality in communities of the South Bronx having high concentrations of diesel trucks and waste transfer facilities. Researchers employed a mobile laboratory for continuous measurements of concentrations of fine particulate matter (PM_{2.5}), elemental carbon (EC), oxides of nitrogen, sulfur dioxide, ozone and carbon monoxide at 6 locations during 2001 and 2002 for period of three to four weeks each. Integrated 24-hr PM_{2.5} samples were also collected for elemental and PAHs analyses. South Bronx ambient PM_{2.5} and EC levels were compared to levels measured at Bronx P.S. 154 (central monitoring site maintained by the NYSDEC) and at a Hunter College site located in the Manhattan's Lower East Side (maintained by NYU's EPA PM Center).

⁶ **Ambient Pollutant Concentrations Measured By Mobile Laboratory In South Bronx, NY**, Polina B. Maciejczyk, Ph.D.^{1*}, John H. Offenberg, Ph.D.², Shao-I Hsu, M.S.¹, George D. Thurston, Sc.D.¹ and Lung Chi Chen, Ph.D.¹. ¹Nelson Institute of Environmental Medicine, NYU School of Medicine, Tuxedo, NY, 10987 and ²Department of Environmental Science, Rutgers, The State University of New Jersey, New Brunswick, NJ, 08901.

The comparison of these sites indicated that although the median daily PM_{2.5} concentrations agreed within 20%, the median hourly EC concentrations were higher at all South Bronx sites with means ranging from 3.50 to 4.35 ug/m³, compared to means ranging from 1.23 to 2.99 ug/m³ at Hunter College. Continuous Aethelometer measurements at additional 27 sampling sites in South Bronx (1-day measurements repeated over a period of 4 weeks) were conducted along major highway with heavy truck traffic. There, EC concentrations showed variability within each site depending on time of day and a large spatial variability from site to site. Median EC concentrations varied from approximately 1.7 to 12 ug/m³ on the weekdays, and were lower (approximately 0.50 to 2.9 ug/m³) on the weekends. A weekend decrease in PM_{2.5} was also observed at all South Bronx sites except for Crotona Park, a local recreational park where weekend PM_{2.5} levels were higher. Elemental concentrations were remarkably similar between Hunter College and all South Bronx sites, with the exception of Hunts Point Avenue, an industrial location where significantly higher (approximately 2.5 fold) levels of Fe, Zn, Ba, and Ca. Further research will focus on developing a model using Geographical Information System tools to estimate local population exposure to pollutants.

59. U.S. Unveils Voluntary Program to Slow Greenhouse Gas Growth

Top U.S. administration officials announced Feb. 12 a host of agreements in which companies will voluntarily meet targets to reduce, avoid, or sequester greenhouse gas emissions. The new long-term approach, termed Climate VISION, or Climate, Voluntary Innovative Sector

Initiatives: Opportunities Now, was announced by Secretary of Energy Spencer Abraham, Environmental Protection Agency Administrator Christine Todd Whitman, Secretary of Agriculture Ann Veneman, Transportation Deputy Secretary Michael Jackson, and Council on Environmental Quality Chairman James Connaughton. Industry representatives joined them.

None of the association agreements within the energy sector or the forest sector aim for reductions in absolute emissions. Rather, many of the associations representing these industry sectors intend to meet their goals either through improving efficiency at facilities, increasing production of natural gas, "clean coal," renewable, or nuclear power, or offsetting emissions through carbon sequestration projects.

Many associations and their member-companies are committing to improve the ratio of emissions to economic output. The concept, known as greenhouse gas intensity, is to allow both the economy and emissions to grow at the same time, but emissions to grow at a slower rate.

On Feb. 14, 2002, U.S. President George W. Bush announced a U.S. climate change policy that would rely heavily on incentives to encourage industry to voluntarily control emissions in the hopes of improving carbon intensity by 18 percent by 2012 relative to the Gross Domestic Product. The overall voluntary plan is the administration's alternative to the internationally mandated Kyoto Protocol that Bush has criticized as being a threat to the U.S. economy.

While the previous U.S. administration signed the Kyoto pact in 1997, the current administration rejected implementation of the treaty for potential

economic hardship reasons.

The Edison Electric Institute (EEI) and six other power sector groups, which all together represent 100 percent of U.S. generation, will submit to the Energy Department by May a formal memorandum of understanding that promises to reduce the power sector's greenhouse gas intensity in this decade by 3 percent to 5 percent. The various groups will use a variety of means of cutting their carbon impact, including reforestation, expanded use of wind and biomass, and increased use of coal combustion by-products.

On the other hand, the American Petroleum Institute, whose members represent over 60 percent of U.S. petroleum refining capacity, committed to increase aggregate energy efficiency at its refinery operations by 10 percent from 2002 to 2012. The means by which these facilities will meet this 10-percent goal include reduced gas flaring and reduced carbon dioxide venting.

A 10-percent improvement of efficiency is also the goal for the National Mining Association, which represents 70 percent of the nation's suppliers of primary electricity generating fuels. The 10-percent goal by 2012 will include efficiency efforts such as better coalmine methane recovery.

The majority of associations in the manufacturing sector have committed to emission reductions, with the exception of the American Chemistry Council, which agreed to an 18-percent greenhouse gas intensity target by 2012 from 1990 levels.

The Portland Cement Association, however, committed to reducing carbon dioxide emissions by 10 percent per ton of cement produced from a 1990-baseline by 2020. The cement association's members, who represent

more than 95 percent of U.S. production, would meet the goal through enhancing production processes, the product itself, and how it is applied.

Speaking at the announcement, Josephine Cooper, president and chief executive officer of the Alliance for Automobile Manufacturers, committed members to reduce facility greenhouse gas emissions at least 10 percent by 2012 based on 2002 production as a baseline. The organization's membership accounts for 90 percent of U.S. vehicle sales and 11 percent of the GDP, the Transportation Department's Jackson said.

The goal of the Business Roundtable is to get 100 percent participation in this initiative from its 150 chief executive officer members.

Starting with the industrial sector and eventually targeting the agricultural, commercial, and residential sectors, expanding voluntary approaches to minimize emission growth will contribute towards attaining an 18-percent improvement in greenhouse gas intensity, administration officials said.

60. U.S., EU Coordinate Climate Research Efforts

The United States and European Union have identified six areas of climate change science on which they will conduct cooperative research: Carbon cycle research; aerosol-climate interactions; feedbacks, water vapor, and thermohaline circulation; integrated observation systems and data; carbon capture and storage; and hydrogen technology and infrastructure were identified as priorities at the first U.S.-EU Joint Meeting on Climate Change Science and Technology Research. Specifically, the nations agreed to cooperate within existing international

frameworks to plan and develop the integrated observation systems required to collect climate change research data; to improve evolving climate models, especially to encourage expanded involvement of developing countries to fill gaps in existing databases; and to encourage and improve further the sharing and archiving of climate data and the design of common standards and formats.

The State Department also said it hopes, with help from the Europeans, to encourage the widest possible participation in the Earth Observation Summit the U.S. administration expects to host in July.

They agreed to cooperate on hydrogen technology and infrastructure, including the development of codes and standards for testing and certification; pre-competitive research and development on critical enabling technologies; data exchange on hydrogen energy technology and fuel cells; and benchmarking of development and deployment strategies for hydrogen energy technologies and fuel cells.

Harlan Watson, senior climate negotiator and special representative of the United States, and by Anver Ghazi, head of the global change unit of the European Commission Research Directorate-General, led the U.S. and EU delegations.

The U.S. delegation included representatives from the White House Office of Science and Technology Policy, U.S. Climate Change Science Program Office of the National Oceanic and Atmospheric Administration, Department of Energy, National Aeronautics and Space Administration, National Science Foundation, and the U.S. Agency for International Development.

The EU delegation included representatives from the European Commission Research Directorate-General, selected researchers from European Union member states, and the Delegation of the European Commission to the United States.

61. Diesels Coming to US Market?

A recent study by J.D. Power and Associates of 5,200 car buyers confirmed that most Americans have negative impressions of diesels, contrary to the perception in Europe where diesels account for 40 percent of new passenger vehicle sales. But the same study found that 40 percent of those Americans would consider buying a diesel engine car or truck after learning that today's diesels are not the loud and stinky engines of 20 to 30 years ago.

Diesel engines get about 25 percent to 40 percent better fuel economy than gasoline engines, and have more torque for quicker acceleration and better towing, which is why they are loved by U.S. heavy truck drivers. Diesel could also trim the U.S. dependence on foreign oil.

Though several automakers offer diesel engine trucks in the United States, Germany's Volkswagen AG is the only major automaker currently selling diesel engine cars. Volkswagen's sales of diesels, available as an option on the New Beetle, Golf and Jetta, jumped 24 percent last year, but they still only totaled 31,220 units - only about two of every thousand vehicles sold in the United States industry-wide.

But with the popularity of diesels in Europe, where government tax incentives and the better fuel economy make diesel engines a much less expensive alternative to gasoline

engines, some automakers are trying the technology in the United States.

DaimlerChrysler will launch two diesel vehicles in the U.S. market next year as an option on the Jeep Liberty sport utility vehicle and on the Mercedes E-Class luxury sedan. DaimlerChrysler's Mercedes chief Juergen Hubbert said the German brand aims to offer more optional diesels engines in the future.

VW will soon also offer a diesel engine option on its upscale Passat sedan, and other automakers are watching the market closely.

Ford has a fleet of Focus small cars with diesel engines that it is testing in the United States. Also, Ford Motor Co. and several engine manufacturers touted emerging light-duty diesel vehicle technology to reduce greenhouse gas (GHG) emissions in the near-term, during a California air board conference focusing on potential compliance with the law requiring GHG reduction from autos beginning with the 2009 model year. Longer-term measures to reduce GHGs include advancements in power train and drive train technology, turbocharged and downsized engines, more efficient transmissions, less-polluting air conditioning systems, and hybrid vehicle technology.

Advanced diesel technology is expected to reduce carbon dioxide -- the most significant GHG -- by 25 percent in newer vehicles, and improve fuel economy by up to 42 percent, according to Matti Maricq, a Ford engineer. Maricq said that while cleaner-diesel vehicles are not the only compliance option Ford may pursue to meet the California Air Resources Board's (CARB) GHG emission-reduction regulation, they are the most promising in the near-term. He said hybrid vehicles, for example, remain very costly and may prove to be a longer-term option for the automaker

to reduce GHGs.

Other positive aspects of advanced diesel vehicles include the fact that they do not require major changes to design and application, end-user care and operation and fuel infrastructure, experts said. U.S.-marketed light-duty diesel vehicles will be able to show marked improvements in fuel economy and emission reductions by next year, when federal Tier 2 emission standards take effect, and again in 2007, as cleaner fuel is mandated nationwide, according to conference panelists.

CARB Chairman Alan Lloyd has made it clear that diesel vehicles that can meet California tailpipe emission standards and future GHG rules should be featured prominently in an ever-increasing list of automotive technologies to meet regulatory requirements.

CARB's GHG-reduction regulation must be adopted by the end of 2004.

GM, which rushed poorly engineered diesels to market more than 20 years ago in response to gas shortages, is considering more new generation diesels for sport utility vehicles. However, Robert Lutz, the General Motors vice chairman and product czar, advises to forget all the hype about diesels. In his view, U.S. clean-air standards that take effect this year will nullify the advantages everyone thinks the engines will bring to the U.S. market.

"We would like diesels," Lutz said. "We think diesels are a major part of the solution for better fuel economy and cleaner emissions. But Europe has been very intelligent in setting (emissions) standards at a level where diesels are still feasible. In the U.S., we've done the opposite. Starting in '05, we enter a tier of standards so severe that even the cleanest of European diesels with the

technology known today are not going to pass."⁷

The new U.S. emissions rules, known as Tier 2, will be phased in this fall through the 2009 model year. They sharply reduce allowable limits of smog-causing oxides of nitrogen, hydrocarbons and particulates, the sooty particles that long have been associated with diesel engines. Speaking at the Geneva auto show, Lutz said the industry would not be able to meet Tier 2 tailpipe standards without expensive exhaust add-ons, such as particulate traps. "Even if achieved, we estimate the fixes would add \$2,000 to \$3,000 in cost per vehicle in (exhaust treatment), plus some significant loss of improved fuel economy that the diesel is supposed to give you," Lutz said.

Economic hurdles also remain. Unlike in most of Europe, diesel and gasoline fuel is sold at nearly the same price in the United States. Americans could save money with diesel because they would use 25 to 40 percent less, but that would be offset by the higher costs of diesel engines, the automakers said. And with the price of fuel up to three times as cheap in the United States than in parts of Europe, fuel economy is a low priority for many Americans.

62. US Army Unveils Truck Powered By Fuel Cell

The United States Army has unveiled its first truck equipped with a fuel cell, a prototype of a vehicle that one day may

⁷ The head of Ford's North American operations, Jim Padilla, made a similar point at the annual SAE Congress in Detroit - U.S. government agencies will have to take another look at the tradeoffs between improving fuel economy and emissions limits if diesels are ever going to play a significant role in the United States, he said.

cut the enormous cost of carrying fuel to the battlefield. The vehicle is a tractor-trailer containing a methanol-powered fuel cell that powers on-board electronics as well as auxiliary items such as computers, lights and satellite dishes, preventing the need for the truck to idle.

On average, heavy trucks idle 20 to 40 percent of the time, using one to two gallons of fuel an hour, the Army said in a statement. A single idling vehicle can easily consume more than 2,000 gallons of fuel in a year. The savings for using fuel cells could be dramatic. The Army said it spends nearly \$600 a gallon to transport fuel to the battlefield.

But the industry would first have to hurdle the current cost of fuel cell production. Stationary fuel cells cost \$4,500 per kilowatts (Kw) versus \$800 to \$1,500 per Kw for diesel generators.

The Army said it would spend \$10 million this fiscal year on fuel cell research, development and testing. Part of the research focuses on advancing fuel cell propulsion to meet military demands.

63. Bush Signs FY 2003 Spending Bill With EPA Funding

U.S. President George W. Bush signed into law Feb. 20 the fiscal year 2003 funding package that provides \$8.1 billion to the Environmental Protection Agency and funds several other agencies with responsibilities for protecting the environment. The EPA funding level is an increase from the \$7.9 billion allocated to the agency in fiscal 2002. It also is more than the \$7.63 billion the Bush administration is seeking for fiscal 2004. The omnibus bill also contained \$19.1 billion for the Department of the Interior, \$100 million less than fiscal 2002, and \$20.9 billion

for the Energy Department, an increase of \$920 million from the previous year. Bush said he was dissatisfied that Congress had gone beyond spending limits he had established. To compensate, Bush said the fiscal 2004 budget allocations and appropriations would have to be adjusted while holding advance appropriations constant with the level enacted in the last fiscal year.

64. Court Supports Ethyl Corp.'s Bid For Canadian MMT Documents

A Feb. 7 Canadian court ruling supports efforts by Ethyl Corp. to obtain Cabinet documents on a proposed 1997 ban on gasoline additive MMT. The ruling, however, will not affect the overall resolution of Ethyl's suit against the Canadian government under Chapter 11 of the North American Free Trade Agreement. The Feb. 7 ruling by the Federal Court of Canada only forces the government to review the specified documents to assess whether they contain any material relevant to Ethyl's request for the background information on which Prime Minister Jean Chretien's Cabinet decided to legislate the MMT ban.

The court found that changes made by the Privy Council Office to the Cabinet document system to eliminate the use of discussion papers represented an attempt to circumvent the requirements of the Access to Information Act, which permits companies and individuals to seek access to relevant government documents, he said. The Privy Council Office will now have to review the documents related to the MMT ban based on the appropriate principles specified under the act to determine whether information should be released to Ethyl.

Even if documents are ultimately released, and assuming they contain

information that is actually relevant to Ethyl's efforts in 1997 to overturn the proposed legislative ban on MMT, it will not have any effect on the NAFTA Chapter 11 case, which was resolved through the Canadian government's decision to drop the ban and pay Ethyl \$13 million in compensation.

The Federal Court of Appeal unanimously upheld an earlier ruling that discussion papers, designed to provide background explanations and analysis of problems or policy options, are subject to access requests under the Access to Information Act. Justice Marc Noel said in writing the decision that although the department is entitled to exempt from release information related to national security, personal affairs, advice to ministers, and other sensitive issues, it must provide access to background information.

Ethyl applied in September 1997 to Environment Canada for access to Cabinet discussion papers related to the proposal for legislation to ban import and inter-provincial trade in MMT, which put in place an effective ban on the gasoline additive as it was only produced at a single plant in Ontario. The department found four documents but refused to release them on the grounds of Cabinet confidentiality.

The Office of the Federal Information Commissioner, with Ethyl's support, appealed that decision to the Federal Court of Canada, which ruled in May 2001 that the government was not entitled to circumvent the Access to Information Act's provisions by incorporating background information in the analysis section of memoranda to Cabinet, which are exempt from the act. Environment Canada appealed that ruling, arguing that no basis exists to support the conclusion that Cabinet memoranda contained background information previously found in

discussion papers.

MMT, which was introduced in the Canadian marketplace in 1992, is currently used, at various concentration levels, in about 80 percent of Canadian gasoline. MMT is banned from use in California and in areas of the United States where reformulated gasoline is required by law.

65. India, U.S. Plan Climate Change Workshops

India and the United States plan to hold climate change workshops, part of a bilateral agreement to identify areas of mutual concern and to cooperate on climate change issues, the Indian government said in a Feb. 13 statement. No dates have yet been set for the workshops. Workshop topics include adapting to climate change, using communication technology to distribute climate-related information for rural development, hydrogen technology, renewable energy, improved efficiency, carbon assessment in forestry, alternative fuel vehicles, economic and environmental modeling, and integrated environmental strategies.

ASIA-PACIFIC

66. Indonesia Still Leaded But Bali Gets Unleaded

Gas stations on the island of Bali have recently begun selling unleaded gasoline. This step comes one and a half years after PERTAMINA began supplying the greater Jakarta area with unleaded gasoline. The Minister of Environment, Nabeli Makarim, has strongly advocated for unleaded gasoline, and KPBB, the Committee for Unleaded Gasoline, and Swisscontact have sustained and guided campaigns, research, and training on the issue with

the support of US-AEP/USAID and USEPA.

Following the Minister of Environment's vocal refusal last November to re-write the legislation requiring nationwide unleaded gasoline by January 2003, the Ministry of Energy and Mineral Resources and PERTAMINA have been threatened by a class action lawsuit by NGOs for failing to implement the decree. The supply to Bali of unleaded gasoline may indicate that these pressures have had some effect.

Unleaded gasoline is a strategic part of most urban plans to improve the air quality and reduce human exposures to toxic lead. In Jakarta, vehicle emissions account for 70% of urban air pollution, with CO and HC posing the biggest problems. With modern emission control technology, emissions of CO, HC, and NO_x from new gasoline vehicles can be reduced by **more than 90 percent** compared to the levels typical for vehicles without emission controls.

Once the whole islands of Java and Bali are supplied with unleaded gasoline, this region can begin to phase in catalytic converters. Automobiles are currently imported with catalytic converters as required in ASEAN, but the retailers in Indonesia cut them off and store them, since they will be ruined if leaded gasoline is used.

The conversion to unleaded gasoline in Bali is a welcome step forward, but it should also be put in perspective of the target of nationwide unleaded gasoline. It represents a step from 40% of the consumer market (Jakarta) having unleaded gasoline to 42% having unleaded gasoline (Jakarta plus Bali). For real progress in air quality to be made through unleaded gasoline, whole islands need to be supplied so that catalytic converters may be phased in. Unfortunately, PERTAMINA is still

dragging its feet.

The progress of eliminating leaded gasoline has gone up and down and even backward after progress was reached in the workshop held on February 2000 with an agreement reached on the elimination of leaded gasoline in the form of some recommendations. In the workshop The Mine and Energy Department agreed with Pertamina's proposal that as of June 2000 for Jabotabek (Jakarta and the surrounding area) and as of January 2003 for whole country, only lead free gasoline should be sold.

Then President Soeharto, on October 29, 1996, launched a program to make Indonesia free from leaded gasoline by 1999, and on 15 January 1998 the Republic of Indonesia and the IMF signed a Letter of Intent which, among others said that "... Indonesia would convert to clean energy, including unleaded gasoline at the latest in December 1999". But such pledges have gone away.

The new national lead phase out schedule that was established by the Minister of Environment, the Oil & Gas Department, and Pertamina is Bali and Batam by January 2003; North Coast of Java Island by June 2003; South of Java by August 2003; Outside of Java (Sumatra, Borneo, Celebes, etc) by early 2004.

67. Shanghai Goes to Euro 2 Vehicle Emission Standards

Shanghai government sources and official press reports said the city will begin using a new system of auto emission standards March 1 modeled on the European Union's Euro II motor vehicle standards. The rules will apply to light-duty vehicles operating within in the city. New cars will have to pass

emissions tests, and those that fail to meet the stricter standards will not be allowed to operate, the Shanghai Environmental Protection Bureau said in a statement Feb. 10.

Euro II standards, set in EU Directive 94/12/EEC on the Approximation of the Laws of the Member States Relating to Measures to Be Taken Against Air Pollution by Gases from Engines of Motor Vehicles, limit car emissions of carbon monoxide to 2.2 grams per kilometer and hydrocarbons plus oxides of nitrogen to 0.5 grams per kilometer.

By 2004, all of China is expected to adopt the new emissions standards.

"Air pollution has become a more serious problem in recent years, and vehicle exhaust is a primary culprit," said Su Guodong of the Shanghai environmental bureau's Pollution Control Division. Su said local officials are concerned with Shanghai's increasing air pollution problems and hope to dramatically reduce harmful emissions from vehicles. "As the number of cars increases, we have to update the emission standards to guarantee air quality," Su said.

Su cited 1998 city pollution figures that showed automobile exhaust was to blame for the overwhelming majority of carbon monoxide, hydrocarbons, and other polluting emissions in downtown Shanghai.

Government officials hope that by moving from the less stringent Euro I vehicle emissions standards to Euro II standards for new cars that they can reduce pollution, especially emissions of oxides of nitrogen.

Beijing switched to stricter Euro II auto emission rules in summer 2002 as part of its efforts to reduce air pollution ahead of the 2008 Olympics. Shanghai,

which recently won the right to host the 2010 World Expo, is following suit.

The 700,000 vehicles already on Shanghai's roads will not face retroactive application of the new emissions standards, government officials said. Rather, the stricter standards will be imposed on new vehicles as they come on the market.

The new standards will apply to smaller passenger types of automobiles first, and then later be expanded to heavy-duty vehicles, city officials said. No target date has been set for applying the standards to heavy-duty vehicles.

"We will apply Euro II standards for heavy-duty vehicles later, as local technology for producing heavy-duty vehicles is not as mature as that for light-duty vehicles," Su said.

Officials said two of Shanghai's top automakers--Shanghai Volkswagen and Shanghai General Motors--already meet Euro II emission standards with the newer models they produce for the domestic market.

68. UNEP to Eliminate Asian 'Brown Cloud' From Meeting Agenda

India's views on the controversial Asian "brown cloud" found wide support at the United Nations Environment Program's (UNEP) meeting in Nairobi, a government statement said Feb. 11. The Indian delegation, led by Secretary of the Ministry of Environment and Forests K.C. Mishra, succeeded in having a draft decision on the persistent air pollution in the region, known as the Asian brown cloud, deleted from the agenda of the UNEP Governing Council. New Delhi insisted at the meeting that the Asian brown cloud phenomenon is actually a haze prevailing over a short period of winter months and is neither

regionally exclusive nor scientifically appropriate.

The environment ministers met at the 22nd session of the U.N. Environment Program Governing Council/Global Ministerial Environment Forum Feb. 3-7 in Nairobi.

The Governing Council put aside a decision on whether UNEP should take action to address the Asian brown cloud phenomenon of persistent air pollution on the continent. Besides India, other Asian countries such as Indonesia and Pakistan also opposed any UNEP involvement, with New Delhi insisting that the haze was a seasonal phenomenon seen in other parts of the world and that the problem was being exaggerated. Brazil and China also opposed UNEP action on the problem, leading to a decision to drop the item from the meeting agenda.

India said the brown cloud is a thick mass of aerosols and particulate matter over the Indian Ocean region resulting from burning of biomass and firewood and it convinced other countries that the Governing Council should not make policy decisions based on the findings of a study that has scientific uncertainties.

The U.N. Environment Program released a report in 2002 saying that a vast blanket of pollution in South Asia is causing serious environmental damage and is having a severe impact on health as well. India's Environment Ministry criticized the UNEP report, titled *The Asian Brown Cloud: Climate and Environmental Impacts*, saying that its conclusions were "unfounded" and that it did not take into consideration recent anti-pollution efforts. For that reason, the ministry said it was not alarmed by the report's findings.

The report's conclusions were "unfounded, and there was no scientific

evidence to suggest any linkage between the haze and its impact on weather patterns, foods, and droughts," the ministry said in a statement at the time UNEP's report was released.

69. Report Urges Australian Government To Ratify Kyoto Protocol

Australia should become a party to the Kyoto Protocol on climate change, according to a new report released Feb. 18. The panel that prepared the report, chaired by Peter Duncan, the former head of Shell Australia Ltd., concluded that it would be "more advantageous" for Australia to become a party to the protocol rather than remaining outside it. The panel, the Kyoto Protocol Ratification Advisory Group, was established by Bob Carr, the premier of New South Wales, with the support of premiers from Victoria and South Australia. Panel members included Gwen Andrews, formerly the head of the Australian Greenhouse Office, and Jon Stanford, greenhouse modeling expert and head of the Allen Consulting Group.

The panel rejected claims that becoming a party to the protocol now would lock the nation into as-yet unknown targets in future commitment periods. "Ratification of the protocol would bind Australia only to its current target for the first commitment period," it said. "Ratification of the treaty in its current form cannot compel Australia to accept a new target for a future commitment period. Such a target would be contained in a new agreement that will have treaty status, and it will require formal endorsement by Australia to become binding. Australia would retain the option of withdrawing from a new agreement containing targets for a second commitment period if it transpired that there was a significant risk to Australia's national interest."

The panel said that if Australia does join the protocol, "it should explicitly state that it would not enter into a new agreement for the second commitment period unless it accords with its national interest."

The Australian government aims to meet its Kyoto target of capping emissions at 8 percent above 1990 levels by 2008-2012--the so-called first commitment period--even though it does not intend to become a party to the protocol at this stage. However, the panel's report said meeting the target would have less of an impact on the economy if Australia were a party to the protocol. "If Australia ratifies the protocol and meets its target using international emissions trading, the impact on GDP would be, on average, some 0.11 percent lower than would have been the case under business-as-usual for the first commitment period," the panel said. "In comparison, if the protocol is not ratified, GDP is estimated to be on average 0.26 percent lower each year."

The panel said these modeling results show the economic impact of joining the protocol will be "relatively low" in 2008-2012, regardless of whether the nation is a party to the protocol. It said the main reason for becoming a party is that it would allow Australia to fully participate in the process of establishing targets for the second commitment period. "Once the protocol enters into force, only countries that have ratified will have a seat at the table," it said.

"If Australia were able to actively participate in the negotiations on a new [second commitment period] agreement, it could work to ensure that the new regime reflects its national circumstances and those of developing countries--that targets are differentiated, that sequestration from sinks is included, and that credit is given for reducing rates of land clearing," it said.

"All of these outcomes are likely to be subject to renegotiation for the second commitment period."

The panel's economic modeling assumed that without further actions to reduce greenhouse emissions, Australia's emissions in 2008-2012 will be 16 percent above 1990 levels--equivalent to 8 percent above the nation's target. It assumed this gap will be closed either by participating in international trading as a Kyoto party, or by introducing domestic emissions trading without joining the protocol.

However, the panel said that if Australia's projected emissions prove to be more than 16 percent above 1990 levels, then the case for becoming a party to the protocol becomes even stronger. This is because higher-than-anticipated levels of emissions would push up the price of carbon dioxide if permits could not be bought on the international market.

The modeling takes into account the likely imposition by Japan of an environmental tax on imports of coal--a key factor for Australia given that 46 percent of its coal exports go to Japan. (See below)

The panel said that reducing the rates of land clearing in Australia offers a low cost abatement option "that would be available under both the ratification and the non-ratification scenarios." It added that reducing land clearing would have other advantages such as preventing soil degradation and protecting biodiversity. However, in a reference to state and national government conflicts over land clearing controls, the report said, "experience suggests that accessing this low cost abatement option poses political difficulties which may be difficult to overcome."

70. Vehicles in Calcutta Can Use LPG To Curb Pollution

Authorities in Calcutta have introduced liquid petroleum gas as a way to curb unchecked vehicular pollution that is nullifying the effects of a reduced level of industrial pollution. "We have launched the LPG distribution at several petrol stations across Kolkatta on a voluntary use basis, and the response has been very encouraging," Ravi Kant, secretary of West Bengal Pollution Control Board, said in an interview. "Vehicular pollution contributes to 50 percent of the air pollution, while industrial pollution contributes to 48 percent, and 2 percent comes from domestic and other source," Kant noted. "Our all efforts to contain industrial pollution would be futile if we don't check the emissions from vehicles."

Kant did not set any deadline for the commercial vehicles in Kolkatta to convert to LPG, but he said commercial vehicles such as taxis, buses, and trucks are expected to start using LPG instead of diesel fuel or gasoline because the gas is less expensive to buy than oil. Eventually it will become mandatory to use alternative green fuel for motor vehicles, but Kant said he does not see that happening in the near future because of logistical difficulties in setting up of a vast distribution network of LPG or any other alternative green fuel.

The LPG distribution was ordered by the West Bengal Environment Department on the recommendations of the West Bengal Pollution Control Board. LPG is the generic name for commercial propane and commercial butane, and it is widely used across India for cooking purposes.

Kant said that a recent study by the West Bengal Pollution Control Board revealed that there has been a marginal

reduction in the levels of suspended particulate matter (SPM) and respiratory particulate matter (RPM) and that they are still above the danger mark. The SPM level in Kolkatta's air on Feb. 17 was 364 micrograms per cubic meter ($[m\text{gr}]/\text{m}^3$), against a national standard of 200 $[m\text{gr}]/\text{m}^3$ s. The RPM level on Feb. 17 was 204 $[m\text{gr}]/\text{m}^3$ against a national standard of 100 $[m\text{gr}]/\text{m}^3$.

Commercial vehicles in the capital city of New Delhi and India's largest metropolis of Mumbai (Bombay) have already converted to compressed natural gas (CNG) following a Supreme Court order in a public interest litigation case.

Kant said LPG was introduced as it is impossible to transport CNG to Kolkatta from the western state of Gujarat. Kolkatta is the capital of India's eastern state of West Bengal.

Kant said several other measures are contained in an action plan submitted to the Supreme Court. While hearing the case filed by environmental attorney M.C. Mehta, the court had asked the five most polluted cities of Kolkatta, Ahmedabad, New Delhi, Pune, and Kanpur to submit their action plans for containing vehicular and industrial pollution. "We have followed the court's instruction, and now we are waiting for the court's action," Kant said.

71. Japan Announces Plan to Introduce Environmental Taxes in Fiscal 2005

Japan's Ministry of the Environment announced plans Feb. 14 to introduce environmental taxes in fiscal 2005 and to start talks with other ministries and the ruling Liberal Democratic Party this summer. Environment Minister Shunichi Suzuki made the announcement at a news conference after a regular Cabinet

meeting.

The ministry later asked an ad hoc study group formed within its key advisory body, the Central Environment Council, to start deliberations on details of an environmental tax. Those deliberations commenced Feb. 25. The panel will work until July on such issues as tax rates and the use of revenues. Suzuki said the ministry plans to run the panel's recommendations through public hearings for about a year starting this summer.

"We will review [greenhouse gas] reduction measures [being used voluntarily by industry, the public sector, and consumers] next year," Suzuki said. "But the reality is that, even with these measures, it has become obvious that we cannot achieve the reduction target" unless more stringent measures are taken, he said.

Japan agreed to the GHG reduction target under the Kyoto Protocol to the U.N. Framework Convention on Climate Change. Japan's GHG-reduction target under the agreement is 6 percent.

72. Nissan To Develop Fuel Cells With United Technology

Nissan Motor Co plans to jointly develop fuel cells with U.S. aerospace group United Technologies Corp for environmentally friendly vehicles, the Nihon Keizai Shimbun said yesterday. The business daily said Japan's third-largest automaker aims to catch up with rivals in the development of fuel cell vehicles, which run on electricity produced from a chemical reaction between hydrogen and oxygen.

Nissan plans to invest 85 billion yen (\$723 million) in research and development with French partner Renault SA over the next five years to

commercialize fuel cell vehicles, the Nihon Keizai said.

73. China To Restructure Government Agencies

State Councilor Wang Zhongyu has unveiled a draft plan to restructure government agencies, which involves the establishment of new government agencies and the removal of some old ones, at the second plenary meeting of the First Session of the 10th National People's Congress.

The State Council proposed the reform package to the current NPC session for examination and approval.

China plans to set up a state property regulatory and management commission, in an effort to deepen the reform of state properties management, Wang announced. Wang said, China also would set up a commission to regulate and supervise its banking industry.

The move is part of a State Council-proposed plan to reform China's government agencies, which will cut the number of ministries and commissions to 28 from 29.

China will reorganize the State Development Planning Commission, a key department under the State Council in charge of macroeconomic planning, into the State Development and Reform Commission, in an effort to improve its macroeconomic control system, according to Wang.

He also said, the State Council will set up a new agency, the ministry of commerce, to promote reform of the circulation system.

A state food and drug administration will be established on the basis of the State

Drug Administration in a bid to reinforce supervision over the safety of food, health products and cosmetics, while the State Administration of Work Safety will be upgraded to strengthen supervision over production and coal mining safety.

China will remove the State Economic and Trade Commission and the Ministry of Foreign Trade and Economic Cooperation, Wang Zhongyu said. The proposed ministry of commerce will exercise the functions of the two agencies.

Wang added, that China's State Family Planning Commission would be changed to the State Population and Family Planning Commission, in an effort to beef up research of the population development strategy.

74. Japanese Manufacturers Eye Biomass Fuel

Japanese manufacturers are experimenting with biomass--biodegradable waste used for energy--to produce ethanol, part of their drive to find alternatives to fossil fuel for automobiles and to reduce greenhouse gas emissions.

Mitsubishi Heavy Industries Ltd. and JGC Corp. have begun operating experimental plants in Japan, while Marubeni Corp., jointly with Sapporo Breweries Co. and Tsukishima Machinery Co., is set to build an ethanol production plant in Thailand, according to the Ministry of Economy, Trade, and Industry (METI) Feb. 27. Mitsui & Co. will start experimental production of ethanol in Brazil, while Itochu Corp. is planning a palm oil-based biomass production in Malaysia.

The Marubeni project will use sugar cane to produce about 30,000 kiloliters

of ethanol starting in the spring of 2005, and the company hopes to raise output to 100,000 kiloliters a few years later and export part of it to Japan.

Biomass and its dominant fuel, ethanol, gained worldwide attention in the 1990s in the United States, Europe, and Brazil and developing countries as a clean fuel that does not generate as many noxious gases as fossil fuels. To date, biomass-generated ethanol is being used by blending it in gasoline by the ratio of 10 percent to 20 percent of volume. At one time, Brazil used 100-percent ethanol fuel in motor vehicles.

Because of relatively high production cost, biomass had failed to gain popularity in Japan. In 2002, however, hoping to change that, Prime Minister Junichiro Koizumi's government adopted the "Biomass Nippon Project" to promote its use with government subsidies and research for private-sector development projects. Japan hopes that ethanol will account for up to 10 percent of its total domestic energy consumption and calculate it as part of the nation's greenhouse gas emission reductions.

75. Tokyo Considers Use of Road Tolls To Curb Pollution, Congestion

The city of Tokyo has begun exploring a "broad pricing" system to collect fees from all automobiles entering the city center, with a draft plan due out by the end of March, officials from the Tokyo Environmental Bureau said Feb. 26. The plan--which officials hope to launch by fiscal year 2005--is aimed at helping reduce the city's chronic traffic congestion and greenhouse gas emissions by discouraging driving and encouraging use of public transportation, they said.

Tokyo's tentative plan calls for charging

tolls from vehicles entering the zone within the city beltway--an area of about 720,000 square kilometers--by installing at entry points cameras that record vehicles' license plate numbers for automatic collection from the drivers' or businesses' bank accounts, officials explained.

The bureau is considering a fee of about \$5 per entry per car and \$10 per entry per bus or truck weekdays between 7:00 a.m. and 7:00 p.m. The city will use the Ministry of Land, Infrastructure, and Transport's motor vehicle registry to link up vehicles entering the city center zone with license plate numbers, officials said.

Residents and businesses having vehicles within the zone also will be required to pay the fees once they leave the zone and reenter it, the officials said. Exceptions to the congestion charge now under consideration are public transportation and emergency vehicles, they said.

The bureau said it hopes to work out the first draft plan by the end of March and a final, comprehensive scheme this fall so that the city can introduce the system in fiscal 2005, which begins April 1, 2005, the officials said. Officials said they had been encouraged by the recent introduction of a similar scheme in London. (See above)

If or when the city introduces the system as scheduled in fiscal 2005, it initially plans to collect from drivers on a voluntary basis and from vehicles traveling main roads alone to ease traffic congestion--already among the worst in the world, the officials said. Eventually, the city wants to install cameras on every back road for fee collection as well, they said.

Road pricing, together with the ongoing "Say No! To Diesel" campaign, is a

priority project for Tokyo Gov. Shintaro Ishihara.

76. Six Auto Manufacturers To Work Together on Fuel Cell Technologies

Six leading global automakers have agreed to jointly research high-pressure hydrogen storage technologies, an important component of fuel cell automobiles, an industry official said March 5. The six automakers--Toyota Motor Corp., Nissan Motor Co., DaimlerChrysler Corp., Ford Motor Co., Hyundai Automobile, and Peugeot-Citroen--will take part in the project to develop technologies that enable the production of higher pressure hydrogen storage tanks, an official of Kokan Drum Co., the subsidiary of NKK Corp., said.

If such high-pressure tanks can be developed, fuel cell vehicles' driving distance per charge--now barely 300 kilometers (186 miles)--could be extended to 500 kilometers (310 miles), or the same distance as for gasoline-engine vehicles, they said.

Kokan Drum and Powertech of Canada will work as the joint research managers for the project, officials of the two companies said. Work on the project will continue through the end of January 2004, they said.

77. Australian Car Sector Sets Target To Cut Fuel Use

Australia's car industry has unveiled plans to reduce fuel consumption of new passenger cars by about 18 percent by 2010 to help cut emissions of carbon dioxide blamed for global warming. The Federal Chamber of Automotive Industries said a voluntary code of practice set a target to cut the amount of fuel used by new cars to 6.8 liters per

100 km by 2010 from the 2001 level of 8.28 liters.

The chamber's chief executive Peter Sturrock said additional research was needed by 2004 to expand the industry's efforts to develop targets to cut carbon dioxide emissions from other categories of light vehicles, including four wheel drives and light commercial vehicles.

Australia is home to four major automakers, which are all units of overseas players. They include Holden, the Australian arm of General Motors Corp, and Ford Motor Co of the United States and Japan's Toyota Motor Corp and Mitsubishi Corp.

The transport sector accounts for almost 20 percent of Australia's total emissions of so-called greenhouse gases like carbon dioxide. The Australian government welcomed the move.

"The new voluntary code of practice will lead to a reduction of up to two million tons of greenhouse gases by 2010," Environment Minister David Kemp said in a statement. Australia produced about 553 million tons of greenhouse gases in 2000.

The country is one of the world's top coal exporters and has refused to ratify the global Kyoto treaty on combating climate change, under which industrialized nations must cut emissions by an average five percent by 2012 from 1990 levels. Canberra argues Kyoto is unviable without the United States, the world's biggest polluter, which has rejected the accord. However the government has repeatedly stressed that it will still abide by its Kyoto target to limit the increase in greenhouse gas emissions to eight percent by 2012.

Environmental groups say official statistics show Australia's carbon

dioxide emissions have already risen by 17.4 percent since 1990 and will have risen by 30 percent by 2012.

78. Rapid Vehicle Sales Growth Continues in China

China produced 114,200 cars in February, up 160 percent year over last year, taking the total for the first two months of 2003 to 241,700, a rise of 140 percent from a year ago. Carmakers raised output to meet strong consumer demand after the Chinese Lunar New Year, which ended Feb. 7. China's car market has ballooned in recent years alongside rising personal incomes, the product of years of robust economic expansion.

Annual car sales broke the one million mark for the first time last year, surging 56 percent to hit 1.126 million. Car output hit 1.09 million, up 55 percent. In all, China-based automakers sold 3.248 million vehicles in 2002, up 37.1 percent from 2001. Vehicle output rose 38 percent to 3.25 million in 2002.

79. China to Create Nationwide Program For Trading of Sulfur Dioxide Emissions

China will implement a nationwide sulfur dioxide emission trading program that is now being tested in several provinces and cities, Xie Zhenhua, director of China's State Environmental Protection Agency announced on March 14. China's tests of sulfur dioxide emissions trading programs in pilot programs, Xie said, have been "going quite smoothly," and "based on them, we will disseminate the program across the whole country."

Xie, however, said China still has considerable preparatory work to do before it begins. "First, we must

implement a 'total emissions control' regime; and second, we must implement a pollution discharge permitting system," he said. "And to turn those permits into resources, we must have an inspection and monitoring system."

China amended its laws on air and water pollution in 2000 to incorporate "total emissions control" concepts, but the inspection and monitoring systems needed to enforce the control regime at provincial and local levels are still far from comprehensive. Xie sounded upbeat on the issue, however, saying "local governments welcome emissions trading programs, because in this way we are able to solve as many problems as possible at the lowest cost."

At the same news conference, held during the ongoing annual session of China's National People's Congress, Xie outlined several fields of environmental protection work where he said China is particularly eager to receive foreign investment.

"Foreign investment will be exceptionally useful in the following areas: urban sewage and solid waste treatment plants, desulphurisation in power plants and industry, vehicle exhaust emissions control, and environmental consultation services," the director said, adding, "I don't see any barrier to foreign investment in the environmental industry."

80. Chinese Wind Farm Makes Kyoto Profits From Dutch

A wind farm in Inner Mongolia has become the first Chinese renewable energy project to be selected by the Dutch government to help reduce the world's air pollution under the 1997 United Nations Kyoto Protocol. By producing electricity without emitting greenhouse gases such as carbon

dioxide, then selling the credit it gets for keeping the air clean to the Dutch, the Huitengxile wind farm, northwest of Beijing, will pay for its own expansion.

The Netherlands approved the first overseas sustainable energy projects it will fund in order to cut greenhouse gases under the Kyoto protocol. The Dutch will purchase emission credits through the 18 projects, which aim to cut carbon dioxide emissions by more than 16 megaton's, the environment ministry said in a statement.

Apart from China, the 18 projects that focus on sustainable energy and clean technologies, will take place in Bolivia, Brazil, Costa Rica, El Salvador, India, Indonesia, Jamaica and Panama. Under the 1997 Kyoto Protocol, countries are allowed to fund projects such as wind parks, biomass-powered energy plants and solar energy projects in developing countries and get credits toward up to half their goal in cutting emissions.

The Dutch have undertaken to cut greenhouse gas emissions by six percent versus the level in 1990, during the period 2008 to 2012, with half the decrease realized outside the Netherlands.

China gets about 70 percent of its energy from burning coal making it home to some of the world's most polluted cities. China, as a developing nation, is not bound by the goals for restraining carbon dioxide emissions laid out in the Kyoto agreement, but Chinese support is crucial for its survival. It is the world's second largest producer of carbon dioxide emissions, and the United States, the greatest emitter of greenhouse gasses, has long cited the fact that China is not bound by the protocol as one reason why it will not ratify the deal.

81. Twice-Yearly Emission Inspections Eyed For Bangkok's Private Bus Fleet

The Bangkok Metropolitan Transit Authority (BMTA) is planning to toughen up the inspection regime for the city's private bus fleet in an effort to curb air pollution. Krist Pothisukkho, the BMTA's deputy director-general in charge of private bus operation, told a workshop for private transport firms March 12 that the current inspection process, under which buses are checked once a year by BMTA authorities with the assistance of the Ministry of Natural Resources and Environment's Pollution Control Department (PCD), was "not enough" to keep polluting buses with aging engines off the streets. He added that the BMTA planned to submit all private buses to two inspections annually beginning this year, and that operators would not be permitted to renew their registration unless their vehicles had passed both.

According to PCD figures, about 75 percent of buses on Bangkok roads are run by private operators. A 2002 study showed that 40 percent of large private buses were emitting unacceptable amounts of black smoke, while 67 percent of minibuses violated PCD standards.

82. South Korean Ministry To Lift Ban on Diesel-Powered Cars in 2005

The Ministry of Environment has backed down on its stance against allowing diesel-fueled cars to be sold in South Korea, a victory for South Korean and European car makers seeking to sell diesel-powered sedans in the South Korean market. The decision was made at a Cabinet meeting held March 27 as part of the first major economic package of the one-month-old South Korean government. According to the Ministry of Environment, the emission standards for

diesel cars will be adjusted to European standards in 2005 and 2006, clearing the way for automakers to sell diesel-powered cars in South Korea. The current South Korean standards, put in place in October 2000, are set at such a high level to make them impossible to meet with existing diesel fuel and engine technologies, an effective ban on cars running on diesel fuel. As recently as November 2002, the ministry reiterated its commitment to keep its ban on diesel-powered cars in South Korea despite mounting industry complaints and trade pressure from the European Union.

South Korean emission standards for diesel cars--outside the categories of trucks, buses, vans, and sport utility vehicles--have been much tougher in all pollutant categories than the Euro III diesel exhaust emission standards currently in force throughout the EU region and even the most advanced Euro IV scheduled for EU-wide implementation from 2005. Under its deregulation plan, the ministry will bring the South Korean standards for diesel cars in line with the Euro III limits on carbon monoxide, hydrocarbons, nitrogen oxides, and particulate matter--0.64, 0.06, 0.50, and 0.05 grams per kilometer, respectively--in January 2005. In January 2006 and thereafter, the Euro IV standards will be applied to diesel cars sold in South Korea with more stringent emission limits of 0.50, 0.05, 0.25, and 0.025 g/km for carbon monoxide, hydrocarbons, nitrogen oxides, and particulate matter, respectively.

According to the Ministry, emissions standards for diesel buses, trucks, vans, sport utility vehicles, and off-road construction equipment will be steadily tightened to a level consistent with the future standards for diesel cars.

South Korean carmakers and the pro-

business Ministry of Commerce, Industry, and Energy argue that a continued ban on diesel cars will only undermine the competitiveness of the nation's car industry by depriving it of a domestic market and generate trade friction with the European Union. Diesel cars are popular in many EU countries, and South Korean carmakers began exporting diesel cars to the region in 2001. Under a 1999 agreement between the Korea Automobile Manufacturers Association and the European Commission, South Korean carmakers are required to meet the average carbon dioxide emissions target of 140 g/km from new gasoline and diesel cars sold in the EU market by 2009.

Seoul's air pollution is the worst among countries in the Organization for Economic Cooperation and Development (OECD) according to the Environment Ministry. The capital's particulate matter (PM) was measured at 71 micrograms per cubic meter at the end of 2001, the ministry said. The figure is the highest among OECD countries, surpassing the 60 micrograms reported in Rome, Italy, and 53 micrograms for Mexico City, cities that are both notorious for severe urban air pollution. The density of nitrogen dioxide in Seoul was 0.037 ppm (parts per million), ranking third after Moscow with 0.058 ppm and Bratislava, Slovakia, with 0.047 ppm. Excessive exposure to nitrogen dioxide can exacerbate pneumonia and bronchitis.

Environmental experts attributed the high level of air pollution to a steep increase of diesel-fueled vehicles, which emit higher amounts of pollutants than other vehicles. According to ministry statistics, 45 percent of the nitrogen dioxide and 44 percent of PM released into the air in 2000 came from vehicle emissions. Pollutants from diesel-fueled vehicles made up 81 percent of the nitrogen dioxide discharged from

vehicles and 100 percent of the PM.

The lower price of diesel fuel compared to gasoline is considered to be the main cause for the increased popularity of diesel-powered vehicles. The price of diesel in South Korea is about 54.9 percent that of gasoline, the lowest among OECD countries and well below the average 77.5 percent. In countries such as Italy, Japan and Mexico, diesel fuel costs about 80 percent that of gasoline, while in Britain and the United States there is little price difference.

Among the 14 million vehicles in the country, diesel-powered buses, trucks and multi-purpose vehicles account for more than 30 percent. But with the government's recent decision to allow the domestic sale of diesel-powered passenger cars from 2005, the number is expected to shoot up, possibly aggravating the country's air pollution further.

83. Toyota, BP, WWF Set Plan To Turn Galapagos Into Hydrogen Economy

A group of automakers and energy companies, in conjunction with the World Wildlife Fund (WWF), has reportedly set a goal of transforming the Galapagos Islands into a model for alternative energy and clean transportation systems over the next decade. Spurred by the disastrous 2001 spill of bunker fuel from an oil tanker just off the islands made famous by Charles Darwin, the WWF set out to develop a roadmap to minimize the threat of diesel and other harmful fuels in the future. Partnering with companies such as Toyota Advanced Systems, BP Solar and Stuart Energy, the WWF coalition has developed a plan that will transform the energy and transportation needs of the islands from being oil dependent to systems using renewable energy

sources, including wind and solar. Using the best available technologies the plan intends on transforming the electricity, transportation and fishing sectors of the islands.

One of the first projects the group expects to undertake is to replace the current diesel-fueled buses with fuel cell ones to transport some of the 70,000 annual arrivals at the archipelago's main airport. The project envisions installing solar and wind powered facilities to produce electricity that would then be used to convert water to hydrogen. The hydrogen would then be used to fuel the buses' fuel cells. The excess energy generated by the system would be used to power the airport and a nearby military base, the source added.

The Galapagos Islands are the world's third most sunny location, making it ideal for solar driven power systems. In addition, being out in the middle of the Pacific Ocean makes it an ideal location for wind energy as well.

The Galapagos project goal is to make renewable energy production and pollution-free transportation systems that can be replicated elsewhere.

There are other areas that positioning to become laboratories for developing a hydrogen-based economy, most notably Iceland. The North Atlantic island nation seeks to become virtually free of dependence on fossil fuel over the next 30 to 40 years, including its sizable fishing industry.

84. Australia To Set 10 Pct Limit On Ethanol In Fuel

Australia will set a 10 percent limit on ethanol content in petrol and make it compulsory to label blends to address concerns that a high level could damage engines, Environment Minister David

Kemp said. The move came after a long-running debate on whether high ethanol levels damage engines, with initial tests coming down against blends of 20 percent which have been on sale in the country's most populous state of New South Wales since 1994. Kemp said tests on the effects of higher blends on vehicles would continue but major automobile manufacturers had agreed to accept a 10 percent cap.

Ethanol has attracted international attention as a clean fuel that can be distilled from crops such as grains and sugar cane and added to petrol as an octane enhancer with some air quality benefits. But the Australian government has come under fire from all quarters over its use in petrol. Motoring groups wanted a national fuel standard applied to ethanol levels, setting a 10 percent limit amid fears strong blends may damage car engines. But sugar growers called on the government to mandate the use of ethanol blends, as this would give greater certainty for the struggling sugar industry to produce ethanol as a by-product. However the oil industry threatened to withdraw its support of ethanol use if a mandated level was imposed, claiming a 10 percent petrol blend would be 30 percent less efficient than the current 92 octane unleaded petrol.

Late last year the government put aside any decision on whether to impose a maximum limit on ethanol content in fuel, saying evidence about mixing ethanol in petrol was inconclusive.

Kemp said marine and other two stroke motor manufacturers advised against the use of even low ethanol blends, with some effect on parts and operations. Ethanol blends should never be used in aircraft.

Existing Australian ethanol production is comparatively small-scale, with total

capacity of about 130 million liters, and mainly for export to Asian markets as an alcohol additive.

Ethanol production in Australia is currently dominated by the privately owned Manildra Group, which produces ethanol from grain.

SOUTH AMERICA

85. Economic Crisis Fuels Argentina's Drive For Natural Gas Cars

Argentina, with the third-biggest natural gas reserves in Latin America after Bolivia and Venezuela, is spearheading the use of CNG in vehicles and leads the world in the number of natural-gas cars with about 800,000. The drive to use an abundant national resource as fuel in Argentina echoes similar attempts in Brazil, the world's No. 1 sugar producer, to encourage the use of cane-based ethanol to cut pollution and reduce dependence on oil, even though both countries are oil producers.

Argentina also has a new economic reality after the January 2002 peso devaluation pumped up dollar-based gasoline and diesel prices more than 30 percent.

Argentina's government has also jumped on the bandwagon, promoting natural gas use to cut costs in public transportation.

Argentina's Chamber of Compressed Natural Gas, which joins providers and equipment makers, is at work on a Latin American project to unify standards to create a continent-wide network that can later be taken to other parts of the world.

Argentina exports natural gas vehicle technology to Asia, Europe and Latin America and the Chamber plans to help

host a Natural Gas Vehicles conference in Buenos Aires in 2004.

For natural gas to be a workable alternative fuel it must be widely available and the proper infrastructure must be in place. Creating a network of natural gas stations and converting vehicles may not be cost-effective in some places. However, Argentina opened its first compressed gas station in 1984 and now has 1,100 outlets in 17 provinces, making it available to a majority of its 5.4 million car owners. About 110,000 cars were converted last year alone.

The local Fiat, Volkswagen and Peugeot units make CNG cars that also run on gasoline.

A bill that would require that all public transportation run on the fuel and provide incentives for the gas sector is wending its way through Congress.

CNG costs 60 percent less than the cheapest gasoline at the station.

AFRICA

86. UNEP To Monitor Ozone in Sub-Saharan Africa

The United Nations Environment Program (UNEP) has established a new monitoring station on its grounds in the Kenyan capital of Nairobi to help monitor ozone levels and other forms of air pollution in sub-Saharan Africa. The Nairobi Validation Station, the first of its kind in the region, will form part of a global ozone monitoring network, which includes the recently launched European Space Agency ENVISAT satellite. The station will serve as a "key linchpin" in an international effort to monitor the repair of the ozone layer, UNEP officials said Feb. 27 in inaugurating the new facility.

One of the main tasks of the Nairobi station, located on the grounds of UNEP world headquarters, is to help answer questions regarding the fate of ozone-damaging chemicals produced in the region from both human-made and natural sources such as vegetation. Understanding how much of this pollution makes it way into the stratosphere and how much remains closer to the ground is crucial in knowing how quickly the ozone layer may recover from decades of destruction caused by the release of chlorofluorocarbons (CFCs) and other ozone-destroying chemicals, UNEP said. Ozone that gets into the stratosphere can travel toward polar regions, where the ozone layer is at the highest risk of destruction.

The network will also help track pollution arising from forest fires in Central Africa and monitor air quality over the Kenyan capital, providing an early alert to vulnerable groups such as those with heart disease and breathing difficulties UNEP added.

GENERAL

87. IPCC Agrees to Study Socioeconomic Impact of Global Warming

Government officials and climate change experts from more than 130 countries agreed Feb. 21 to a tentative timetable for updating a U.N.-sponsored report on climate change and agreed their work should pay greater attention to scientific evidence on both the varying regional impacts of climate change and the likely socioeconomic impacts. The Intergovernmental Panel on Climate Change (IPCC), a Geneva-based body of scientific experts created by the U.N. Environment Program and the World Meteorological Organization

to prepare regular assessments of climate change, is slated to publish its so-called Fourth Assessment Report in 2007.

Participants in the Feb. 19-21 plenary meeting of the IPCC--about 350 government officials and climate change experts--also agreed to launch work on two special reports. One report will address the potential for storing greenhouse gases undersea or within the Earth's geological core, and another will examine the potentially problematic relationship between efforts to protect the stratospheric ozone layer and efforts to safeguard the global climate system.

Delegates also approved a budget for the 2003-2007 period; directed IPCC Chairman Rajendra K. Pachauri to prepare a response to high-profile criticism of the IPCC process, including a recent commentary published in the British newsweekly *The Economist*; and passed a series of procedural resolutions to cover work on the Fourth Assessment Report, slated to be fully launched by year-end.

While the IPCC meeting was devoid of the controversy that usually dogs multilateral climate change negotiations linked to the U.N. Framework Convention on Climate Change (UNFCCC), Pachauri's call for greater consideration of the socioeconomic impacts of climate change in the Fourth Assessment Report did draw limited debate from some delegations.

Pachauri told the plenary session Feb. 19 that the Fourth Assessment Report must pay particular attention to the extent and scope of climate change, and its resulting impacts, in the world's various regions. "Different nations and different parts of the globe display different levels of vulnerability to climate change," Pachauri said. "It is our prime responsibility to assess these local

vulnerabilities and specific impacts of climate change as accurately as possible."

The Third Assessment Report, published in 2001 as *The IPCC Third Assessment Report: Contributions of IPCC Working Groups*, indicated that global temperatures are likely to rise between a range of 1.4 degrees Celsius and 5.8 degrees Celsius over the next century, with the lower end of that range more likely. The report concluded that earlier assessments had underestimated the extent of global warming--estimated at an average of 0.6 C over the course of the 20th Century--and expressed near-certainty that human activity, principally through emissions of greenhouse gases into the atmosphere, was responsible for the major part of global warming seen over the past 50 years.

Projections from the IPCC, and particularly those in the Third Assessment Report, played a critical role in negotiations on the UNFCCC and the subsequent Kyoto Protocol. The European Union has led a sustained campaign for the ratification of the Kyoto Protocol, which requires industrialized countries to collectively reduce emissions of six greenhouse gases to 5.2 percent below 1990 levels by 2008-2012.

The cloud of U.S. rejection for the multilateral climate change process hung over the IPCC plenary session, with Pachauri and others noting that only ratification by the Russian Federation will enable the treaty to enter into force. In a keynote address Feb. 19 to the plenary meeting, French Prime Minister Jean-Pierre Raffarin told participants that France and its EU allies remain firmly committed to "universal ratification" of the Kyoto Protocol. As evidence of its support, Raffarin described a mid-February Franco-

Russian summit in which French President Jacques Chirac told Russian President Vladimir Putin of his "desire" to see the Russian Federation ratify the protocol "without any further delay."

In a thinly veiled attack on the United States, Raffarin criticized those who seek to "cast doubt" or "close their eyes" to the scientific evidence of global warming. "While knowledge on the effects of global warming remains imperfect, that should not justify passive behavior or inaction," Raffarin said. "We know that action in the realm of the fight against climate change is no longer simply part of the principle of precaution."

Other important issues that should be included in the Fourth Assessment Report include better study of technological change and how it could mitigate the implications of greenhouse gas emissions, the implications of sustainable development and poverty, and the problems of small island states, which are threatened by the sea-level rise that is expected with rising temperatures, Pachauri said.

The IPCC plenary approved a proposed study on whether chemicals substituted for ozone-depleting substances under the Montreal Protocol on Substances that Deplete the Ozone Layer are having negative effects on the global climate system. Two of the principal substitutes are hydrofluorocarbons (HFCs) and perfluorocarbons (PFCs). The Montreal Protocol urges signatories to replace ozone-depleting substances with substitute chemicals, including HFCs and PFCs.

The new study is tentatively slated for presentation to IPCC by early 2005.

The IPCC plenary also approved a report on the potential for carbon capture and storage, either deep in the

ocean or within the Earth's core. Geological and oceanic carbon separation, capture, and storage are opposed by environmentalists, who worry about the potential environmental risks to storing carbon below the seabed, and oppose deep-earth storage projects that could eliminate some of the need for emissions reductions and lower energy use.

The next major events on the IPCC calendar include two so-called scoping meetings in April and September, during which experts will continue fine-tuning the work plan for the Fourth Assessment Report, as well as a new plenary session in October.

88. Survey Reveals Growing Emphasis on Emissions Reductions

A survey of the 500 largest global companies reveals that most consider climate change to be a legitimate financial risk that will have a growing impact on profitability and the overall global economy in the coming years. The London-based Carbon Disclosure Project, an investor group concerned about the financial risks of climate change, sent questionnaires to the chairmen of the 500 largest global companies, measured by market capitalization. About half of those contacted responded to the survey. More than 80 percent of the respondents said they recognized climate change as an economic and regulatory issue and have developed corporate strategies to reduce emissions of greenhouse gases.

The companies in the survey represent 11 business sectors--chemicals, automobiles, electric utilities, food manufacturing and retailing, industrial conglomerates, metals and mining, oil and gas, transportation, paper and forest products, insurance, and banking

and financial institutions.

Although 80 percent of the respondents said climate change was an important financial factor, less than 40 percent said they were making "on-the-ground" efforts to reduce greenhouse gas emissions. The report said such companies are gaining a competitive advantage over those waiting on regulatory developments, such as ratification and implementation of the Kyoto Protocol.

Oil producer British Petroleum has reduced carbon dioxide emissions at their plants by 10 million tons annually, resulting in savings of \$650 million in fuel and gas, the report said.

Two Japanese companies, Mitsubishi and Mitsui, have purchased stakes in emissions trading firms. Both firms anticipate steel and electric utility industries will be customers when the Kyoto Protocol takes effect.

The survey showed additional costs associated with climate change and abnormal weather patterns would alter supply chains. Sectors such as financial services, transportation, semiconductor, telecommunications, and electronics equipment could be affected.

The Carbon Disclosure Project said the survey was conducted in collaboration with 35 institutional investors representing assets of more than \$4 trillion.

89. WHO Wants Action To Stop Millions Of Child Deaths

The World Health Organization (WHO) has called for urgent international action to remove environmental hazards that kill five million children every year, mainly in poor countries. Simple measures to improve habitats where

children live, learn and play could prevent the acute respiratory infections, malaria and diarrhea, which are major killers of children worldwide, the WHO said yesterday. "The biggest threats to children's health lurk in the very places that should be safest - home, school and community," WHO Director-General Gro Harlem Brundtland said in a statement to mark World Health Day, this year dedicated to ensuring healthy environments for children.

The United Nations health agency estimates that children under five comprise only 10 percent of the world population but account for 40 percent of global illness. As much as one third of these illnesses may be caused by environmental factors.

Indoor air pollution, caused by the use of dirty household fuels that lead to acute respiratory infections, is the top killer resulting in around two million deaths among children under the age of five each year.

Inadequate access to safe drinking water and poor sanitation often results in diarrhea, which claims around 1.3 million children's lives every year, while malaria kills around one million, mostly in sub-Saharan Africa.

Improving ventilation and cooking stoves, ensuring safe sanitary facilities and water storage and screening doors and windows against mosquitoes were just a handful of the simple and inexpensive suggestions put forward.

However UNICEF, the U.N. children's agency, said there also needed to be a greater focus on protecting children from abuse, violence and neglect - hazards that it believes are often overlooked in public health planning.

Around 11 million children die before their fifth birthday, overwhelmingly from

causes that are preventable and treatable. UNICEF said. Millions have died or been injured in conflicts in the last decade and 180 million are engaged in child labor.

"Children have the right to an environment that safeguards them not only against disease, but against ill-treatment," said UNICEF Executive Director Carol Bellamy.

90. **GM And BMW To Jointly Support Hydrogen Cars**

General Motors and BMW have agreed to work jointly on developing refueling devices for liquid hydrogen vehicles, which could replace gasoline or diesel-burning cars and trucks in the future. GM and BMW will work to establish global standards for hydrogen refueling devices, such as the coupler to connect liquid hydrogen fueling pumps to future cars, according to Larry Burns, GM's head of research and development.

"Both GM and BMW are stretching to have hydrogen-based vehicles on the road by 2010," he added.

However, GM and BMW are taking different routes on the road to replacing fossil fuels. GM has invested heavily in developing fuel cells to power electric motors in vehicles, replacing the current internal combustion engines. A hydrogen fuel cell acts like a battery, converting hydrogen and oxygen into water and producing electricity to power an automobile motor or other devices.

BMW, on the other hand, is studying burning hydrogen in internal combustion engines as a more practical alternative to developing electric motors and fuel cells.

Burns said GM is also considering the benefits of compressed hydrogen as

opposed to liquid hydrogen, which has to be cooled to very low temperatures. Both forms of hydrogen could be used in the future for fuel cell cars, he said.

By working with BMW, GM could speed the arrival of the infrastructure to support fuel cell vehicles, he said. GM would also like to see other automakers and automotive suppliers join their collaboration, he said.

President George W. Bush's plan to spend \$1.3 billion in research over the next five years to develop hydrogen cars and infrastructure took a step forward when the Senate Energy Committee agreed to authorize funding.

Republican lawmakers rejected a Democratic proposal to have 100,000 hydrogen-powered cars on the highway by 2010 and 2.5 million vehicles ready by 2020. Democrats said goals were needed to spur automakers, arguing the White House proposal stopped short of making the cars a commercial reality.

91. Research Shows Hazards in Tiny Particles

A new review of research on nanoscale materials suggests that tiny particles are often toxic because of their size and are likely to pose health hazards, especially to workers making them. Dr. Vyvyan Howard, a pathology specialist at the University of Liverpool who examined results from 27 studies published since 1984, said that the type of material a particle is made of appears to be much less related to how hazardous it is than its size at such small scales.

Dr. Howard said that nanoscale particles, which are made up of tens to thousands of molecules and are far smaller than human cells, are easily ingested, inhaled or absorbed through the skin.

Dr. Howard's conclusions were released by the ETC Group, an opponent of rapid nanotechnology development that asked him to perform the research review. ETC has been advocating, among other things, that production of nanotechnology products be put on hold until more data is available on potential health impacts. The report is available at www.etcgroup.org.