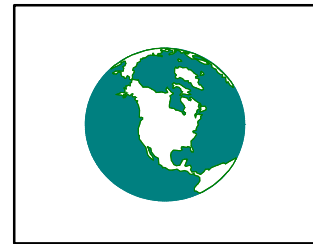


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# CAR LINES

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ISSUE 2006 - 2

APRIL 2006

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Vehicles drive in a street in Beijing, capital of China.  
A floating dust haunted Beijing on Monday. (Photo: Xinhua)

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## EUROPE

### 1. EU States Give Air Quality Plan Cautious Backing

Environment ministers gave cautious support to the EU's CAFE air quality plan at an environment council meeting in Brussels; they described emission targets proposed by the European commission for 2020 as "an appropriate basis for further considerations".

Following the debate, EU environment commissioner Stavros Dimas argued that "Europe will now be able to close the gap with other countries that already have higher [air quality] protection such as the United States."

Ministers called on the commission to come forward with further measures to reduce emissions, including the introduction of "Euro 6" norms for heavy goods vehicles. They demanded more action to reduce pollution from shipping and stationary combustion sources. Studies on the possibility of cutting emissions in agriculture should also be carried out, the environment council agreed.

#### CLIMATE:

A resolution on climate change caused the day's most fractious debate. The resolution maps out EU follow-up to last December's Montreal meeting of Kyoto protocol parties, but controversy flared over references to long-term targets to cut greenhouse emissions.

Italy reportedly resisted efforts from other ministers to repeat a pledge they made a year ago to push for 60-80% emission cuts in developed countries by 2050.

Since resolutions require unanimous adoption the council settled on a compromise in which the figure was omitted but ministers said the EU should argue for cuts "in the spirit of" the previous year's resolution.

#### VEHICLE EMISSIONS:

A "broad majority" of environment ministers said they wanted recent Euro 5 proposals on car emissions to be strengthened with an extra stage of long-term emission cuts as they become technologically and economically feasible. But EU industry commissioner Verheugen told ministers he was "reluctant" to contemplate the idea, according to one observer. Indications are that France, Italy and the Czech Republic are actively resisting any strengthening.

Speaking at a press conference following the council meeting, Josef Pröll, the environment minister for Austria, which currently holds the rotating EU presidency and therefore chairs EU meetings, indicated that there was strong support among ministers for the tightening proposals. He also argued that the standards give industry a target to aim at and improve planning by giving "a greater degree of certainty."

The growing consensus among EU states that post-euro 5 nitrogen oxide (NOx) emission targets for diesel cars should be set now, has been formally brought to the attention of the competitiveness council by Germany.

The Euro 5 proposals, published in December, envisage a 200 mg/km limit on diesel car NOx emissions, effective from 2008. Further limits, applicable from 2013, would be set only after a review in 2009. Germany believes the euro 5 limit for diesel cars should be further reduced to 180 mg/km, and that the EU should agree now on an ambitious 80 mg/km 2013 standard. Deciding this now would give greater planning certainty to manufacturers, it argues.

On the other hand, the government is calling for NOx limits for petrol cars to be left at their current level of 80 mg/km, rather than being reduced to 60 mg/km as proposed by the European commission for euro 5. The overall aim is to harmonize petrol and diesel NOx limits at 80 mg/km.

Environmental group T&E described Germany's long-term perspective as helpful and emissions parity between petrol and diesel cars as sensible, but emphasized that more ambitious standards could already feature in euro 5. It believes that diesel NOx emission limits could go even lower than 80 mg/km. Director Jos Dings pointed out that as of next year, European car manufacturers will anyway have to comply with much stricter US limits if they want to access the American market.

The proposals will now be debated by the European Parliament before being presented for final agreement by EU member states.

#### SPRING COUNCIL:

Ministers adopted a resolution outlining recommendations for a summit of EU leaders. Among them they said the EU's environmental technologies action plan (ETAP) should be "accelerated and intensified" and member states should "consider setting performance targets to create wider demand" for the technologies.

#### SUSTAINABLE DEVELOPMENT:

Ministers were "not too happy" with European commission's proposals to revise the EU's sustainable development strategy. In a resolution on the plan they said issues such as sustainable production and consumption and biodiversity "deserved a greater emphasis".

## **2. Spain Says EU Emission Rules Will Hurt Its Carmakers**

Spain's Industry Minister has warned that proposed new European rules, designed to cut vehicle emissions, could hurt the Spanish car industry. Industry Minister Jose Montilla said Spain supported the development of new rules to reduce car emissions but had asked Brussels to take into account the economic impact of any changes.

"The emission limits established in the proposal could have a serious impact on the Spanish car industry," Montilla told the Commission in Brussels, according to a ministry statement.

Car makers in Spain have already warned that the European Commission's so-called "Euro 5" proposals, which would force producers to fit filters and catalytic converters to all vehicles, would raise prices by between 600 and 1,200 euros. "From an economic

point of view, the installation of these mechanisms harms above all vehicles in the medium and low (price) range -- precisely those made in Spain," said Spanish car makers association, ANFAC.

Spain is Europe's third biggest carmaker, producing almost 3 million vehicles in 2005.

### 3. European Diesel Sales Approach 50%

According to a recent press release from PricewaterhouseCoopers, diesel light duty sales across Europe are just about at the half-way mark. See the summary table below.

	Diesel Sales Oct 04 - Sep 05	% Total Market	% Change on previous 12 Months	Diesel Fuel Price vs. Petrol*
Belgium	349,545	72%	+3%	-19%
France	1,449,381	70%	+6%	-12%
Austria	205,870	66%	-4%	-6%
Spain	1,137,322	68%	+9%	-7%
Portugal	118,850	62%	+11%	-17%
Italy	1,337,162	59%	+2%	-8%
Germany	1,441,577	43%	+6%	-12%
<b>United Kingdom</b>	<b>873,121</b>	<b>36%</b>	<b>+8%</b>	<b>+5%</b>
Norway	36,195	34%	+29%	-5%
Poland	77,312	31%	-17%	-3%
Czech Republic	36,829	28%	-10%	-1%
Switzerland	73,414	28%	+11%	+9%
The Netherlands	125,279	26%	+9%	-24%
Denmark	32,719	25%	+21%	-11%
Ireland	36,917	21%	+30%	+1%
Finland	22,802	17%	+2%	-17%
Hungary	35,229	17%	+29%	+3%
Sweden	21,635	9%	+6%	-4%
Greece	4,039	1%	-56%	-3%
<b>Overall</b>	<b>7,415,198</b>	<b>49%</b>	<b>+7%</b>	<b>-8%</b>

\* Based on relative fuel prices in December 2005

### 4. Recalculation Lowers Dutch Particle Challenge

Fine particle air pollution in the Netherlands is 10-15% less than previously thought, says a report published by the Netherlands environmental assessment agency. As a result, EU targets for limiting PM10 should now be achievable by 2015, it concludes.

The recalculation more than halves the number of locations where EU PM10 targets are expected to be exceeded in 2010, and halves it again between 2010 and 2015. The number of problem areas is disproportionately reduced because many of them only just exceeded EU targets in previous estimates.

The PM10 targets could be met by 2015 if additional policies are adopted including implementing the EU national emission ceilings directive, fully executing a Dutch air quality plan proposed last year, and implementing the EU thematic strategy on air quality.

The 10-15% reduction in estimated PM10 levels is based on observations made in 2004-5, which are considered more reliable than those made previously. The new readings stem from an expanded and upgraded measurement network and better match comparable figures in Germany and the UK.

Further investigation is needed to explain the decrease, says the report. A likely factor is the changed measurement network. A second possibility is changes in the chemistry of the atmosphere in areas with intensive livestock farming. Reduced emissions or climatic factors are considered less likely to explain the change.

## **5. Austrian Air Quality Legislation Finalized**

Austria's parliament has approved new rules on particle pollution; monitoring will be expanded and extended from PM10, the current EU regulatory standard, to the even smaller PM2.5 fraction. Austria's provinces are to have more freedom to clamp down on emissions where particle pollution exceeds limits, the ministry said. Austria's Greens voted against the rules, objecting to a clause allowing local controls to be overruled after three months. The law also transposes an EU directive on heavy metal and PAH pollution.

## **6. EU Urged To Revitalize Its Sustainability Drive**

The EU should make the Lisbon agenda for growth and jobs "explicitly subordinate" to the bloc's broader sustainable development strategy when the latter is revised later this year, according to Dutch experts. Without this, environmental priorities risk being sidelined, argues the Dutch environmental assessment agency (MNP) in a report.

There is general acceptance in principle that economic growth is just one facet of sustainable development. But in practice European policy-making is skewed towards the Lisbon agenda, says MNP. Lisbon's dominance is shown by the fact that it is the only pillar of sustainable development that EU heads of government review annually. It is also the only one for which member states have taken on obligations to report on what they do to fulfill objectives. Indicators created to measure progress on sustainability have gradually been refocused on economic issues, the agency states.

This shift has happened without consideration of trade-offs - such as environmental damage - or of their acceptability, MNP goes on. It cites greenhouse gas emissions and biodiversity loss as two critical environmental issues that have already been traded off against economic growth.

If greater competitiveness were a precondition of sustainability, then Europe would be right to focus above all else on economic growth. But in practice it is "risky" to assume this without assessing trade-offs explicitly, MNP says.

It recommends very clearly putting sustainable development at the pinnacle of EU policy-making, creating one single document, endorsed and monitored by the European council. This should set goals, which take into account socio-economic priorities, environmental concerns and international commitments.

Prioritization, and where necessary trade-offs, should be achieved through explicit, science-based debate, and also by relating proposals to EU public opinion and priorities. A survey of more than 3,500 people in six EU member states last year suggested the majority would support greater attention to elements of sustainable development other than jobs and growth.

For the Lisbon strategy this would require an explicit description of how it will contribute to sustainable development, how trade-offs will be avoided or to what extent they are to be accepted.

The EU sustainable development strategy was adopted in 2001, one year after the Lisbon agenda, whose goal was to make Europe into the most competitive world region by 2010. The European council is due to revise the sustainability strategy in June, drawing on proposals issued in December by the European commission.

## **7. Transport Ministers Debate Sustainability**

EU transport ministers debated plans for a review of the European sustainable development strategy at a session in Brussels. The Netherlands and Germany called for swift implementation of stricter vehicle emission standards to help member states comply with EU air quality rules. The council also rubber-stamped a conciliation deal with the European parliament on new road tolling rules for trucks. The Eurovignette directive can now enter force.

The Council of Ministers approved the European Parliament's amendments on the Eurovignette Directive and thus finalized the new European road charging regime; it will enter into force following its publication in the Official Journal. This legislation will encourage Member States to introduce and develop tolls and charges which will make it possible to improve the management of commercial freight traffic, reduce pollution and generate funds for investment in new transport infrastructure.

The text amends the 1999 "Eurovignette" Directive<sup>1</sup>, which provides a framework for the levying of tolls and user charges on Europe's motorways. The scope of the new road charging Directive is broader. It lays down rules for tolls or user charges on the trans-European network, whereas the existing Directive limited tolls and charges to motorways. It allows Member States to levy tolls and user charges on all other roads as well. The Directive applies to vehicles over 3.5 tons, rather than only to vehicles over 12 tons as at present.

The new Directive represents the first step towards taking account of external costs: it will allow a greater variation in tolls to reflect congestion, and toll variations to reflect the pollution caused by vehicles will be mandatory from 2010. It also makes provision for Member States to be able to increase tolls with a "mark-up" on roads in particularly sensitive mountainous regions. The income from these mark-ups must be used to fund alternative transport infrastructure.

The new Directive also establishes the principles for calculating tolls and limits frequent user discounts, to ensure that they are fair, proportionate, transparent and non-

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<sup>1</sup> European Parliament and Council Directive 1999/62/EC of 17 June 1999 on the charging of heavy goods vehicles of the use of certain infrastructures - Official Journal No L 187 of 20 July 1999.



discriminatory. These improvements will reduce obstacles to the free movement of goods and guarantee fair competition between road haulage operators.

The Member States will be required to incorporate this Directive into national law within two years.

## **8. Ministers Endorse Common EU Energy Policy**

EU energy ministers have supported a common European energy policy and called on heads of government to do the same; the energy council was reacting to proposals tabled by the European commission. The council backed shared general orientations on energy in the medium and long term to ensure policy coherence at EU level, while also urging continued respect for national sovereignty over energy choice, particularly nuclear energy.

Ministers called for swift implementation of a biomass energy action plan issued in December and policies to maintain growth in renewable energies beyond 2010. They also supported the commission's intention to issue an energy efficiency action plan.

On emissions trading, ministers called for this year's review of the scheme to take into account issues such as competitiveness, especially in energy-intensive sectors. Internationally, the EU should continue actions, including the promotion of energy standards harmonization, they said.

Ministers also demanded that the contribution of all energy sources, particularly renewables and coal, to the EU's objectives of security of supply, competitiveness and sustainability, should be assessed.

## **9. Volvo Unveils Hybrid Technology for Heavy Vehicles**

On March 10<sup>th</sup>, Swedish vehicle manufacturer Volvo announced that it had developed a commercially viable hybrid engine for heavy vehicles such as trucks and buses. The company said its new diesel-electric engine will offer fuel savings of up to 35 percent on routes which entail frequent braking and accelerations, such as city bus traffic, refuse collection, and construction. The development of hybrid technology for heavy vehicles has previously been hampered by the cost and limitations of batteries, but Volvo claims that it has developed an affordable battery that will provide sufficient power to start and accelerate heavy vehicles such as trucks and buses without assistance from the diesel engine. Such a product, the company added, would also significantly reduce the noise level of the vehicle. Volvo aims to put the vehicles into full production by 2009.

## **10. Germany Offers [Euros] 500 Million for Hydrogen Research**

The German government will provide [Euros] 500 million (\$610 million) over the next 10 years to support the development of hydrogen-powered cars, Federal Transportation Minister Wolfgang Tiefensee announced March 14. The program for innovation in hydrogen and fuel cell technology is intended to maintain and strengthen the Germany's lead in this area, the ministry said. The aid will go in part to a ministry-led public-private partnership, Clean Energy Partners, which is testing the economic feasibility of hydrogen

generation. The partnership currently has 10 firms. Hydrogen as fuel "has a long way to go," Tiefensee said. To succeed, hydrogen fuel must be reliable, easy to use, easy to transport, and cost-efficient for manufacturers and consumers.

### **11. Russia Palladium Exports Withstand Domestic Growth**

Palladium exports from Russia, the world's top producer, are unlikely to fall significantly in the next three years even as the country's cars consume more of the metal in catalytic converters, industry analysts reportedly said. But exports may decline slightly in the long term as Russia introduces laws to cut vehicle emissions, creating a larger domestic market for world leader Norilsk Nickel.

The automotive sector accounts for more than half of global palladium demand, Societe Generale said in a recent research report. Jewelry makes up 21 percent, electronics 15 percent and dental applications 10 percent.

North America uses more palladium than any other region.

Analysts said the vast majority of its palladium is exported and that Russia, which produces less than 1 million cars annually compared with 17 million in the United States, does not make enough vehicles to dent world palladium supply.

MDM Bank metals analyst Michael Kavanagh said the average vehicle uses 3 to 5 grams of palladium, or about one-eighth of an ounce. This means Russia's 1 million cars would use only 125,000 ounces -- about 4 percent of Russian palladium output.

Russia is gradually introducing new legislation to cut vehicle emissions. Euro III standards for all new car models are officially due to come into force in Russia from April 1. This sets a maximum limit on vehicle emissions, including a cap on carbon monoxide emissions of 2.3 grams a kilometer.

From 2008 Russia is due to introduce the same Euro III standards on all new sales of existing car models. Euro IV -- meaning carbon monoxide emissions of 1 gram a km or below -- will be introduced on all new models from 2008 and all new sold cars from 2010.

With this in mind, Johnson Matthey has said it plans a multi-million dollar investment in a new auto catalyst plant in the Siberian city of Krasnoyarsk, adjacent to Krastsvetmet Metal Co., which refines most of the palladium mined by Norilsk.

Norilsk is also exploring renewable fuel technologies, including hydrogen energy, which would use palladium. Soft and ductile, the metal is resistant to high-temperature corrosion and also absorbs hydrogen.

### **12. Britain Tells European Commission It Will Meet Emissions Targets**

The United Kingdom has made "demonstrable progress" in cutting greenhouse gas emissions and is "on track" to meet its commitments under the Kyoto Protocol, the country said in a March 9 report to the European Commission and to the secretariat of the U.N. Framework Convention on Climate Change.

According to the report, U.K. greenhouse gas emissions in 2004 were 14.6 percent below 1990 levels and current policies and measures are projected to bring emissions down to 19.4 percent below 1990 levels in 2010. Under the Kyoto Protocol, the United Kingdom has committed to reduce its greenhouse gas emissions by 12.5 percent below 1990 levels by the period 2008 to 2012.

The report attributes British progress in cutting emissions to the "restructuring of the energy supply industry," in particular by moving toward gas-fired power generation and away from coal-fired power in the 1990s; to energy efficiency improvements; and to "pollution control measures in the industrial sector."

The country's "long-term framework" for energy policy includes "putting the United Kingdom on a path to cut CO<sub>2</sub> emissions by some 60 percent by about 2050, with real progress by 2020."

### **13. German Particulate Car-Label Scheme Gets Go-Ahead; Euro 5 Undercut**

Germany's Bundesrat has given final approval to a new scheme requiring cars and trucks to be labeled according to their emissions of fine particles. The measure is intended to help Germany meet EU air quality standards by allowing local authorities to ban dirtier vehicles during high-pollution episodes.

The upper house of parliament gave the measure a first reading last autumn. It has now confirmed its backing for the color-coded scheme, but with a **crucial change** to the original proposal tabled by the red-green government of Gerhard Schröder before last September's election.

Future vehicles conforming to the forthcoming Euro 5 particulates standard will now not be distinguished from those meeting existing Euro 4 standards. Under the Euro 4 norm, cars can emit up to 25 milligrams per kilometer, and under the Euro 5 norm only 5 milligrams per kilometer. The latter standard is explicitly designed to mandate PM filters.

Representatives said that they made the change because owners meeting the current Euro norm should receive the maximum possible reward for doing so, which would mean freedom from any restriction placed on cars on the basis of their emission level. Additionally, the merging of the categories would simplify the administrative burden, the Bundesrat said.

Environmental advocates said the change would mean that a diesel car meeting the Euro 4 standard would land in the "unrestricted" category regardless of whether it had a filter, effectively removing any incentive to install filters.

The initiative stemmed from the state governments of Bavaria, where Bayerische Motoren Werke AG (BMW) is located, and Baden-Wuerttemberg, where DaimlerChrysler AG and its subsidiary Mercedes are based.

The Bundesrat also changed the draft law so that municipalities could not implement traffic bans until five months after the law took effect. The state governments said the delay was necessary to give sticker-issuing authorities time to prepare.

The Federal Government has not said whether it will accept the amended version or push for a further compromise.

In a related development, the Bundesrat also approved the government's planned taxation of transport biofuels, clearing the way for the measure to take effect on 1 August.

#### **14. Poland Plans Green Shift In Vehicle Tax**

Poland's finance ministry has issued a draft law introducing an "ecological tax" for cars in place of current excise duties. Car owners will have to pay it on the first registration of cars up to 3.5-tonnes. Rates will vary by engine capacity and EU air pollution norm compliance. The ministry predicts the tax will reduce Polish imports of second-hand vehicles to 200,000 annually, compared with more than 700,000 last year. Cars over ten years old will pay ten times as much as under current rules.

#### **15. Germany Charts Its Rising Eco-Economy**

Germany was the world's leading exporter of environmental protection equipment in 2003 and 2004, shipping around E31bn worth of the goods in each of those years, the country's environment ministry said recently. According to a new study, environmental protection equipment accounted for 5.1% of all industrial goods produced in Germany in 2004. The study also calculates that the government's promotion of renewable energies has created 1.5 million jobs.

"Thanks to our environmental technology, we enjoy a leading position on the international markets. Yet to maintain this lead, we have to act and that means continued ambitious yet consistent environmental policy," commented environment minister Sigmar Gabriel.

In a related development, France's latest annual environmental accounts, presented in Paris show that public and private spending on environmental protection is continuing to outstrip GDP growth. Meanwhile, the share of eco-employment was 1.5% in 2004, roughly in line with the previous year.

#### **16. France Looks At Transport Environmental Impact**

The French environment and transport ministries have issued a joint report on the impact of transport on the environment and health. The two departments argue that cost assessments carried out in the transport sector will take greater account of the environment.

Commenting on the report, Environment minister Nelly Olin stressed the need to use all available instruments, including technological progress and "significant incentives" to shift attitudes towards transport, in order to meet France's 2050 greenhouse gas target.

#### **17. Car Industry Failing On Climate Pledge Says T&E**

Carmakers are defaulting on their pledge to tackle climate change, new figures show. Last year, car industry efforts to improve fuel efficiency achieved a third of the rate

needed to meet a commitment they made to the EU in 1998.

Improving fuel efficiency is a key factor in tackling climate change because the more fuel a car uses, the more CO<sub>2</sub> is emitted into the atmosphere.

European manufacturers sold cars that produce on average 160 grams of CO<sub>2</sub> per kilometer last year, down only 1 per cent on the previous year, according to sales figures analyzed by Transport and Environment (T&E).

The European Automobile Manufacturers Association (ACEA) promised the European Commission in 1998 to reach average emissions of 140 grams of CO<sub>2</sub> per kilometer for new cars by 2008.

Carmakers now need an unprecedented improvement rate of 4.3 per cent per year for the next three years to meet their commitment. To date, the best performance was 2.9 per cent, recorded in 2000.

“President Barroso’s Commission has sat back and watched while carmakers put all their technology into making cars heavier and more powerful, rather than more fuel efficient” said Jos Dings, Director of T&E.

“President Barroso, himself the owner of a gas-guzzling Volkswagen Touareg, must recognize that a voluntary commitment from an industry that is responsible for 15% of CO<sub>2</sub> emissions in the EU is not enough and is failing miserably. Legislation is urgently needed if real progress is to be achieved” said Dings.

Further improvements in efficiency are not expensive and can be made with widely-available existing technology. A report for the European Commission last year showed that the cost of meeting the EU’s own target for new cars of 120 grams of CO<sub>2</sub> per kilometer would be on average € 577 per car.

Meeting the EU target would result in twenty-five per cent lower fuel bills. At today’s prices that would mean a € 1000 saving for the average car over three years.

### **18. Report Finds EU Laws Inadequate To Control Pollution in Cities**

Human exposure to increased pollutant concentrations in densely populated urban areas is high according to EEA. Air quality limit values, which are aimed at protecting public health, are frequently exceeded especially in streets and other urban hotspots. An EEA study of 20 European cities found air pollution **above recommended levels in every one**, according to a new EEA report. The improvement of air quality is therefore imperative.

The report released March 23 by the European Environment Agency found the European Union’s current legislation insufficient to control air pollution in urban areas. For some pollutants, according to the report, emissions limits will not be met by 2030, even if the maximum feasible technology is deployed.

The report, Air Pollution at Street Level in European Cities, examined traffic-related air pollution data from 20 cities in 14 EU member countries. It compared pollution levels to

background concentrations of nitrogen dioxide, nitrogen oxides, fine particles (PM-2.5), and coarse particles (PM-10) for urban areas. It also projected emissions for the year 2030, using two scenarios: one with current legislation in place and the other assuming use of maximum feasible technology.

"Traffic-related air pollution is still one of the most pressing problems in urban areas," the report said. It found that air pollution is **above recommended levels in each location surveyed**. Most traffic-related emissions are in the fine particulate range (PM-2.5), which means particles are very small and can penetrate deep into the lungs.

By 2030, according to the report, EU-legislated nitrogen dioxide limits "will be met in only very few cases" under current rules, although the limits could be met in most cases with use of maximum feasible technology.

However, limits for particles up to 10 microns (PM-10) "are not expected to be met" even with maximum feasible technology in place.

Introduction of stricter vehicle emission regulations currently proposed by the European Commission (known as the Euro 5 standards) is expected to result in "significant" reductions of PM-2.5 levels, the report said.

The cities surveyed were: Antwerp, Athens, Barcelona, Berlin, Brussels, Budapest, Copenhagen, Gdansk, Graz, Helsinki, Katowice, Lisbon, London, Marseilles, Milan, Paris, Prague, Rome, Stuttgart and Thessaloniki.

## 19. Europe "Facing Unsustainable Transport Trends"

Polluting emissions from transport continue to impact on health and undermine progress towards Kyoto targets, says a new report from the European Environment Agency (EEA).

"Transport and environment 2005: Facing a Dilemma", shows that more goods and passengers are being transported farther and more frequently across Europe. While greenhouse gas emissions from other sectors decreased, those from transport increased in the EEA countries by more than 22% between 1990 and 2003.

Ireland has experienced an increase of 130% in greenhouse gas emissions from transport - excluding aviation and maritime - a reflection of its economic growth. Germany, on the other hand, has experienced only a 5% increase, consistent with its economic experience, the report says.

Air passenger transport grew at the fastest rate (96% between 1990 - 2002), while the share of road and rail remained constant. Relative decoupling of growth in freight transport volumes from economic growth has only been achieved in the EU-10 group of new Member States, where transport volumes grew less than the economy as a whole. Relative decoupling of passenger transport volumes has been achieved in the last six years for which data is available for the EEA countries as a whole, but not for all member countries every year.

"Transport, especially road transport, is becoming cleaner because of increasingly strict emission standards and improved technology. However increases in demand continue to

outstrip positive innovations. We are locked into patterns that are not easily changed in the short term. Long term policy initiatives are needed to encourage people to change their habits," says Professor Jacqueline McGlade, Executive Director of the EEA.

Transport is not the only reason for poor air quality. However by exposing people to emissions at street level it can have a serious impact on the health of the general public. Moreover, traffic is a significant source of emissions of fine and ultra-fine particles in cities and there is growing evidence that these particles have serious effects on health.

The report foresees that many European cities will continue to fail air quality limits. Ozone incidents - when pollution interacts with sunlight to cause a high level of Ozone (O<sub>3</sub>) in the lower atmosphere - are frequent now, and air quality limits set for ozone in 2010 are widely exceeded already. The impacts on health are severe: estimates suggest that as many as 370, 000 people die prematurely every year in Europe due to air pollution.

And while research into alternative fuels is important, use of so called 'bio-fuels', on a scale where it will significantly reduce total greenhouse gas emissions will not be a reality for many years. In the meantime, transport will continue putting pressure on the continent's environment, the report says.

**Key Facts:**

- Passenger transport: An increase of 30% between 1990 - 2002
- Freight transport: An increase of 34% between 1990 - 2002
- Air transport: An increase of 96% between 1990 – 2002 in the 23 EEA member states studied: the EU-15 plus Czech Republic, Slovenia, Slovakia, Poland, Hungary, Norway, Iceland and Turkey), based on passenger kilometers.

**20. Prime Minister-Elect Prodi to Focus On GHG Cuts, Use of Renewables**

Italian prime minister-elect Romano Prodi unveiled some of his environmental policies on April 12, saying that he would focus on reducing greenhouse gas emissions and dramatically increasing the development of renewable energy sources.

Prodi, who served a five-year term as president of the European Commission until 2004, was declared the narrow winner April 11 over incumbent Silvio Berlusconi in national elections. Though Berlusconi has vowed to contest the result, the process of installing Prodi as the government's new leader--a process that should take about a month--began April 12 when the results were registered by the Ministry of the Interior.

According to the environmental lobby group Legambiente, the most significant part of Prodi's plan is his proposal to increase the amount of energy from renewable sources to 25 percent of Italy's electricity needs by 2011, up from just 4.6 percent at the end of 2005. The focus on renewable energy sources follows a trend started under the Berlusconi government, which announced in August that it would invest [Euros]25 million (\$31 million) in research projects for renewable energy.

On other topics, Prodi said he would close the door on the possibility of removing Italy's ban on nuclear power, though he said he would allow research into nuclear technologies.

The Berlusconi government said last year that it would consider using nuclear energy in the future as a way to increase power generation without increasing emissions.

## **21. U.K. Plan Directs Funding To Climate Change, Energy Efficiency**

The U.K. budget for 2006 includes provisions for a variety of programs to reduce greenhouse gas emissions and to encourage microgeneration and energy efficiency. In his budget-day speech March 22, U.K. Chancellor of the Exchequer Gordon Brown said the government was committed to "delivering a strong economy based not just on high and stable levels of growth, but also on high standards of environmental care."

He announced a number of measures that he said represented "the next stage in the government's strategy for tackling climate change," including increasing the Climate Change Levy (a tax on the use of energy by businesses) in line with inflation, and taking steps to improve household energy efficiency, including subsidies for home insulation.

Extending subsidies to 250,000 homes would "bring forward annual carbon savings of around 35,000 tons and annual household energy bill reductions of around £20 million (US\$34.7 million)," he said.

To promote the use of renewable fuels and fuel efficiency, the chancellor announced an additional £50 million to support microgeneration technologies for small-scale power development, alongside the launch "of a consultation document on the barriers to large scale commercial deployment in the United Kingdom of carbon capture and storage."

He added that reform of the vehicle excise duty would reduce the tax to zero on cars with the lowest carbon emissions to encourage development "of the low-carbon car market" and introduce a top-band for the most polluting cars.

He also announced a new scheme to encourage the use of biofuels. The Biofuels and the Renewable Transport Obligation (RTFO) would be a mechanism by which suppliers of transport fuel will be obliged to ensure that a set percentage of their sales are from a renewable source. He said the RTFO would be introduced in 2008-2009, with the obligation level set at 5 percent in 2010-2011.

## **22. Proposed U.K. 'Air Pollution Strategy' Aims To Further Cut Emissions**

On April 5<sup>th</sup>, the U.K. Environment Department issued a draft Air Pollution Strategy for consultation, outlining proposed measures to reduce emissions from a wide variety of sources.

"Although our air is cleaner in overall terms than at any time since the industrial revolution, air pollution is not declining as quickly as expected," Undersecretary for the Department of Environment, Food, and Rural Affairs Ben Bradshaw said in a statement. "We need to move faster and take further measures to move us closer to meeting our objectives."

"Pollutants from our cars, ships and industrial plants are still having a marked effect on our health, reducing the average life expectancy in the United Kingdom by eight months," Bradshaw said. "This can't continue. The measures outlined in this Review



would--if implemented--be a significant step forward in improving public health and our environment."

According to the document, the proposed measures would "reduce the impact on average life expectancy to five months by 2020."

It says that under current strategy, which was launched in 1997, some pollutants are "leveling or even reversing," and that targets for nitrogen dioxide, particulate matter, and ozone are not on course to be met.

The proposed strategy aims to map out current and future air policy, to provide the best practicable protection to human health and the environment by setting objectives for the main air pollutants, and to provide a framework to allow all those who contribute to or are affected by air pollution "to identify their role in improving air quality."

The document calls for offering **incentives for the early adoption of stricter EU vehicle emission standards**, for a national road pricing scheme, for reductions in emissions from small combustion plants, for reductions in emissions from ships, and for improved "sustainable" distribution of freight. It also contains stricter product standards for new residential boilers, calls for early adoption of EU requirements on emissions from large coal-fired power plants (above 300 megawatts), and calls for measures to reduce emissions of volatile organic compounds.

The consultation document suggests that if such measures are implemented, average background concentrations of particulate matter in urban areas could be reduced by 15 percent between 2010 and 2020.

It projects that "new, stringent European vehicle emissions standards" could significantly reduce "exceedences" of particulate matter and nitrous oxide, while saving 2.8 million to 4 million "life years." It adds that incentive packages to encourage the early uptake of cleaner vehicles would accelerate these benefits.

An updated strategy will be published at the end of the year that will draw conclusions from the consultation and provide "a clear, long-term vision for air quality."

### **23. Britain Issues New Climate Program, Emissions Data**

The U.K. Climate Change Program launched on March 28<sup>th</sup> contains new emissions reduction measures to be rolled out over the next few years, but acknowledges that Britain will not meet its self-imposed target of reducing greenhouse gas emissions 20 percent below 1990 levels by the end of the decade. Instead, the United Kingdom is likely to see GHG emissions reduced by 15 to 18 percent by 2010, according to the document. Although this would fall short of the voluntary goal, it would still beat the 12.5 percent target the country agreed to under the Kyoto Protocol. Kyoto emission targets are expressed in terms of percentage of 1990 levels by the period 2008-2012.

The U.K. program calls for a stricter emissions cap for industry, steps to encourage the use of biofuels, new regulations on buildings to promote energy efficiency, and increased use of microgeneration. The program also noted the U.K. commitment to the inclusion of the aviation sector in the EU emissions trading scheme.

Some of the measures outlined in the program were contained in the U.K. 2006 budget announced by Chancellor of the Exchequer Gordon Brown on March 22<sup>nd</sup>. The budget, as described by Brown, includes subsidies for insulation in new houses, a household energy efficiency drive, and an increase in the Climate Change Levy--a tax on the consumption of energy by business--to cover inflation.

In justifying the program's failure to adopt more extreme measures to meet the previously stated U.K. GHG emission-reduction target, Environment Minister Margaret Beckett said, "Higher than anticipated levels of economic growth and the recent rises in global energy prices, which have altered the relative prices of coal and gas, have led to increased emissions and made the target more challenging."

U.K. emissions data released on March 30<sup>th</sup> noted a slight increase in greenhouse gas emissions in 2005, though they also indicated that aggregate emissions of the six gases regulated under the Kyoto Protocol decreased by 14.5 percent between 1990 and 2005. According to the provisional data, greenhouse gas emissions in 2005 reached 153 million tons of carbon-dioxide-equivalent, up one-quarter of one percent from 2004.

According to data the U.K. government submitted earlier this year to the European Commission and to the secretariat of the U.N. Framework Convention on Climate Change, Britain's greenhouse gas emissions also increased in 2004, though only by one-half of one percentage point over 2003.

Also on March 30<sup>th</sup>, the U.K. government released data for other atmospheric emissions in 2004. According to DEFRA, the long-term trend is for reduced emissions of all pollutants in the inventory; emissions of the majority of metals "remain relatively stable with some rises relating to changes in fuel use;" and emissions of persistent organic pollutants "show a mixed picture with an increase in hexachlorobenzenes (HCBs) from pesticide use and a small rise in dioxin and furan production between 2003 and 2004."

#### **24. EU Governments Warm To Biomass Energy Plan**

EU governments are reportedly preparing to strongly endorse a biomass energy action plan tabled by the European commission in December and another on transport biofuels proposed in February. The EU energy council is due to adopt a formal position on the plans at a meeting on June 8<sup>th</sup>.

The December plan proposes measures to increase use of biomass energy in heating and cooling, electricity production and transport. In it the commission promises to propose legislation on renewable heating and cooling by the end of 2006, to complement existing EU rules on renewable electricity and transport biofuels.

The draft conclusions released by the EU's current Austrian presidency reiterate and support most of the plan's main points. The council neither adds any radically new elements nor strongly disagrees with any of the commission's proposals.

Among the conclusions that have excited interest among concerned industry groups are an endorsement of changes to EU road fuel standards to enable biofuels to be blended at concentrations above 5%.

## **25. EU Heads of State Set Renewables Goal Of 15 Percent by 2015**

European heads of state meeting on March 23-24 in the EU's Spring Council agreed on a range of environmental measures including an energy-from-renewables target of 15 percent of total supply by 2015. Other actions endorsed by EU presidents and prime ministers include swift preparation for post-2012 climate change measures in line with the Kyoto Protocol and a call for a sustainable consumption and production ("SCP") action plan.

Speaking to reporters after the Council, Austrian Chancellor Wolfgang Schuessel confirmed that the renewable energy target would be for the EU as a whole and would not impose renewables obligations on individual member states. "The choice of energy mix is exclusively a matter for national competence--no doubt about that," said Schuessel, whose country holds the EU's rotating presidency. "No country will let that right be taken away from them."

He highlighted that some countries were already advanced in use of renewables, such as Denmark, where 20 percent of electricity comes from wind power and biomass.

The Council also set a target for use of biofuels, which should contribute 8 percent of the energy mix by 2015.

Other measures discussed by the heads of state reflected the outcomes of the March 9 meeting of EU environment ministers in Brussels.

For environmental technologies, ministers said performance targets should be considered.

On climate change, the Council called in a statement for "a post-2012 arrangement" through "long-term cooperative action and at the same time through a process under the Kyoto Protocol."

Following the Council, the EU's executive arm, the European Commission has the task of putting the ministers' decisions into concrete form.

## **NORTH AMERICA**

### **26. Oregon Judge Upholds Clean-Car Decision**

A judge has upheld a move by Gov. Ted Kulongoski and Oregon environmental officials to adopt California's new vehicle-emission standards to reduce greenhouse gases. Marion County Circuit Judge Mary Mertens James rejected arguments by the auto industry and by Republican lawmakers who said the Democratic governor ignored the wishes of the Legislature by having the state Department of Environmental Quality move to adopt the new standards.

Specifically, the judge said Kulongoski acted within his authority when he used a procedure known as a line-item veto to clear the way for the tougher tailpipe standards.

Kulongoski used that veto to delete a provision that lawmakers tucked into an environmental budget bill in 2005 to bar the administration from spending money to adopt California's strict vehicle-emissions standards.

Kulongoski's veto of that provision touched off the lawsuit by Republican Senate Leader Ted Ferrioli, the Alliance of Automobile Manufacturers and more than a dozen car dealers seeking to block the tougher rules.

Acting at Kulongoski's behest, the Oregon Environmental Quality Commission in December adopted new standards that will take effect in the 2009 model year. They will apply only to new cars and light trucks, not vehicles already on the road. Adoption of the California standards by Oregon will create a "clean car corridor" from Canada to Mexico. That's because the Washington Legislature passed a similar measure last year with a provision that the requirement would take effect only if Oregon institutes the stricter standards.

Seven Eastern states also have moved to adopt the tougher standards — New York, Connecticut, New Jersey, Massachusetts, Vermont, Maine and Rhode Island.

State environmental officials estimate that the California rules will reduce carbon-dioxide emissions from cars and light-duty trucks 18 percent by 2020.

## **27. Mexico City Field Campaign to Study Megacity Pollution**

An international team of researchers has headed into the field for one of the most complex campaigns ever undertaken in atmospheric chemistry: a month-long investigation of air pollution as it flows downwind from Mexico City. The scientists expect that their assessment of the pollution's impact on regional and global air quality, climate and ecosystems will be applicable to megacities--cities with 10 million or more inhabitants--in locations around the world.

The project, called Megacity Impacts of Regional and Global Environments (MIRAGE), is scheduled to run from March 1 to 29, 2006, and is led by scientists at the National Center for Atmospheric Research (NCAR) in Boulder, Colo., in partnership with researchers at several U.S. universities and other organizations.

MIRAGE is one component of a set of simultaneous field campaigns collectively called Megacity Initiative: Local and Global Research Observations (MILAGRO), an international effort that will observe and quantify air pollution emitted by Mexico City from multiple perspectives. The MIRAGE portion of this larger project is funded by the National Science Foundation (NSF), which is also NCAR's primary sponsor; other components are supported by the U.S. Department of Energy, the Molina Center on Energy and the Environment, and NASA.

"Mexico City's pollution probably doesn't have a global impact, but all urban areas together do, and the world is quickly urbanizing," explains NCAR scientist Sasha Madronich, one of MIRAGE's principal investigators. "If we can understand the pollution impacts of Mexico City, we can apply this new knowledge to other urban areas across the globe."

The MIRAGE project researchers, who come from more than 60 institutions in the United States, Mexico, and several other nations, will coordinate aircraft and ground-based measurements, satellite observations, and computer modeling in an effort to shed light on four questions:

- How far downwind does Mexico City's pollution plume extend?
- How are the pollutants transformed by chemical reactions occurring downwind of the city?
- How do the pollutants affect visibility and regional and global climate?
- How do the urban pollutants interact with pollutants from other sources, such as agricultural and forest fires?

"We're not looking so much at pollution inside the city, because that's already fairly well known," Madronich says. "We're looking at the outflow. For the first time we'll have an idea of how much pollution is affecting areas outside the city, and be able to understand its full importance."

## **28. States Appeal To U.S. Supreme Court On CO2 Auto Emissions**

A dozen U.S. states have appealed to the U.S. Supreme Court on a case that seeks to force the U.S. government to regulate carbon dioxide emissions from cars and trucks. The states, three cities including New York, and several green groups had sued the U.S. Environmental Protection Agency for failing to regulate the car emissions most scientists link to global warming.

Last August the full bench of the U.S. Federal Court of Appeals in Washington, D.C., the nation's second-highest court, denied a request to hear the case in a 4 to 3 decision. Earlier, that court had ruled 2 to 1 that the U.S. government does not have to regulate carbon dioxide emissions spewed from cars and trucks.

The court did not decide central questions on whether EPA has the authority to regulate global warming pollution, or the agency's claim that carbon dioxide is not a pollutant. The EPA had said in 2003 that global warming has risks, but it could not regulate greenhouse gas emissions because Congress had not granted it authority to do so under the federal Clean Air Act.

The new petition claims the EPA unjustifiably concluded that the Clean Air Act does not provide it authority to regulate greenhouse gas emissions. It says a review by the Supreme Court is necessary to prevent the (EPA) from continuing to claim that a decision of this Court prevents it from taking regulatory action to address climate change.

Passenger cars, pickup trucks and SUVs account for 20 percent of U.S. carbon dioxide emissions, with power plants responsible for 40 percent.

The EPA said recently that U.S. greenhouse emissions rose 1.7 percent in 2004, a higher rate than during each of the previous two years.

## **29. Study Shows Hybrid Buses Significantly Improve Fuel Economy**

Hybrid electric transit buses are raising the industry standard for fuel economy, emissions, and reliability, according to a recently published independent study. The National Renewable Energy Laboratory (NREL) compared different technologies used in regular revenue service in New York City and concluded that Orion VII buses powered by BAE Systems' HybriDrive<sup>®</sup> series propulsion system had superior performance. Orion is the transit bus brand of DaimlerChrysler in North America.

Hybrid buses tested by NREL on New York's most severe duty cycles achieved up to 45 percent better fuel economy than diesel buses and 100 percent improvement compared to natural gas on an energy-equivalent basis. The report also said bus drivers liked the increased power output of the hybrid buses, whose electric drive motor offers superior torque to help with acceleration and hill-climbing.

New York's hybrid fleet also proved most reliable in the study, with 7,000 miles between road calls, compared to 5,000 miles for natural gas and 4,000 miles for diesel. The HybriDrive<sup>®</sup> system also performed better than the other propulsion systems, with 10,000 miles between calls, compared to 8,000 miles for CNG and 5,000 miles for diesel.

In a series hybrid, the vehicle utilizes a smaller diesel engine, reducing weight and cost. All-electric drive maximizes efficiency and reduces emissions, and a regenerative braking system recovers waste energy and extends brake life. The design also eliminates the transmission, a significant maintenance item on transit buses.

The NREL study examined the operation, maintenance, performance, emissions, cost, and safety of urban transit buses operating in normal revenue service in New York, where usage and duty cycle are extremely demanding. The city operates a fleet of more than 4,000 transit buses including diesel, natural gas, and hybrid electric varieties. Currently, 325 Orion VII hybrid buses operate in revenue service, and 500 more are on order.

### **30. EPA Fuel Economy Procedure May Act As Disincentive For Hybrids**

EPA's proposed new fuel economy test procedure could act as a disincentive for the production and purchase of hybrid vehicles by understating the relative fuel economy of such vehicles, according to officials from the hybrid manufacturer Honda. EPA is proposing to revamp fuel economy calculations for motor vehicles in order to improve the accuracy of mileage estimates provided to consumers. It would be the first update in decades to the methodology the agency uses, which is currently based on two tests simulating city and highway driving.

EPA's proposal would incorporate three more factors into the tests to replicate three real-world conditions that can affect fuel economy: high speed or rapid acceleration driving; use of air conditioning; and operating a car at a colder temperature.

For 2008-10 model years, EPA would update its existing methodology to take into account the three new factors across vehicle fleets. Starting with the 2011 model year, a provision kicks in that requires all five factors to be used in testing for individual vehicles.

The proposal says the miles per gallon (mpg) estimates for conventional, non-hybrid vehicles would likely be reduced on average by about 10-20 percent from today's fuel

economy labels, while highway mileage estimates would likely reduce by 5-15 percent. The agency says city mileage estimates for hybrids would drop 20-30 percent, and for highway mileage the drop would be about the same as with conventional vehicles.

EPA in a fact sheet on the proposal says the nature of hybrids -- including sophisticated control systems and sometimes a smaller engine -- makes a hybrid less efficient under certain circumstances, such as colder weather and air conditioning use. However, the agency adds that many hybrid models will remain "among the most fuel-efficient vehicles on the market."

Honda says EPA's proposal is based on insufficient data and could understate the fuel economy of hybrids. Honda representatives said at a March 3 EPA hearing in Romulus, MI, that the fuel economy of hybrids can change depending on driving behavior and conditions, and EPA's proposal ignores this inconsistency. The representatives urged EPA to collect more data before moving forward with its proposal.

Specifically, Honda raised concerns that EPA's proposal would overly penalize hybrid technologies and discourage the purchase of such vehicles, because the proposal "strongly implies" that hybrid vehicles are less fuel efficient than their current fuel economy ratings.

Several environmental groups agree with Honda that EPA should collect more data on hybrid vehicles before moving forward with its new test procedure. John DeCicco, an Environmental Defense senior fellow for automotive strategies, said at the hearing that the overall discrepancies in fuel consumption data appear to be "much greater" for low-mileage vehicles such as hybrids, and said such vehicles are "of most concern for consumer cost impacts and greenhouse gas emissions."

In a written statement submitted at the hearing, Roland Hwang of the Natural Resources Defense Council says EPA has not yet "provided sufficient data to evaluate the accuracy" of the five-factor test. Hwang urged the agency and automakers to work together to pursue a "larger, more statistically representative" on-road fuel economy data collection program.

### **31. Steps Urged to Cut Pollution on U.S.-Mexico Border**

A U.S. presidential advisory committee called the Good Neighbor Environmental Board released recommendations March 14 for reducing transportation-related air pollution on the U.S.-Mexico border, including enhanced vehicle inspection and maintenance in border states, increased use of mass transit, and preventing the sale in Mexico of used U.S. vehicles that no longer meet U.S. emissions standards. In addition, the report recommended opening more border crossings to reduce backups at existing crossings. The report also recommended steps to preserve cultural resources along the border such as tribal religious and archeological sites.

### **32. CASAC Sends Letter To EPA Criticizing The PM NAAQS Proposal**

"The CASAC requests reconsideration of the proposed ruling for the level of the annual

PM2.5 NAAQS so that the standard is set within the range previously recommended by the PM Panel, *i.e.*, 13 to 14  $\mu\text{g}/\text{m}^3$ . The CASAC also recommends that the proposed 24-hour PM10-2.5 primary standard be accompanied by a national monitoring program for PM10-2.5 in both urban and rural areas to aid in informing future health and welfare effects studies on rural dusts. Moreover, the CASAC strongly recommends expansion of our knowledge of the toxicity of PM10-2.5 dusts rather than exempting specific industries (*e.g.*, mining, agriculture). Finally, the CASAC requests that the sub-daily secondary standard to protect visibility, as recommended both in the PM Staff Paper and by the CASAC, be favorably reconsidered."

### **33. New Compliance Options Available For Clean Diesel Vehicles**

To facilitate the transition to cleaner, light-duty diesel vehicles, EPA is providing diesel manufacturers with two voluntary interim compliance options for meeting EPA standards. The standards, known officially as the Tier 2 Vehicle and Gasoline Sulfur Rulemaking, significantly reduce the emissions from new passenger cars and light trucks. The two voluntary compliance options apply to nitrogen oxide requirements for diesels during compliance testing at high altitudes and high speed/high acceleration conditions. Manufacturers choosing these options will be required to meet more stringent requirements in other aspects of the Tier 2 program, including tighter particulate matter standards and longer useful life of the vehicle. These voluntary options are available for three years--model years 2007 through 2009.

### **34. EPA Assessment of Toxic Air Pollutants Provides Diesel Insights**

The second National-Scale Air Toxics Assessment (NATA) was released on February 22<sup>nd</sup> and is an important tool to guide further local, state and federal steps to cut toxic air pollution and build upon the significant emissions reductions achieved since 1990. It is a state-of-the-science screening tool that estimates cancer and other health risks from exposure to air toxics.

Since the Clean Air Act was amended in 1990, EPA has issued 96 standards for 174 different types of industrial sources of air toxics, including chemical plants, oil refineries, aerospace manufacturers and steel mills. The agency also has issued regulations for 15 categories of smaller sources, such as dry cleaners, commercial sterilizers, secondary lead smelters and chromium electroplating facilities. Together, these standards are projected to reduce annual emissions of air toxics by about 1.7 million tons from 1990 levels when fully implemented.

By 2030 EPA's proposed Mobile Source Air Toxic (MSAT) regulations and fuel and vehicle standards already in place will reduce toxic emissions from passenger vehicles to 80 percent below 1999 emissions. The MSAT proposal would set new benzene standards for gasoline, hydrocarbon emissions standards for passenger vehicles at cold temperatures and evaporative standards for fuel containers. Once the new standards are fully implemented in 2030, they are expected to reduce emissions of mobile source air toxics annually by 350,000 tons, including 65,000 tons of benzene.

NATA covers 177 of the Clean Air Act's list of 187 air toxics plus diesel particulate matter. For 133 of these air toxics (those with health data based on chronic exposure) the assessment includes estimates of cancer or non-cancer health effects including non-



cancer health effects for diesel particulate matter. The assessment estimates that people in the US have a lifetime cancer risk from air toxics between 1 and 25 in a million. This means that out of one million people, between 1 and 25 people have increased likelihood of developing cancer as a result of breathing air toxics from outdoor sources, if they were exposed to 1999 levels over the course of their lifetime (70 years). The assessment estimates that most urban locations have an air toxics lifetime cancer risk greater than 25 in a million. Risk in transportation corridors and some other locations is greater than 50 in a million. In contrast, one out of every three Americans (330,000 in a million) will develop cancer during a lifetime, when all causes (including exposure to air toxics) are taken into account.

With regard to diesels, the assessment noted the following:

- In this assessment, the potential cancer risk from diesel exhaust emissions is not addressed in the same fashion as other pollutants. This is because data are not sufficient to develop a quantitative estimate of carcinogenic potency for this pollutant. However, EPA has concluded that diesel exhaust is among the substances that the national-scale assessment suggests pose the greatest relative risk. First, several human epidemiology studies link increased lung cancer associated with diesel exhaust. Furthermore, exposures in several of these epidemiology studies are in the same range as ambient exposures throughout the United States.
- In addition to the potential for lung cancer risk, there is a significant potential for diesel exhaust to pose noncancer health effects as well, based on the contribution of diesel particulate matter to ambient levels of fine particles. Exposure to fine particles has been linked to significant public health impacts, including respiratory and cardiovascular effects, as well as premature mortality. These effects are not specifically presented in the national-scale assessment analysis but are considered in setting and implementing EPA's National Ambient Air Quality Standards for PM-2.5. In addition, the national-scale assessment results show population exposures above the level EPA has designated for noncancer respiratory hazard (called a "reference concentration" which is based on specific noncancer effects found in several animal studies, which showed adverse changes in lungs such as inflammation and lesions).

### **35. EPA Abandoning Good Science For Political Control Over NAAQS**

Bill Wehrum and George Gray, EPA's highest-ranking air and science officials, respectively, have issued recommendations that appear to curtail the involvement of scientists and boost the role of political figures in the process of setting national ambient air quality standards (NAAQS) for six major pollutants.

These standards must be updated every five years under the Clean Air Act, and for nearly three decades the process has been driven largely by EPA scientists and a Clean Air Scientific Advisory Committee made up of experts from outside the agency. The process has been pretty straightforward: Staff scientists review the latest studies and data on public and environmental health and identify the concentration of pollution they believe should be permissible for contaminants including ozone, particulate matter, and sulfur dioxide. They submit a "staff paper" with their suggestions to CASAC. The committee, in turn, gives the EPA administrator a formal recommendation for a range of

allowable emissions levels. The administrator then settles on a final level, which has historically been within the recommended range.

The new system would allow White House officials and political appointees at the EPA and other agencies to be intimately involved in the data-reviewing and reporting stages that have to date been largely overseen by scientists.

NAAQS are responsible for driving most of the major air-pollution cleanups since the Clean Air Act was passed, including in recent years new rules for diesel truck emissions and diesel non-road vehicle emissions, the Clean Air Interstate Rule for smog and soot, and the notable curbing of ozone emissions in the last five years.

Rep. John Dingell (D-Mich.), ranking member of the House Committee on Energy and Commerce, sent a letter to EPA Administrator Stephen Johnson on January 12<sup>th</sup> expressing concerns about the proposed changes. The NAAQS program "has been instrumental in greatly improving air quality in this country," he wrote. "Since 1970 ... aggregate emissions of the NAAQS pollutants have decreased over 50 percent at the same time that our nation's economy has grown almost 200 percent and our population has increased 40 percent." Much of this success, Dingell suggested, can be attributed to the "rigorous, open, and transparent scientific process that has been used for decades."

But these protestations seem to be having little effect. Marcus Peacock, EPA's second in command after Johnson, is reportedly fast-tracking the recommendations so that it can apply the new process to the reviews under way. Ongoing reviews of ozone and lead standards are due to be released next year.

It appears that this overhaul is being pushed in order to avoid the type of embarrassing situation that cropped up last December. That's when the EPA came under fire for rejecting recommendations from both CASAC and EPA scientists concerning how much to tighten air quality standards for fine-particulate, closely correlated to heart and lung diseases. Staff scientists had deemed current limits for both daily and annual fine-particulate emissions too weak to protect public health, but on December 20<sup>th</sup> EPA Chief Johnson broke with precedent by ignoring these findings and proposing rules that would make no change to annual emissions standards and a less ambitious change than scientists had recommended to daily standards.

The move kicked up a media controversy.

The health and environmental communities worry that there's no turning back at this point as EPA appears to have the authority to implement these recommendations without public input.

### **36. Health And Environmental Groups Oppose Nominated Air Regulator**

On Wednesday, April 26th, the Senate Environment and Public Works (EPW) Committee is scheduled to vote on President Bush's nomination of William Wehrum to the position of Assistant Administrator for EPA's Office of Air & Radiation. A coalition of environmental and public health groups has urged the 18 members of the EPW Committee to oppose this nomination arguing that as chief counselor and interim assistant administrator since 2001, Mr. Wehrum has worked to undermine the critical

public health and environmental protections established by the Clean Air Act.

The central grounds noted by the groups for opposing his nomination were as follows:

- Mr. Wehrum was an architect of EPA's approach allowing power plants to continue emitting toxic mercury emissions at excessively harmful levels for nearly two decades longer than the Clean Air Act allows.
- Mr. Wehrum was also the central force behind EPA's development of harmful and unlawful changes to the Clean Air Act's new source review (NSR) protections. The U.S. Court of Appeals for the D.C. Circuit has now struck down three of the NSR reforms developed by Mr. Wehrum, including an entire rulemaking, on the grounds that the weakening changes violate the plain language of the Clean Air Act.
- Mr. Wehrum also led the development of so-called "risk-based exemptions" to allow industrial emitters of toxic air pollution to escape the Clean Air Act's required Maximum Achievable Control Technology (MACT) standards for pollutants such as the carcinogen formaldehyde, hydrogen chloride and manganese.
- Under Mr. Wehrum's direction, EPA's air office is preparing a proposal to weaken nearly 100 current MACT standards limiting 188 toxic air pollutants.
- In terms of other expected future actions, Mr. Wehrum recently recommended to the EPA Deputy Administrator and Administrator that the agency jettison its three decades-long practice of providing expert staff recommendations to the Administrator and outside science advisors concerning the review of health-based national ambient air quality standards. Mr. Wehrum would curtail this longstanding professional staff role in order to consolidate greater power into the hands of political appointees.

Organizations signing the letter included Natural Resources Defense Council, Sierra Club, National Environmental Trust, Physicians for Social Responsibility, U.S. Public Interest Research Group, League of Conservation Voters, Environmental Integrity Project, Our Children's Earth Foundation, Natural Resources Council of Maine, National Refinery Reform Campaign, Citizens for Pennsylvania's Future, Union of Concerned Scientists, and Friends of the Earth

### **37. Diesel Vehicle Demand Expected to Soar in U.S.**

The U.S. market share for diesel-powered cars and light trucks will almost quadruple by 2015 as automakers meet fuel-efficiency demands and as state emission rules become uniform, according to J.D. Power & Associates study. Diesel vehicles will account for 11.8% of U.S. sales by 2015, increasing from 3.2% last year, the marketing research firm estimated. The worldwide share for such cars and trucks will rise to 34.2% from 24.7% during the period, according to the study.

In the U.S., "diesels will be able to meet the standards in all 50 states and there's a desire to reduce emissions and concern about dependence on imported oil," said

Alastair Bedwell, senior manager at J.D. Power Automotive Forecasting in England.

Some of the early diesel growth in the U.S. will come from BMW, DaimlerChrysler's Mercedes-Benz, Volkswagen's Audi and Nissan Motor Co., Bedwell said. Current diesel sales in the U.S. are limited mainly to large pickup trucks built by General Motors Corp. and Ford Motor Co. Sales growth has been hindered by a perception that diesels are dirty and noisy and by inconsistent rules among states, Bedwell said.

### **38. Maryland Joins Low Greenhouse Gas Club**

Maryland has become the eighth state to join a pact seeking mandatory limits on carbon dioxide emissions, the governor's office has announced. Maryland Gov. Robert Ehrlich, a Republican, signed an act that requires the state to join the pact, called the Regional Greenhouse Gas Initiative.

Seven states agreed to the pact late last year: New York, Connecticut, New Jersey, Vermont, Maine, New Hampshire and Delaware. It aims to cap carbon dioxide emissions from power plants at 1990 levels beginning in 2009, and cut emissions 10 percent below that level by 2018.

Of the eight RGGI states, Maryland had the second-highest level of CO<sub>2</sub> emissions per person in 2000, behind Delaware, according to Environment Northeast. It also had the second-highest CO<sub>2</sub> emissions, behind New York.

Business groups have said the RGGI could push up electricity prices. However, the states in the pact say it could eventually push bills lower, after initially adding a few dollars a year to them, through efficiency gains at utilities.

Massachusetts Gov. Mitt Romney, a Republican, withdrew from the pact shortly before the seven states signed the agreement last year, saying it would boost power prices. But Democratic politicians in the state have said they are confident they can overrule that decision.

The RGGI aims to put out in July a final draft of the plan, which will then be sent to the individual states to approve it.

### **39. California To Tighten Air Quality NO<sub>2</sub> Standard**

The Staff of the Air Resources Board (ARB) and Office of Environmental Health Hazard Assessment (OEHHA) have completed their review of the California Ambient Air Quality Standard for nitrogen dioxide (NO<sub>2</sub>). The review evaluated the scientific literature on public exposure, atmospheric chemistry, health effects, and welfare effects of exposure to NO<sub>2</sub>. A draft Staff Report and Technical Support Document have been developed and are available for review and comment.

The draft Staff Report includes OEHHA's recommendations on revising the State ambient air quality standard for NO<sub>2</sub>. Based on the results of the staff review, OEHHA has recommended that the existing NO<sub>2</sub> standard be revised as follows:

- Lower the existing 1-hour-average standard for nitrogen dioxide to 0.18 ppm, not to be exceeded.

- Establish a new annual average standard for nitrogen dioxide at 0.030 ppm, not to be exceeded.

The draft Staff Report and Technical Support Document will be peer-reviewed by the Air Quality Advisory Committee (AQAC), appointed by the Office of the President of the University of California. A meeting of the AQAC has been tentatively scheduled for June 12 – 13, 2006.

#### **40. Honda Urges Governments To Spur Transition to Low-Carbon Economy**

Honda of America's president and chief executive, Akio Hamada, called for more government involvement to address the challenges posed by climate change at a March 30 plenary session at GLOBE 2006. Hamada said government has an essential role to play in deploying hydrogen fuel cell technology, which Honda believes will be key to reduce transportation emissions in the future.

Honda's Hamada outlined the automaker's technology strategy for reducing greenhouse gas emissions and "transitioning to a low carbon economy." He said Honda will continue to invest in internal combustion engine technology, but will focus increasingly on the development of vehicles that produce fewer emissions and have higher fuel efficiency.

Nevertheless, "gasoline will remain the dominant fuel for the foreseeable future," Hamada said.

He said the second prong of Honda's approach focuses on perfecting gasoline-electric hybrid technology and bringing it further into the mainstream market. Honda was the first automaker to introduce gas-electric hybrid technology to U.S. consumers when it launched the Insight model in 1999 and has since sold more than 140,000 units, Hamada said.

Hamada said Honda views hybrids as a "bridge technology" toward eventual development of hydrogen fuel cell vehicles. He said Honda research and development efforts are focused on improving fuel cell adaptability to a wider range of climates, particularly cold weather conditions, and reducing the size and reliability of engine drives to make mass production more viable. He said the latest hydrogen fuel cell prototype, the Hondo FC Stack, is capable of operating in temperatures as low as -20 degrees Celsius and as high 95 degrees.

In addition to hydrogen vehicles, Hamada said Honda is researching "home refueling concepts." In 2005, the automaker introduced a prototype called the Home Energy Station, which provides heat and electricity for the home as well as fuel for a hydrogen-powered fuel. It uses natural gas as the base energy source for the hydrogen.

Hamada sees the need for a larger government role to develop an infrastructure to accommodate an eventual hydrogen fuel cell economy.

"This is something industry cannot do single-handedly," Hamada said. "We need engagement by governments in helping develop technologies and infrastructure for hydrogen."

#### **41. U.S. Increases Fuel Efficiency For Light Trucks; Attacks California Rule**

On March 29<sup>th</sup>, U.S. Secretary of Transportation Norman Mineta announced new standards for sport-utility vehicles, pickup trucks, and minivans that he said will raise fuel economy requirements for the vehicles from 21.6 miles per gallon in the 2006 model year to about 24 miles per gallon in 2011. In addition, the standards will apply to the largest SUVs, those weighing between 8,500 and 10,000 pounds, Mineta said. These would have been exempted from fuel economy requirements under standards proposed in 2005.

Mineta said the standards will apply to 240,000 vehicles, including Hummer H-2s and Lincoln Navigators. The standards still do not apply to pickup trucks between 8,500 and 10,000 pounds, however.

Mineta said the revised corporate average fuel economy (CAFE) standards for light trucks will help the nation achieve President Bush's goal of reducing dependency on imported oil.

The final rule containing the new standards also repeats assertions in the proposed regulation that they override an attempt by California and other states to impose greenhouse gas emissions limits on new vehicles. Greenhouse gas emissions limits amount to fuel economy requirements, the final rule said, and Congress in 1975 gave the federal government the sole authority to set those requirements.

California maintains that the Clean Air Act authorizes the state to set greenhouse gas emissions limits for vehicles.

In addition, Mineta said the Transportation Department is working on a report to Congress that will recommend ways to improve the fuel economy for passenger cars and expects to finish it in August. The standard for passenger vehicles is 27.5 miles per gallon.

Mineta said the revised standards will save 10.7 billion gallons of gasoline over the life of vehicles produced for the 2008 through 2011 model years.

Complying with the revised standards will cost the manufacturers \$6.7 billion over the four years and add about \$200 to the price of new light trucks, said Jackie Glassman, deputy administrator of the National Highway Traffic Safety Administration, the department agency in charge of CAFE standards. Consumers will be able to recoup this added cost, however, in about four years through reduced fuel consumption, Glassman said.

The revised standards introduce what Mineta called a "reformed" CAFE system. Currently, NHTSA sets nationwide CAFE requirements for all applicable vehicles. All manufacturers are required to meet the same standard. Under the reformed CAFE program, manufacturers will be assigned different CAFE targets based on their sales and the sizes of the vehicles they produce. Automakers that sell mostly smaller vehicles will have higher CAFE requirements than those who sell larger vehicles.

Manufacturers will be required under the final rule to follow the reformed CAFE system

starting in 2011. From 2008 to 2010, they will be able to choose between implementing the reformed system or complying with alternative nationwide CAFE standards the final rule also set for those years. The alternative limits will be 22.5 miles per gallon in 2008, 23.1 mpg in 2009, and 23.5 mpg in 2010. Light trucks are already required to meet a CAFE standard of 22.2 miles per gallon in 2007.

The chairman of the Science Committee of the House of Representatives, Sherwood Boehlert, called them "a missed opportunity." "The president rightly pointed out in his State of the Union address that when it comes to oil, we are a nation of addicts," Boehlert said. "And we're behaving exactly as an addict would behave--not admitting our problem, not taking even the simplest steps to address our problem, not acting in our own best interests."

California Attorney General Dan Lockyer criticized the revised standards for declaring that federal CAFE standards preempt the state's greenhouse gas emissions limits for vehicles. "The rule's 51-page treatise that alleges federal law preempts California's mandate to cut carbon dioxide pollution from vehicles is not only wrong, but completely irrelevant to the fuel economy standards at hand," Lockyer said.

#### **42. Governor Arnold Schwarzenegger Requests Waiver From Bush**

On April 10<sup>th</sup>, California Governor Arnold Schwarzenegger sent a letter to President Bush on the urgency of the U.S. Environmental Protection Agency approving California's requested preemption waiver for its Clean Car Program addressing global warming pollution. Excerpts from Governor Schwarzenegger's letter follow:

- "On December 21, 2005, the California Air Resources Board sent your Administration the attached letter and associated documents requesting a waiver of federal preemption of California's Greenhouse Gas Emissions Standards. I am writing to reiterate the urgency of approving California's request to address global warming."
- "Global warming is a grave threat to California's water supply, our coastline, our environment, our economy and the public health of our citizens."
- "The Clean Air Act expressly recognizes California's right to set its own vehicle emission standards, and the right of other states to adopt those standards. The Environmental Protection Agency has granted California's waiver requests more than 40 times in the last three decades. I urge you to continue this practice."
- "California has a thirty-five year tradition of leadership in minimizing the amount of automobile pollution and striving for cleaner air for our citizens."

#### **43. Environment Minister Vows To Restore Canada's 'Boy Scout' Image**

On March 31<sup>st</sup>, Canadian Environment Minister Rona Ambrose vowed to restore Canada's image as a world leader on environmental issues, an image she said has been tarnished by a failure to address pressing air and water quality issues. Canada continues to enjoy a reputation as a "Boy Scout" in its approach to global environmental issues, but there is evidence that this is no longer supported by its record on dealing with key

domestic issues, Ambrose said in a speech at the GLOBE 2006 conference.

Canada's record on air and water quality does not match up with the work that is being done in the United States or Europe, and recent international reports have showed Canada lagging behind many industrialized countries in tackling pollution, she said.

"I am concerned. Our government is concerned. I can tell you that our prime minister is concerned," she said. "That is why we are taking action to clean up our own back yard."

Prime Minister Stephen Harper's recent meetings with President Bush and Mexican President Vicente Fox reviewed progress on the environmental provisions of the trilateral Security and Prosperity Partnership program, but for Canada to have credibility on the global stage it will first have to clean up its own act, she said.

Previous Canadian governments have made some progress on air pollution, but it still poses a "serious threat" to the environment and Canadians' health, Ambrose said. The number of summer smog advisories is increasing each year, and last winter Canada recorded, for the first time, 10 winter smog advisories, she said. The health costs of ongoing air pollution are estimated in the billions of dollars, she said.

"To me, this is unacceptable that the health of Canadians is compromised," she said.

Echoing recent statements to the media by Harper, Ambrose said the new federal government would adopt an integrated approach to addressing climate change and general air pollution issues. Any solutions must take both areas into account, and the government will move quickly to implement its campaign promise of a new Clean Air Act, she said.

Ambrose said that, among other things, the government will encourage the use of public transit to reduce greenhouse gases and smog emissions from the transportation sector. The government plans to introduce a monthly credit for Canadian taxpayers to help offset the cost of transit passes, she said. And amendments to existing regulations will require increased renewable content in automotive fuels, she said.

#### **44. Canada's Traffic Congestion Contributes to Greenhouse Gas Emissions**

Traffic congestion in Canada's urban centers contributes 1.2 million to 1.4 million metric tons of carbon dioxide emissions each year and the national economy C\$38 million to \$46 million (US\$32.6 million to \$39.5 million) in 2002 dollars annually, according to a study released on March 22<sup>nd</sup> by Transport Canada. The findings in the study, *The Cost of Urban Congestion in Canada*, are based on estimates of traffic congestion in seven major urban areas for which data are available on fuel wasted by motorists in recurring traffic jams, the study said. But the estimates of traffic congestion's environmental impact are conservative, as they do not consider emissions of all air pollutants and do not take into account the impact of random traffic congestion, it said.

### **ASIA-PACIFIC**

#### **45. Developments in China**



### A. Beijing Reports Worst Dusty Weather in Years

Beijing has experienced five days of dust-floating weather in the past five days and the pollution was the worst in the past six years, according to Beijing Environmental Protection Bureau. The dust and sand floating in Beijing left the capital with two days with grade five pollution, the highest level in pollution rating, and three days with grade three pollution, a middle level pollution.

Patients suffering from respiratory illnesses increased. About 200 to 300 patients visited Beijing Armed Police General Hospital and Bo'ai Hospital every day in the past five days, about 30 to 40 percent up from the average level, according to Beijing Evening News.

The low visibility affected the city's traffic. Beijing Bus Group added 200 more buses to reduce citizens' waiting time. The city's construction department also took measures on operation at the construction sites to reduce floating dust. Meteorologists advised citizens to avoid outdoor activities and take protective measures when staying outdoors.

Most Beijingers woke up on Monday April 17, 2006 to find, to their surprise, that a "yellow blanket" had covered up everything in the open air: from window sills, cars and the ground to every single leaf on the trees.



Vehicles drive in a street in Beijing, capital of China. A floating dust haunted Beijing on Monday. (Photo: Xinhua)

"As if the desert has crawled to Beijing overnight," said ZhangRui, a citizen in Chaoyang District in eastern Beijing. He was not exaggerating -- Zhang said he spent at least 15 minutes dusting the sand off his Jetta sedan.

A sandstorm hitting the China-Mongolia border Saturday and Sunday started to affect Beijing at midnight on Sunday and by daybreak, the city had turned yellowish.

"Unlike the particulate matter that often exists in Beijing's air, the suspending granules hitting the city today are bigger, though still less than 100 microns in diameter," said Wang Xiaoming, an official with the municipal environment protection bureau. "That's why we feel sand is raining down."

The particulate matter that often hovers over Beijing is mostly less than 10 microns in diameter, he added.

Wang said this is the eighth, as well as the worst, sandy weather that attacks from outside Beijing this year.

The bureau forecast at 9:00 a.m. that the city's air quality will be level V or hazardous on Monday, with pollution reading over 300.

The municipal government launched a pollution control scheme Sunday night hoping to

lessen the impact of the sandy weather. The city has sent sprinklers to wash urban roads and construction sites have been told to halt earthwork.

The city's meteorological bureau predicts drizzle in northern Beijing on Monday night and says the wind scale will reach five on Tuesday. But neither will be strong enough to drive away the dust, which will probably stay until Tuesday evening.

From Jan. 1 to April 17, Beijing has reported 56 "blue sky days", with excellent or fairly good air quality and pollution reading less than 100, 16 days less than the same period of 2005.

Sandstorms could easily occur at places with little rainfall, scarce vegetation and frequent gales, said Qiao Lin, an expert in China Meteorological Administration (CMA).

Northern China experiences sandstorms almost every spring. The situation is worsened by higher temperature this spring and the prolonged drought in northern China, according to Qiao.

China launched an afforestation project in 2000 in Inner Mongolia Autonomous Region, which is blamed as source of sandstorm, targeting sandstorm threatening Beijing and Tianjin, but it is difficult to contain the intensified desertification.

### **B. China Says It Will Never Totally Tame Sandstorms**

China, a third of whose landmass is desert, will never completely tame the sandstorms that plague the country every spring due to the sheer size of its sandy regions, according to officials. But the country will step up efforts to control the problem, and the officials said they were confident the 2008 Summer Olympics in Beijing would not be affected by the dust that enveloped parts of northern China this week.

"Given the millions of square kilometers of desert in China, they will continue to be a source of sandstorms in the future and we cannot cherish unrealistic expectations this problem will vanish overnight," said Yang Weixi, chief engineer of China's Desertification Control Center. "What is important is to focus on our current efforts and to have confidence in them," he told a news conference.

Desertification of the country's west and Mongolian steppes has made spring sandstorms worse in recent years, reaching as far away as South Korea and Japan and turning rain and snow yellow. A persistent drought in northern parts of China has only added to the problem, sucking moisture from the soil and making it easier to be picked up by the wind, officials said.

The latest storm to strike Beijing was exacerbated by the second-driest spring in 20 years, which was also marked by higher temperatures than normal, added Liu Tuo, head of the sand control center of China's State Forestry Administration.

The government is determined to rein in over-grazing and over-logging as well as replant denuded land to help prevent sandstorms, said Liu, though he admitted this was a tough task in a developing country with many demands for funds. "The scale of the problem is such that there is a rather large gap (in funding)," he said.

But by 2008, control efforts should have paid off, meaning the Olympics should be free of sandstorms -- especially as they do not normally strike in August, when the games will be held.

International cooperation is needed though as, of the 40 sandstorms that struck China between 2000 and 2004, 29 originated from outside the country, added Yang, in places such as Mongolia and Russia.

China's State Council said in February that an environmental repair campaign launched in the late 1990s had slowed the annual spread of desert from 3,436 square km to 1,283 square km (1,326 square miles to 495 square miles). It promised that by 2010 China will establish "clear improvements" in key areas, and by 2020 half of the country's desertified land that can be repaired will have been.

### **C. China Aims to Cut Air Pollution in Lead up to Beijing Olympics**

China is preparing to take drastic action to ensure air pollution doesn't mar the 2008 Beijing Olympics. A leading city official has announced that in order to ensure a clean and green Games, private cars will be taken off the road for the period leading up to and during the Games.

That's just one measure. The Games are, of course, still two years away, but air pollution is already afflicting China's capital.

In January this year the Beijing local government officially recorded 20 days as being "polluted" or "seriously polluted". They were the worst levels for the month in six years.

Then there are car emissions. Last year 1,000 new cars hit Beijing's roads every day, bringing the total to 2.6 million. That figure is expected to top 3.5 million by the time of the Olympics.

Ensuring that the 2008 Beijing Olympics aren't ruined by worsening pollution has been a major concern of organizers. For the past few years authorities have been greening the city, and moving away polluting factories and power plants.

Now they've announced they're planning to take a number of drastic measures. For a two-month period around the Games, all construction work will cease, remaining polluting factories and power plants will be closed down, and roads will be sprayed with water and swept several times a day.

Efforts will also be stepped up to artificially induce rain. For local retiree Zhou Youcheng and his wife, it's a small price to pay.

"We can put up with this inconvenience. As long as Beijing will be beautiful, we are willing to do that," he says.

Local journalist Zhang Xin believes something should be done, as national prestige is at stake.

"Yes, hopefully it will get better," he says. "It would not be good if people from all over the world saw Beijing as being very dirty."

There's one measure though, that car-owning Beijingers may find hard to swallow: car restrictions. A key proposal is to force hundreds of thousands of drivers to leave their cars at home for a two-month period starting before the opening ceremony, and ending with the close of the Paralympics. For most of this time, about only half of all projected cars will be allowed on the roads. During the Games itself, the number will be slashed to less than a third.

#### **D. China Failed To Achieve Its Environmental Goals**

High consumption of energy and power in the 10th Five-Year Plan period (2000-05), especially after 2002, has led to some environmental protection goals not being met in this period, the State Environmental Protection Administration (SEPA) said in Beijing. Among the 20 environmental goals set for the 10th Five-Year Plan, eight have not been achieved, said Zou Shoumin, deputy head of the Chinese Academy for Environmental Planning (CAEP) under SEPA.

The five-year plan stipulated that discharges of sulfur dioxide should be cut by 10 per cent, but compared with discharge levels from 2000, levels of the pollutant increased by 27 per cent in 2005.

Another six goals, such as reducing the discharge of carbon dioxide and industrial solid waste, or increasing the capabilities of wastewater treatments, have not been fully realized.

"We worked out the 10th Five-Year Plan on the basis of economic levels in 1998 and 1999," Zou said. "However, after 2002, China witnessed rapid development after the Asian financial crisis of 1997."

CAEP expected that in 2005, China's energy consumption would not exceed 1.5 billion tons standard coal. However, the country had used 2.2 billion tons that year.

Thermal-power generation, as the biggest consumer of coal and discharger of sulfur dioxide, has seen growth far beyond the plan. According to the plan, in 2005, the installed capability of thermo-power generation was about 400 megawatts. But the de-facto installed capability reached more than 500 megawatts.

"Energy consumption and thermo-power generation development made a major contribution to the failure of sulfur dioxide reductions," Zou said.

"But during that period, the country's environmental status generally improved, although the problem of environmental pollution remains pressing," said Zhu Jianping, deputy director of China National Environmental Monitoring Center.

#### **E. China Sets Greenhouse Gas Emission Reduction Goal**

China proposes to reduce emissions by millions of tons over the next 20 years in an effort to help reduce global warming through energy-saving technologies. Minister of Construction Wang Guangtao said China will lessen its greenhouse emissions by 846 million tons annually if all new buildings were installed with energy-saving technologies. The construction sector takes up nearly 40 per cent of China's total energy consumption.

By 2020, China's per capita living space will be double what it is now, as 30 billion square meters of housing will have been constructed. "If all of the national energy-saving standards have been fully implemented by 2020, China will be greatly contributing towards curbing global warming," said Wang.

Wang said China has already set "year-to-year targets" in its national energy-saving campaign in real estate development. By 2010, all new buildings should be 50 per cent more energy efficient than 2005 and 65 per cent more efficient by 2020. The government plans to save 20 per cent of energy by 2010 on the basis of 2005 consumption.

#### **F. Beijing Lifts Bans On Small Cars**

The Beijing Traffic Management Bureau has issued a decree scrapping the rule that forbade cars with an engine displacement of less than 1 liter from traveling on Chang'an Avenue as well as the inside lanes of the Second Ring Road and the Third Ring Road. The only restriction is that the small cars cannot use the inside lane of Chang'an Avenue from 7 am to 8 pm as the bureau hopes to avert overcrowding on the busy road which already has a traffic flow of 7,000 vehicles per hour on average.

Many Chinese cities have restrictions on small-engine cars using their main avenues, with the official explanation being their high emissions or that the slow-moving cars hinder traffic.

"These restrictive policies had some validity when they were made, because some small vehicles did have problems in terms of emissions and technical reliability," said Zhao Ying, a senior researcher at the Chinese Academy of Social Sciences. "But with the improvement of automobile technologies, the reasons no longer exist," he said.

Beijing's policy shift follows the central government's requirement to foster small cars that consume less oil and meet environment-protection standards.

#### **G. Honeywell Pushing Green Diesels in China**

Honeywell is stepping up efforts to promote green diesel technology among Chinese automakers. Honeywell believes it is well positioned to help carmakers produce fuel-efficient and cleaner cars that can efficiently compete for a larger share of the huge market. Honeywell China Co Ltd, the All-China Environment Federation (ACEF), a non-government organization (NGO) in the field of environmental protection, and China Daily, a leading English-language media group in China, signed a memorandum of understanding in Beijing, announcing a collaboration to help the country build an energy-efficient and environmentally-friendly society.

The three pledged to team up to support the Green Diesel Initiative, a group of automotive-related companies dedicated to China's goals of sustainable development and environmental protection through the promotion of diesel technology and high-quality fuels, and enforcement of performance-based emission regulations. These joint efforts are an important part of Honeywell's initiatives in raising public awareness of state-of-the-art technology, given the nation's growing energy and environment concerns.

Premier Wen Jiabao said early this month during the recently-ended fourth session of

the 10th National People's Congress (NPC) that one of his top concerns for the nation's development is that some environmental protection targets for the 10th Five-Year Plan period (2001-05) were not fulfilled. "During the 11th Five-Year Program period (2006-10), we have mapped out higher environmental protection targets: energy consumption should be reduced by 20 per cent and pollutant discharge should be lowered by 10 per cent," he said.

#### **H. Shanghai To Create Traffic System For World Expo**

Shanghai will work on a new traffic system for the 2010 World Expo Garden, that will include five metro lines, 25 bus routes and 40 shuttle services, according to Wang Xiubao, deputy director of the Shanghai Transportation Bureau, the Oriental Morning Post has reported. The city expects that 94 percent of 2010 Expo visitors will take public transportation, among which the metro system alone will handle 50 percent, Wang said.

Five new metro lines providing direct access to the World Expo Garden will be in service by 2010 and will carry 100,000 passengers per hour during peak hours. It is estimated that the Expo will see 80 million visitors.

The city will also introduce 40 shuttle services which will handle 14 percent of the passenger load. Fast, reliable and comfortable, these services will link the Expo Garden with hotels, traffic hubs, university campuses and residential areas.

Visitors will also be able to travel via 25 new conventional bus routes ending at the Expo Garden, which are expected to handle 12 percent of the passenger load. The city will continue these services after the Expo, but their terminal stations may be shifted to better fit passenger needs.

The city will also attempt to attract more visitors from the Yangtze Delta area by providing special inter-city coach services, Wang said.

#### **I. Resources Conservation Policy Listed In China's Five-Year Plan**

An increasing number of Chinese people are realizing that the practice of fueling rapid economic growth with excessive consumption of resources must be discarded since many kinds of resources are running short in the country. This could be seen from the listing of "resources conservation" and "environmental protection" as state policy in the 11th Five-Year Plan for National Economic and Social Development (Draft) (2006-2010).

"China is a big country of resources in terms of total reserves, but it is a small one if its population of 1.3 billion is taken into consideration," said Wang Shusen, a deputy to the Tenth National People's Congress (NPC) which convened its annual session on March 5.

Official figures show that China's per capita possession of fresh water is only one fourth of the world average; arable land, less than 40 percent; proven coal reserves, 62 percent; proven oil reserves, 7 percent; natural gas, 4.5 percent; and forests one fifth of the world average. Furthermore, the per capita possession of 45 kinds of mineral resources is less than half of the world average.

#### **J. China Plans To Cut Energy Consumption By 4 Percent In 2006**

China will strive to chop down its energy consumption rate by 4 percent this year, a key index to guide economic and social development, Premier Wen Jiabao has announced. "Energy consumption per unit of GDP should fall by about 4 percent in 2006," said Wen while delivering a report on government work at the opening meeting of the Fourth Session of the Tenth National People's Congress (NPC), the top legislature.

It is the first time that China combines energy-efficiency with the indexes of economic growth, price, employment and balance of payments for macro-control of its economy.

China is determined to reduce energy consumption per unit of gross domestic product (GDP) by 20 percent in the coming five years, a new round of economic and social development beginning this year, Wen said in his report, which includes the draft outline of the 11th Five-Year (2006-2010) program for examination and approval by the legislature.

Necessitated by the country's current conditions and long-term interests, these targets are designed to tackle the mounting pressure on resources and environment and provide a clear guide for policy making, Wen addressed the 2,927 NPC deputies present at the meeting held at the Great Hall of the People in downtown Beijing.

"Though achieving them will be quite difficult, we have the confidence and determination to succeed," Wen said, showing that China is resolved to build a resources-saving and environment-friendly society.

China must reduce energy consumption per unit of GDP by an annual rate of at least 4.4 percent in a bid to fulfill the five-year target, experts said.

The premier called for the establishment of various standards for conserving energy, water, land and materials in all industries, and the development of environment-friendly products, projects and buildings.

Wen added that energy-efficiency index of all regions and major industries will be released to the public on an annual basis. In this sense, the public will be mobilized to join in the long-term campaign of energy and resources conservation in a bid to bolster a recyclable economy and an environment-friendly society.

China ranks among the world's most wasteful users of natural resources, according to a latest survey by the Chinese Academy of Sciences. Actually, China stands at the 54th position out of 59 countries surveyed. The volume of carbon dioxide discharge per unit of GDP in China is about 68 times that of Japan, 26 times of Germany, and six times of the United States.

The total volume of major pollutant discharges is set to drop 10 percent by 2010, according to the draft outline on economic and social development for 2006-2010.

#### **K. Home-Brand Chery Has Produced 500,000 Cars**

Nine-year-old Chinese carmaker Chery has created a milestone in China's automobile manufacturing history by producing a total of 500,000 cars. Chery, which is based in eastern China's Anhui Province, is one of the few successful auto companies in China producing cars with Chinese brands.

Unlike many joint ventures in the Chinese auto industry that depend on foreign technology and sell home-made cars with overseas brands, Chery relies on its own research and development to turn out products with proprietary intellectual property rights (IPR).

Chery has been ranked among the ten biggest automakers in China for years.

According to a ranking list compiled by the China Association of Automobile Manufacturers, the top three motor vehicle companies in China are First Automotive works (FAW), Shanghai Automotive Industry Corporation and Dongfeng Motor Corporation, all producing foreign-brand cars, including Germany's Audi, U.S. Buick and French Citroen.

On April 15, 2004, Chery's 200,000th car went off the assembly line, and in less than two years, it produced another 300,000 cars.

Chery once sold 28,000 units of its well-received compact model QQ in six months, creating a new record in mini-car sales in China.

Chery's achievement shows that China's passenger car manufacture is turning mature, marking the acceleration of national auto industry development, said He Guangyuan, former minister of machinery industry.

It was difficult to start such an auto company without policy support and a resource advantage. Actually, independent innovation has brought Chery opportunities and success, said Yin Tongyao, president of the Chery Company.

Chery invested 400 million Yuan (50 million U.S. dollars) to set up an auto engineering academy, which became one of the most advanced auto research centers in China.

Cooperating with a renowned Austrian engine designing company, Chery has developed new auto engines with proprietary IPR.

In March 2006, it exported 5,000 engines to the United States, making a breakthrough in China's home-brand engine export. In 2005, Chery exported a record of 18,000 cars, the most among China's car manufacturers. Currently, Chery cars are sold in 38 countries outside China.

Last year, China's vehicle output grew 12.56 percent to 5.71 million units, and sales of domestically-made vehicles grew 13.54 percent to 5.76 million units, according to statistics from the China Association of Automobile Manufacturers

#### **L. Chery Cracks The Top 3 In Auto Sales**

Chery Automobile Corp moved up three notches in China's car sales ranking last month - the first time a domestic automaker has unseated a foreign joint venture to break into the top three.

Chery sold 21,000 vehicles in February, a 130-percent jump from the same period a year ago, following Shanghai Volkswagen with 23,600 units and Shanghai General



Motors Corp with 22,800.

In January, the top three sales leaders were Shanghai GM, Shanghai VW and First Automobile Works' joint venture with VW.

Chery's sales boom - prompted by its highly popular QQ and three new models that hit the streets in January - moved the company up from No. 6 in January, when it sold 17,000 vehicles.

"The central government's efforts to encourage the sale of small cars to help energy conservation was important for Chery," said Sun Muzi, an auto analyst at Sinotrust Marketing Research and Consulting Ltd. "This private company is good at offering inexpensive self-designed cars at a very attractive price to China's cost-sensitive consumers," he said.

In January, China's central authorities ordered local governments to lift roadway restrictions on small cars by the end of March in an effort to ease tight energy supplies, protect the environment and nurture China's independent auto brands. In the past, cars with small engines were banned from some highways.

The new policy primarily benefited domestic manufacturers of economy cars, including Geely Group and Changan Automobile Co.

"But Chery also needs to improve in developing models to extend its presence into the middle and high-end markets, not only to be a successful car producer but also for profitability," Sun told Shanghai Daily.

Chery's most popular small car, the QQ, priced around 40,000 Yuan (US\$4,950), generates only a 500 Yuan profit, while cars in the mid and upper ranges can be marked up 20,000 Yuan or more.

Last year, the company's profit fell to 95 million Yuan from 188 million Yuan in 2004 despite a 118 percent sales surge to 185,000 units.

In comparison, sales in China's auto market grew 26 percent overall last year.

### **M. Beijing Hyundai Plans To Establish 2nd Auto Factory**

Automobile giant Hyundai of the Republic of Korea plans to build its second factory in Beijing, which is expected to go into production at the end of 2008. Xu Heyi, president of Beijing Hyundai, released the news at a national auto forum held in Beijing. Xu said construction will begin soon, and will have a designed production capacity of 300,000 units.

A research and development center is also to be built in Beijing in a bid to design more cars that meet the demand of Chinese consumers, said Xu.

The new factory is one step in Beijing Hyundai's new strategy to expand its production in China in the next five years, said Xu.

Xu said Beijing Hyundai is now talking with the Hyundai Motor Co. about introducing

electricity-hybrid cars into the Chinese market.

Facing tight energy supplies, the Beijing Hyundai also plans to focus its new product on low-emission cars, and a new-style 1,4-liter engine is to debut on the Chinese market soon, according to Xu.

Beijing Hyundai will join hands with Hyundai Motor Co. to realize scaled production of the fuel-cell cars to replace traditional fuel-engine cars.

#### **N. Beijing To Have More Environment-Friendly Buses**

After three billion Yuan (approximately 375 million U.S. dollars) of investment last year, Beijing will spend another 2.8 billion Yuan (350 million U.S. dollars) in 2006 to increase the number of environment-friendly buses. The fund will be used to purchase 3,485 of the buses.

Feng Xingfu, deputy general manager of Beijing Public Transport Holdings Ltd, said 3,485 buses will be purchased, including 1,000 powered by natural gas, 200 Euro 4 standard diesel vehicles, 2,185 Euro 3 standard diesel vehicles and 100 double-energy-source (hybrid) electric buses.

The aggregate number of buses in Beijing is expected to reach 20,427 by the end of this year, of which 13,252 will be environment-friendly ones, accounting for 64.9 percent of the total, Feng said.

#### **O. China To Drive Up Car Exports**

China is considering measures to boost overseas car sales, which the government hopes will become an increasingly important component of exports, according to officials and industry executives.

The main impetus behind the drive is official concern over over-capacity in the automobile industry. But the potential export push also underlines growing confidence that Chinese carmakers are now ready to attack overseas markets.

Officials in Beijing and a Chinese industry executive said the government was looking at boosting export credits and insurance for carmakers, as well as providing greater assistance to companies conducting research and development.

Planning authorities are also considering new rules that would link approval for new production facilities to a commitment to export.

China became a net exporter of vehicles for the first time last year and companies such as Chery, Shanghai Automotive and Geely have announced plans to export to the US and Europe from next year.

The discussion on exports is part of the debate over the new five-year plan for the auto sector, which executives expect to be published within the next month.

Officials at the National Development Reform Commission, Beijing's main planning body, estimate that China's car industry can produce 2 million more cars than likely sales.

They forecast that capacity by 2010 could be 18 million cars a year, against demand of about 10 million.

However, officials are also wary about provoking fresh trade tensions. The US and EU have already launched a complaint at the World Trade Organization accusing China of sustaining barriers against imported car parts.

#### **P. Honda Takes Lead With Exports From Guangzhou**

For the past decade, foreign carmakers have been scrambling to increase capacity in China simply to feed the expanding local market. But with signs of over-capacity appearing in the country, multinationals are beginning to turn their attention to the idea of exporting from China.

One company is already there. Last year, Honda opened a plant in the southern Chinese city of Guangzhou to make the Jazz model for sale in Europe, creating the first test case of a multinational using China as a manufacturing platform for cars.

There is little doubt that China is on the way to becoming a major car exporter as local companies, such as Geely, Chery and Shanghai Auto, are keen to sell large volumes of low-cost cars in Europe and the US.

Honda says that it has had no significant problems with its China-made cars in Europe, where it also sells Jazzes that are made in Japan. However, the company's experience at its China plant does warn of the problems that would-be exporters may face.

Honda is an ideal candidate to experiment with exporting cars from China. Over the past five years, it has built up a tight network of reliable suppliers in the Guangzhou area which can guarantee sufficient quality for its components - a vital prerequisite for selling in developed-world markets. "If we do not achieve the right quality, then we will not be a success," says Hironori Kanayama, president of the export plant.

To do so, it has leant on many of the Japanese auto parts companies it uses at home. Of the 120 suppliers it uses in China, only 17 are Chinese companies, says Yoshitaka Takahashi, deputy general manager of Guangzhou Honda, the joint-venture company that makes cars for the domestic market. The rest are either joint ventures or subsidiaries.

But reaching that quality threshold has not been easy. In order to meet requirements, Honda's export factory has to import more parts than the company's other plant down the road in Guangzhou, which services the domestic market. The domestic plant has a localization rate of 90 per cent for the components it uses in the Fit saloon car - one of the highest in the industry in China. However, only 60 per cent of the parts used at the export plant are locally made.

China is flooded with steel, such is the massive expansion by local steelmakers in recent years, but Honda still has to import the steel used for the outer skin panels of the cars because the surface finish of locally-made steel does not meet the standard needed for export.

The need to import parts and the relatively small scale of the Guangzhou plant mean

that making Jazz cars in China has not become a cheaper option for Honda. Labor costs in China are one-tenth of those at Honda's plant in Japan, says Mr. Kanayama, but the overall production costs of the Jazz are similar.

Other difficulties have appeared.

The workers in Guangzhou have to hand-paint under the hood to make sure the finish is correct, because the plant lacks machines as sophisticated as those used in Japan. The company also had to provide training for stevedores at the nearby port as they were initially unaccustomed to handling cars.

Although DaimlerChrysler has talked about exporting from China, few multinationals are seriously considering the idea at the moment. "Most global manufacturers have excess capacity in other markets so exporting from China does not make a lot of sense," says Keith Davey, vice-president for planning at Ford in China. "It could run foul of union agreements and understandings with various governments."

Honda says the Jazz operation is still an experiment and has no plan to export other models from China. At the moment, it is focused on making sure the China-made Jazzes reach the same quality as those made in Japan. "Our competitors are not Chinese or other foreign companies, it is our plant in Japan," says Mr. Kanayama.

#### **Q. Leader of U.S. EPA Touts Cooperation with China**

US Environmental Protection Agency Administrator Stephen Johnson distanced himself from comments attributed to him earlier in the week faulting China for mercury pollution in the United States. However, Johnson told a press conference in Shanghai at the end of a week-long trip to China that the two countries must work together more on environmental protection and pollution control.

"It's very clear to me that pollution knows no geographic or political boundaries," said Johnson.

A story published April 13 in the Financial Times quoted Johnson as saying in Beijing earlier this week that airborne mercury from China had contaminated large quantities of air and water in the United States. The paper quoted him as saying 40 percent of the world's airborne mercury is produced in China's cement kilns.

The Chinese State Environmental Protection Administration reacted indignantly, with one official telling state-run media that the claim was "entirely groundless."

Johnson skirted two direct questions at the Shanghai news conference about the mercury pollution issue, saying only that his original comments were "mischaracterized" by the newspaper. He did not elaborate on how they were mischaracterized. Instead, he said both sides are keenly aware pollution is a global issue that China and the United States need to address together.

Johnson also demurred from offering his personal assessment of China's environmental conditions. When asked about Shanghai's air and water in particular, Johnson said both China and the United States have work to do in environmental protection.

During his China trip Johnson visited Beijing, Shanghai and Lijiang, a picturesque agricultural city in Yunnan Province where the U.S. EPA has funded one of two Chinese pilot projects for safer cooking and heating technologies.

In Shanghai, Johnson took part in meetings between city port officials and the Port of Los Angeles as they moved into the next phase of their joint program to reduce port pollution.

Johnson called his overall visit and meetings with counterparts at SEPA "wonderfully productive."

Among the joint endeavors undertaken by the Chinese and U.S. Environmental Protection Agencies will be a new real-time air monitoring website for Shanghai.

### **R. Chinese Official Sees Pollution Fuelling Social Unrest**

China's environment chief has made a rare official admission that serious water and air pollution is fuelling social tensions, protests and riots. "The environment has become a focal issue that triggers social contradictions," the Beijing News quoted Zhou Shengxian, head of the State Environmental Protection Administration (SEPA), as saying.

"Mass incidents" over environmental woes have grown at an annual rate of 29 percent in recent years, he said.

After two decades of breakneck economic growth, China has 20 of the world's 30 most polluted cities, the World Bank says. An estimated 300 million nationwide have no access to clean water.

Zhou was appointed in December after his predecessor was forced to resign over his handling of a toxic spill that poisoned the Songhua River, a source of drinking water for millions.

The degradation of the environment has increasingly galvanized citizens across the country into violent actions because of the slim chance of redress through legal channels. Zhou did not give an exact number for the protests, but said there were 51,000 pollution "disputes" last year alone.

Thousands of villagers rioted in Zhejiang province last April, forcing the closure of 13 polluting chemical plants. About 50 policemen were injured and four protesters were later jailed. An eastern industrial stronghold, Zhejiang was hit by at least two other mass protests in 2005, one of which also ended with the shut-down of a battery factory.

A Hong Kong newspaper reported that about 200 villagers in the southeastern province of Fujian, angered by pollution of their water supply, attacked three factories and a sewage treatment plant earlier this month.

At pains to avoid social unrest, the government has made balanced growth and greater respect for the environment a key element of a development plan for the next five years.

Zhou blamed an obsession with economic growth, slack law enforcement and "soft" laws for the serious environment risks that had resulted in 76 "sudden environment incidents"

since November, or one in every two days.

### **S. Bio-Ethanol Gasoline Reaches 20 Pct Of China's Gasoline Consumption**

China has gained a yearly output of bio-ethanol gasoline of 10.2 million tons, accounting for 20 percent of its overall gasoline consumption, the Shanghai Securities News reported, quoting the State Development and Reform Commission. China has unfolded a trial use of bio-ethanol gasoline, a mixture of ten percent ethanol and ninety percent gasoline, in five provinces and 27 cities.

Up to now, four provinces including northeastern Heilongjiang, Jilin and Liaoning provinces, and central Henan province have extended bio-ethanol gasoline province-wide.

According to its plan for the coming five years, China will build four major manufacturers of bio-ethanol with yield capacity of about one million tons one year, listed third after Brazil and the United States in the world, the paper said.

China first began trial use of fuel ethanol on June 30, 2002, in three cities in Henan province, central China, and some cities in Heilongjiang province, northeast China.

An official with the commission said the trial use proved the fuel ethanol is suitable for use in China with social and environmental benefits.

The use of fuel ethanol is a strategic move taken by the Chinese government to promote sustainable economic and social development and environmental protection.

### **T. New Chinese Tax Policy In Place To Spur Efficient Autos**

China is hitting its carmakers with higher taxes on gas guzzlers and cutting levies on small-engine cars in a bid to save energy and curb pollution. The new taxes - in some cases rising from 5 percent to 20 percent on the value of the vehicle - will go into effect on April 1. Domestic carmakers will pay the fees as soon as the vehicle rolls off the assembly line, and imports will be taxed when they are picked up from customs.

Sport utility vehicles with big engines will be hit the hardest. Taxes on SUVs with engines bigger than 2 liters will be raised from the present 5 percent to between 9 and 20 percent, depending on engine size. Whopping tax increases also target sedans with engines larger than 2.5 liters. The levies on those cars will jump from the present 8 percent to between 9 and 20 percent.

At the other end of the scale, taxes will be reduced from 5 percent to 3 percent on compact cars with 1.5-liter or smaller engines.

The state will also offer tax breaks to owners of energy-efficient hybrids powered by gas engines and electric motors.

And taxes for motorcycles with small engines were cut from 10 percent to 3 percent.

The tax changes are part of the government's plan to encourage the production of vehicles that are more energy efficient and create fewer emissions.

Cars with engines larger than 2.5 liters account for only 20 percent of all the autos sold in China, and those exceeding 3 liters account for 10 percent.

#### **U. Beijing Takes Steps to Rein in Pollution**

Beijing will introduce vehicle-exhaust monitoring devices in a bid to tackle the pollution that continues to plague the city. The new move is designed to strengthen controls on harmful emissions from the capital's 2.6 million vehicles, which are believed to contribute to around half of the city's ozone pollution, according to the Beijing Municipal Bureau of Environmental Protection.

Bureau official Wang Dawei said that ozone pollution, which has plagued many cities in developed countries since the 1950s, has recently become an increasingly grave problem in the Chinese capital due to the explosion in the number of cars.

"The exhaust-gas monitoring devices will be placed at several key sections in urban areas, mainly along the second and third ring roads," Wang told a news briefing, adding that vehicles exceeding emission standards will be fined.

Wang added that the devices would also provide valuable information on the overall situation of exhaust-gas pollution in Beijing, which he said was "fundamental" to the study of the city's ozone pollution.

He warned that this pollution could pose a major problem during the 2008 Beijing Olympics, as the strong summer sunshine would accelerate the formation of photochemical smog, which may damage health.

Besides placing monitoring devices on roads, the city is considering offering financial assistance to private owners of cars which produce heavy pollution to purchase new cars whose exhaust-gas emissions meet the upgraded standards introduced in late 2005, said Pei Chenghu, the bureau's deputy director. Meanwhile, around 8,000 of the city's old taxis and 2,000 buses will be required to have new technology installed that helps cut their emissions.

Beijing invested 3 billion Yuan for upgrading 4123 buses in 2005, and this year Beijing will invest 2.8 billion Yuan for purchasing 3485 new environmental protection buses. It is expected that by the end of this year, the new environmental protection buses in Beijing will accounted for 64.9% of total buses.

According to the deputy general manager of Beijing Bus Corporation, environmental protection has become an important characteristic of newly purchase vehicles. The 3485 new buses planned to buy include 1000 natural gas buses, 200 diesel buses meeting Euro IV emission standard, 2185 diesel vehicles meeting Euro III standard and 100 hybrid electrical buses.

Apart from vehicles, the city will also take steps this year to curb heavy pollution from around 200 plants in the power, petrochemical, steel and sewage treatment sectors. All of these plants, which account for 80 per cent of the city's total industrial pollution, will be equipped by the end of this year with real-time monitors on their gas and water discharges. Pei warned that the operation of those plants that exceed the discharge

standards will be suspended or they may even be closed.

These moves are part of a raft of measures that the city's authorities have taken this year to tackle pollution. Other steps include stricter supervision of construction sites and the expanded use of low-sulfur coal.

This year, the city has pledged that at least 238 days should meet good or excellent air quality standards which will be a very difficult challenge in light of the number of high pollution days early in the year. As of the day of the press conference, there were only 44 blue skies days this year, 11 less days than last year at the same time.

The "Beijing Twelfth Phase Air Pollution Control Measures" plan takes PM pollution control as the main task since levels remain approximately 50% over the air quality standard.

Other measures will include better control of the emissions from large trucks during the night and boosting control of evaporative hydrocarbons from oil terminals and service stations.

#### **V. China To Speed Development of Environmentally Friendly Vehicles**

In the latest State People's Congress, Premier Wen Jiabao said that during the "Eleventh Five-Year" Period the energy consumption per unit of GDP should be reduced about 20%, and the emission of main pollutants should be reduced by 10%. And he said that although it is hard to accomplish this target, we have confidence and determination to achieve it.

The national auto industry has a close relationship with the energy saving and environmental protection goals. How to implement the spirit of Premier Wen and Party Center to build a good policy environment, encourage and boost the development of environmental friendly vehicles can directly affect the accomplishment of these two targets.

Now that vehicle emissions have become the main source of air pollution, so China must strengthen vehicle emission control. In the future, China will adopt a series of policies to limit the vehicles that are not compliant with the emission standards, and strengthen the vehicle emission requirements, through which to improve the air quality and people's health.

#### **W. China Pursuing Advanced Technology Vehicles**

New alternative fuels suitable for low or zero emission vehicles are expected to carve a niche in China's increasingly competitive auto market, and could be a positive step towards a hydrogen-fuelled future.

US-based Energy Conversion Devices, Inc (ECD Ovonic) is actively talking to Chinese automakers in an attempt to seek co-operation on the development of new-energy-powered vehicles, especially hydrogen-powered models.

"ECD Ovonic has talked to Li Shufu, the chairman of Geely Automobile, about developing hybrid vehicles," says Jiang Tingyi, vice-chairman of ECD Ovonic's



technology department, without elaborating further.

The Chinese Government is supporting the development of hybrid and hydrogen-powered vehicles, and is now setting standards for the industry, according to industry analysts. Now First Automobile Works Corp (FAW), Shanghai Automotive Industry Corp (SAIC), Dongfeng Motor Corp, Changan Auto, Chery Automobile and Geely Automobile are all developing hybrid vehicles, but mass production is still a long way off. Geely hopes to mass-produce hybrid buses within three years, however.

ECD Ovonic is expected to seek partnerships with these automakers to market its high-tech products.

GM and SAIC have already reached an agreement to develop hybrid vehicles in China, but the Chinese Government has yet to release standards for hybrid vehicles.

### **X. Hyundai Plans 'Green' Cars in China**

South Korea's biggest carmaker Hyundai Motor is planning to introduce environmentally-friendly hybrid-powered and fuel-cell cars to China, according to a top official with its joint venture in Beijing. Xu Heyi, chairman of Hyundai's venture with Beijing Automotive Industry Corp, told China Daily the venture would begin the commercial production of petrol-electric hybrid-powered cars before the Beijing Olympic Games in 2008.

The venture will begin to make hydrogen-powered fuel-cell cars by 2010, Xu said.

"These are important part of our efforts to provide environmentally-friendly products as well as follow the central government's call to build a resource-efficient society," said Xu.

Hyundai's plans come as a slew of other foreign and domestic carmakers have already started to produce hybrid-powered cars in China or have announced they will do so. The country is the world's No 3 car market but is short of oil.

Last year, Japan's Toyota Motor Corporation kicked off production of the hybrid-powered Prius sedan in Northeast China's Jilin Province with First Automobile Works Corp. It meant Toyota became the first foreign car manufacturer to build hybrid vehicles in China.

General Motors (GM), Volkswagen and Chinese car firm Geely all plan to make hybrid-powered vehicles in China in 2008. GM says it will also produce fuel-cell vehicles in China in 2010.

According to industry statistics, Toyota only sold 487 units of the hybrid-powered Prius in China in the first two months of this year. The 2.0-litre car costs between 288,000 Yuan (US\$35,820) and 302,000 Yuan (US\$37,560) here.

Beijing Hyundai, set up in 2002, is one of the fastest-growing car manufacturers in China. The venture aims to sell 300,000 cars this year, Xu said. In 2005, its sales surged by 62 per cent to 234,000 units from the previous year. The venture now produces the Elantra, Sonata and Accent sedans, and Tucson sport utility vehicles.

Analysts have predicted China's vehicle market will total 10 million units a year by 2010, up from 5.9 million units last year.

## Y. China Raises Oil Product Prices to Help Refiners

China, the world's second biggest energy consumer, raised prices of oil products for the first time in eight months to help refiners cover costs after crude oil prices surged to record levels. Ex-factory gasoline prices were increased by 300 Yuan (\$37) a metric ton and diesel prices by 200 Yuan per metric ton, the National Development and Reform Commission, the nation's top economic planner, said in a statement on its Web site. Retail prices for gasoline will also rise by 250 Yuan per metric ton, while diesel prices will rise by 150 Yuan a ton, the statement said.

The central government, which controls diesel and gasoline prices to limit their impact on inflation, is authorizing higher prices to help the nation's refiners cover rising oil costs. China's government last adjusted fuel prices on July 23.

“The wide pricing gap between international oil prices and domestic refined products is affecting market supply and steady development of the economy,” the commission said in the statement. “China's economy is growing at an accelerating pace and demand for oil continues to rise.”

Ex-factory prices of gasoline supplied to the government's reserves rose to 4,700 Yuan a ton from 4,400 Yuan, diesel prices to 4,070 Yuan from 3,870 Yuan, military-use kerosene to 4,090 Yuan from 3,890 Yuan, and aviation gasoline to 4,840 Yuan from 4,530 Yuan, the statement said.

The government also raised ex-factory prices for jet fuel to between 4,840 Yuan a ton and 5,470 Yuan a ton, without providing comparative numbers, the statement said.

In the affluent southern province of Guangdong, home to much of China's manufacturing, the retail price for 93 RON grade gasoline has risen to 4.51 Yuan per liter, while the wholesale price is now 5,723 Yuan per ton, according to a Xinhua news agency report. Zero- grade diesel prices rose to 4.18 Yuan per liter, according to the report.

Chinese gasoline traders and manufacturers have urged the government to ease price controls blamed for shortages last year in Shanghai, the nation's commercial center, and provinces including Guangdong, the biggest manufacturing hub.

Companies such as China National Petroleum Corp. and China Petrochemical Corp., the nation's two biggest oil companies, are allowed to set retail prices of gasoline and diesel and fuel supplied to commercial airlines and the transport sector at 8 percent above or below the government's recommended prices, the commission said.

Oil companies won't be allowed to make the adjustments for retail prices of diesel sold to the fisheries industry, it said. In a separate statement, the commission said it will set up a subsidy system for selected industries including fisheries, state-owned forestry companies and public transportation companies, to compensate for the price increase.

Farmers who grow grains will get subsidies to compensate for the impact caused by the higher diesel oil and chemical fertilizer costs, the statement said, without stating the amount. City governments can offer subsidies to taxi drivers to help reduce the effect of the increase in fuel prices, it said.

To help refiners cover the higher costs of processing fuels to meet ``Euro III" emission standards in Beijing, the recommended retail price of gasoline was raised by 460 Yuan a ton, and diesel by 340 Yuan a ton, compared with a gain of 250 Yuan a ton for gasoline and 150 Yuan a ton for diesel countrywide, the statement said. The ``Euro III" standards are automobile emission restrictions that the European Union adopted in 2000 to regulate the amount of sulfur in gasoline and diesel.

In Beijing, retail prices for 93 RON grade gasoline rose to 4.65 Yuan (about 58 US cents) a liter from 4.26 Yuan (about 53 US cents), and zero-grade diesel prices increased to 4.04 Yuan (50 US cents) a liter from 3.74 Yuan (46 US cents), the capital city's development and reform commission said in a separate statement.

PetroChina said last week that it lost 19.8 billion Yuan (US\$2.4 billion) on refining and fuel sales in 2005.

Analysts said a bolder plan to allow more frequent price changes in bigger margins may have been held back by the tough issue of how to shield lower-income users, mostly the country's 800 million farmers, from rising fuel costs.

## **Z. China To Invest \$22.5 Billion In Oil Refining Sector**

China plans to spend 180 billion Yuan (22.5 billion U.S. dollars) in the oil refining and petrochemical sector in the next five years. Duan Wende, vice-president of PetroChina, said China aims to build five 10-million-ton oil refining bases, two aromatic hydrocarbon production bases, four chemical fertilizer production bases and six large ethylene production bases in the coming five years.

Meanwhile, a sales network will be set up to support these projects, he added.

He said these measures are part of the country's efforts to realize the goal of "orderly and high efficient" development of the oil refining and petrochemical sector.

China plans to increase its oil refining capacity by over 45 million tons to reach 170 million tons by the year 2010, an average growth rate of 5 percent.

The nation's chemical products output is expected to hit 20 million tons by then, an increase of 12 million tons, according to the oil official.

## **AA. Sinopec Cuts Refining Target**

Chinese oil giant China Petroleum & Chemical (Sinopec) is to cut its crude oil processing target for this year as demand dips. The result will trim its bottom line. Officials of Sinopec confirmed the revision, but would not give details. Reports lower the target by slightly more than 3 per cent.

A senior company manager in Beijing said Sinopec had reduced this year's original target, to process 108 million tons of crude oil, to 105 million tons - roughly the same as last year, according to a report. The cut was prompted by decreased demand for processed products such as diesel, kerosene and petrol.

Analysts had expected the company to have difficulty achieving this year's forecast of 11.5 per cent year on year net profit growth - to 18.02 billion Yuan - as stated in its A-share prospectus. HSBC Securities' forecast for Sinopec's net profit this year is 16 billion Yuan based on mainland accounting standards, compared with 16.15 billion Yuan last year.

A European brokerage analyst said Sinopec's more bullish forecast was probably because it was made earlier this year, when the market outlook was not as grim as it was a month ago.

#### **46. Vietnam to Cut Diesel, Gasoline Sulfur Content**

Vietnam plans to cut the sulfur content in diesel and gasoline for both transport and industrial use to reduce air pollution, potentially from next month despite opposition from fuel importers. The sulfur cut to 0.05 percent from 0.5 percent in motor fuels means Asia's second-largest gasoline and diesel importer joins a growing band of regional countries tightening standards, which could hit demand and trade for the higher-sulfur fuel.

"The government has issued a directive which includes this change in the sulfur content for official application," an official from the Science and Technology Ministry has said. Under the new ruling, the sulfur content in unleaded transport fuels would be cut to 0.05 percent, while diesel for industrial use would be cut to 0.25 percent.

Vietnam has import quotas for the equivalent of about 69,000 barrels per day (bpd) of gasoline and 120,000 bpd of high-sulfur diesel, about three-quarters of its total product import quota.

Deputy Prime Minister Pham Gia Khiem reportedly signed the directive on March 7, saying it will take effect in 15 days from the date it was published by the Official Gazette, the government's publishing arm. It went into print on March 23, meaning it should take effect on April 7.

The Southeast Asian country spent nearly US\$5 billion last year to import 11.34 million tons of products, up 39 percent in value over 2004. Lower-sulfur fuel commands a market premium.

Vietnam plans to adopt more stringent requirements for the emissions of vehicles, starting with Euro II emission standards, from July 1, 2007. Euro II requires 0.05% sulfur and also puts limits on benzene and aromatics content in fuel.

Dominant oil importer Petrolimex has begun phasing out the low-quality 90-octane gasoline grade and replaced it with the higher quality 92 and 95-octane gasoline from January.

#### **47. 6.5 Million Reportedly Hospitalized Annually in Pakistan From Air Pollution**

Studies conducted by health experts revealed that approximately 6.5 million people were hospitalized annually for air pollution related illnesses and if remedial measures were not taken, the number could increase, said Dr Tariq Mehmood Taseer, the patient's welfare

society chairman. He was addressing the participants of a meeting of the Free Advisory Service of Taseer laboratories. He said that the authorities concerned had failed to check the sale of plastic bags, leaded gasoline and mismanagement in the maintenance of the sewerage system. There was dire need for remedial steps by both the people and the government to lower the level of toxins in the air.

He said that discarded plastic bags choked drains, which resulted in overflowing gutters, which led to epidemics. He said that people should be discouraged from throwing their garbage in open fields, and authorities concerned should assure that garbage is collected on a regular basis.

#### **48. Hong Kong Fighting An Uphill Battle For Cleaner Air**

In spite of one of the most aggressive motor vehicle pollution control efforts in the region, Hong Kong continues to be plagued by serious and perhaps worsening air pollution. Indications include:

- The Environmental Protection Department of Hong Kong has announced that 23 pollution convictions were recorded in February and more than half of the convictions were under the Air Pollution Control Ordinance.
- According to the Friends of the Earth, an environment protecting organization, the number of low visibility days at the Hong Kong International Airport, where tourists get the first impression of the city, reached a record high last year. And the number of clear days in the downtown area is even less. Friends of the Earth said it has interviewed 129 tour guides between March 8 and 10, during which half of the interviewees rated the air quality of Hong Kong as either severe or very severe and nearly 40 percent said tourists had complained about air pollution.
- A survey published by Chinese University of Hong Kong and the Hong Kong Lung Foundation said that 30 percent of elderly citizens over the age of 70 complained about respiratory problems in 2003 because of bad air, compared with 4.9 percent in 1991. The percentage has risen six times within 12 years.

Emissions of vehicles and power plants, as well as pollutants from the Pearl River Delta are considered the main reasons for the bad air of the city. A spokesman for Hong Kong Environmental Protection Department said that the government is determined to achieve the emission targets by cooperation with neighboring Guangdong Province. The governments of Hong Kong Special Administrative Region and Guangdong have agreed to reduce emissions of sulfur dioxide (SO<sub>2</sub>), nitrogen oxides (NO<sub>x</sub>), respirable suspended particulates (RSP) and volatile organic compounds (VOC) by 40 percent, 20 percent, 55 percent and 55 percent, respectively by the year of 2010.

For the electricity generation, the biggest source of air pollution in Hong Kong, the Department has asked power companies to accelerate emission reduction projects, increase the use of ultra-low sulfur coal and use natural gas for power generation as much as possible.

Meanwhile, a large scale anti smoking educational campaign was launched this month in the catering service industry in order to reach the target of eliminating smoking in all catering places in Hong Kong by the year of 2007.

By analyzing satellite images, scientists at the Hong Kong Polytechnic University have monitored the level of aerosols, or atmospheric particles, in the air in Hong Kong and the neighboring region of southern China since October.

Pollution in Hong Kong has been worsening, with the number of clear days dropping, respiratory problems on the rise and worries also increasing that the deteriorating environment is starting to affect the economy.

Measuring air quality with sun photometers at two sites in Hong Kong -- one in the city center and one about 15 miles (24 km) away by the border with China -- researchers find that pollution levels went up and down basically in tandem. That suggests that most of the air pollution in Hong Kong is coming from across the border, as opposed to cars or other urban sources.

"One of the major sources, if not the major source, of aerosols in Hong Kong is factories," Dr. Janet Nichol, head of the university's department of land surveying and geo-information said. The Pearl River Delta is one of China's main economic engines, and it has long been known that factories there are major polluters.

The monitoring station receives satellite pictures from NASA daily and will monitor air quality for 10 years. The University will also provide air pollution data to Hong Kong's environmental protection department.

#### **49. Hong Kong's Air Pollution Cuts Its Appeal**

Hong Kong's ranking as a desirable place to live for expatriate employees has fallen sharply as a result of worsening air pollution, according to the latest survey of the world's cities from ECA International, which sells advice to employers on living conditions and hardship allowances. For Asian expatriates, Hong Kong fell to 32nd place in the 2005-06 rankings from 20th in 2004-05, entirely because of air pollution and rising health risks, including the dangers of bird flu to humans.

Singapore retained the top spot as the best place, followed by the three Australian cities of Sydney, Melbourne and Canberra. Because of the weighting given to "external isolation" -- essentially distance from home -- the only three European or American cities in the top 10 for Asians were Copenhagen, Vancouver and Basel.

Hong Kong declined less dramatically in the rankings for North American and European expatriates, coming in at 66th place -- compared with 60th the previous year -- in both categories. For westerners, cities in Canada, Switzerland and northern Europe continue to rank as the best places to live.

Lee Quane, ECA International general manager, said that for Asian employees Hong Kong was falling behind cities such as Oslo, San Francisco and Washington it had previously beaten.

"However, it is still ranked more favorably than mainland Chinese cities," he said. "Although they are improving, mainland cities still have a long way to go."

Kuala Lumpur, the Malaysian capital occasionally blanketed by smoke from Indonesian forest fires, also dropped down in the survey because of air pollution.

The ECA survey is based on assessment of criteria such as crime and climate, not on the opinions of employees or on financial costs.

Hong Kong's pollution, most of it blown in from the factories, vehicles and power stations of the neighboring Chinese province of Guangdong, has worsened steadily. Some western expatriates have moved from Hong Kong to Singapore or returned to their home countries, citing air pollution as one of the factors that persuaded them to leave.

Mr. Quane said that for Asian expatriates Hong Kong's decline this year had pushed the city from the top category, where ECA says no hardship allowance is needed, to Category B, for which companies should consider paying such an allowance.

Air pollution is given 20 out of a total of 330 points in the ranking system (with the highest score being the worst). Hong Kong's air pollution score is 14, compared with two for Singapore.

For expatriates from all three main regions the worst cities ranked in the survey are Baghdad, Kabul and Karachi in Pakistan.

#### **50. Singapore Revises 'Green Plan' To Include Pollution, Emissions Targets**

A review of Singapore's national environmental plan has resulted in new targets for the improvement of the city-state's air quality and carbon intensity, the Ministry of Environment and Water Resources announced on March 13<sup>th</sup>. The ministry said it had accepted most of the recommendations of working groups tasked with updating the plan, which outlines the government's environmental policies and goals from 2002-2012.

New goals include reducing atmospheric levels of particulate matter measuring 2.5 micrometers or less (PM 2.5) to an average of 15 micrograms per cubic meter of air by 2014. Current PM 2.5 levels average about 20 micrograms per cubic meter of air.

The ministry has also pledged to improve Singapore's carbon intensity by reducing carbon dioxide emissions per GDP dollar to 75 percent of 1990 levels by 2012.

The government also hopes to cut per capita domestic water consumption from an average of 162 liters per day to 155 liters per day over the next six years.

To meet these goals the government will team up with private sector and civic representatives to implement a series of action plans covering areas such as air quality and waste management. The plans state that authorities will evaluate the need for more stringent emissions standards for vehicles and businesses and will also implement a self-monitoring scheme for heavily polluting industries.

To reduce greenhouse gas emissions, the government is implementing an energy-efficiency labeling scheme for various categories of consumer appliances and promoting clean energy sources in the industrial sector. Officials are also looking at ways to improve the energy management practices of property developers and managers.

The ministry recently announced Singapore's intention to accede to the Kyoto Protocol by the end of 2006. Singapore will join the Kyoto Protocol in a bid to both help mitigate climate change and to take full advantage of the business opportunities presented under the treaty's emissions trading provisions, Minister of Environment and Water Resources Yaacob Ibrahim announced on March 7<sup>th</sup>. Ibrahim told Parliament that the administration recognized there was a "general scientific agreement" that human activity was contributing to rising global temperatures and extreme weather events, and that the international community needed to take "concerted action" to deal with the issue.

As a signatory to the United Nations Framework Convention on Climate Change since 1997, Singapore is committed to addressing climate change and will accede to the Kyoto Protocol before the end of the year, the minister said.

As a non-Annex 1 country, Singapore will not be obligated to reduce greenhouse gas emissions, even when it becomes a party to the protocol. Still, the government has held off ratifying the agreement due to concerns about its impacts on the city-state's energy sector, which is heavily dependent on fossil fuels. According to the ministry, national carbon dioxide emissions exceeded 39 million metric tons in 2004.

Ibrahim also said the government would take steps to reduce greenhouse gases domestically and would develop a national climate change strategy that would treat issues such as adaptation to global warming, the mitigation of carbon emissions, and raising public and private sector awareness of climate change.

Among the administration's plans are the implementation of a mandatory labeling scheme for air conditioners and refrigerators that will allow consumers to gauge the energy efficiency of different models. The scheme, which will be launched in mid-2007, could eventually be extended to cover other "energy-intensive" appliances such as clothes dryers, dishwashers, and water heaters, the minister said.

Ibrahim also announced the establishment of a consortium of Singapore-based environmental technology firms that will explore opportunities related to emissions reduction and carbon trading under the Kyoto Protocol's Clean Development Mechanism (CDM). The consortium is spearheaded by Asia Carbon, operator of a Singapore-based exchange for the trade of carbon credits.

Under Kyoto's CDM provisions, projects that reduce emissions in developing countries can earn tradable credits that can be applied toward meeting targets in developed nations.

### **51. Activists Seek Phase Out Of Leaded Petrol in Indonesia**

The government must end the use of leaded gasoline in the country or children will continue to show dangerously high levels of lead in their blood according to Indonesian environmentalists. Ahmad Safrudin, who heads the Joint Committee to Phase Out Leaded Gasoline, a non-governmental organization, said the government should immediately end the distribution of leaded gasoline throughout the country to reduce hazardous air pollution, which was a serious danger to public health.



Two studies conducted in Bandung, and Makassar in South Sulawesi, found that lead levels in the blood of school children had reached critical levels<sup>2</sup>. The studies said school-aged children in Bandung and street children in Makassar were at risk of brain damage with lead-blood levels reaching over the danger level of 10 micrograms a deciliter.

Research carried out in Makassar last year showed that 90 percent of street children aged between three and 12 years old, and 65.5 percent of elementary students in Bandung had blood lead levels above 10 mcg a deciliter. Studies have shown levels above 10 mcg are believed to cause a 2.5-point decrease in IQ levels.

Air pollution specialist Puji Lestari of the Bandung Institute of Technology, who carried out the research in Bandung, said there were correlations between high blood lead levels and low IQs. "Children with high blood lead levels mostly have a moderately low IQs, while children with low blood lead levels generally have higher IQs," she said. High levels could also cause infertility for men and miscarriages in pregnant women.

Puji said the health hazards were an excellent reason for the government to phase out leaded gasoline nationwide.

M. Khidri Alwi, who coordinated the research in Makassar, said there was a major problem with air pollution in Makassar that could lead to child mortality. He believed youngsters in Makassar were more aggressive because of the poisonous substance.

Similar lead-blood research is planned in other major cities -- Surabaya, Palembang and Medan.

State Ministry for the Environment emissions evaluation head M. Didin Khaerudin said the ministry supported a nationwide campaign against leaded gasoline. Such findings should further push the government to intensify its campaign against leaded petrol, he said.

The government is currently designing a strategic plan to improve the air quality in 10 cities -- Jakarta, Bandung, Semarang, Yogyakarta, Surabaya, Batam, Medan, Denpasar, Lampung, and Palembang. It was not clear if the plan will include a program to eliminate leaded gasoline.

Safrudin slammed state oil and gas company Pertamina for refusing to phase out leaded gasoline in Indonesia. In 1996, former president Soeharto was determined to eliminate leaded gasoline by December 1999, but Pertamina used the economic crisis as an excuse to delay the schedule, Safrudin said. In 2001, Pertamina agreed to phase out leaded gasoline in limited areas, including Jakarta, Bogor, Tangerang, Bekasi, Cirebon, Bali and Batam.

## **52. Air Pollution Could Cost Sydney \$6 Billion Annually**

The annual health cost of air pollution in Sydney and surrounding areas could be up to

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<sup>2</sup> The research was conducted by joint research among KPBB/LIC, Institute Technology of Bandung (ITB), University of Indonesia, Indonesian Moslem University (UMI) Makassar, and YHLI and supported by US EPA (through LIC), SIDA (through ITB).

A\$8.4 billion (US\$6 billion), according to a report released March 21<sup>st</sup> by the New South Wales Department of Environment and Conservation. The report says the health bill is at least A\$1 billion, resulting in a mid-point estimate of A\$4.7 billion. The health effects taken into account include early deaths and respiratory and cardiovascular diseases. The figures equate to an annual per capita cost of up to A\$1,594, or 3.4 percent of gross state product. The report, which is dated 2005 but was only released in March, says its approach probably means the results underestimate the true health costs since they do not account for effects such as extra cancer cases caused by exposure to air toxics. The report is Air Pollution Economics: Health Costs of Air Pollution In The Greater Sydney Metropolitan Region.

### **53. Indian City To Cut Down Diesel Vehicles' Bad Air With US Aid**

A PILOT project to cut down emission levels of polluting gases in heavy-duty diesel vehicles by up to 90 per cent has been launched in Pune. The year-long project, which aims to find the feasibility and effectiveness of fitting old diesel vehicles in the city with emission control devices, has been taken up under an agreement between the Ministry of Environment and Forests and the United States Environmental Protection Agency.

Under the pilot project, 20 PMT buses in the city will be retrofitted with particulate filters, oxidation catalyst or diesel particulate traps that will cut down their emission levels by up to 90 per cent. In addition, these buses will be using low sulfur diesel that will further cut down pollution levels. After one year, the results of the study will be analyzed to check the feasibility of applying it to a larger number of diesel vehicles.

PMC commissioner Nitin Kareer said the project gained eminence as the CNG conversion process for city buses had been pushed till December 2007, due to procedural problems. "It may not be possible to convert the entire public transport system to CNG as the costs are very high and some of the buses are very old, which causes safety problems. By using this technology, we can cut down pollution levels of the older buses that cannot be converted to CNG," he said.

"Till the time we get CNG, the retrofit devices can be used to cut pollution levels in our existing fleet," he added.

The data collected during the project will also be used to implement similar projects across Asia. "The data collected during the project will provide information for its implementation across Asia to reduce emission by heavy duty vehicles," said US Consul General Michael Owen, who inaugurated the project with mayor Rajani Tribhuvan.

The major problems that the project is likely to face are maintenance of the retrofitted vehicles and procurement of low sulfur diesel (which will be initially imported from Germany).

An amount of Rs 2.5 crore has been sanctioned for the project by USAID (United States Agency for International Development) which is also providing technical know-how and support. PMC will provide the manpower, infrastructure and logistical support for the project.

20 PMT buses, most of them Euro I complaint will be retrofitted with three different kinds

of emission control devices. In addition, low sulfur diesel fuel will be used on the buses:

- Diesel Oxidation Catalyst: For the oldest Euro I buses. To cut down 30 per cent emissions
- Flow through filters: For the relatively newer Euro I buses. To cut emissions by 50 per cent
- Diesel Particulate Trap: For the new Euro II buses. To cut emissions by 90 per Cent

#### **54. New Air Pollution Monitors For Delhi Soon**

The Central Pollution Control Board (CPCB) is going to set up three new automatic air pollution monitoring systems covering areas in the Capital that have seen an upsurge in human and vehicular population recently. Previously left "unchecked" by CPCB, the short-listed areas that would now come under surveillance include East Delhi, North Delhi and Dwarka. While the actual locations of the monitoring sites are yet to be finalized, the system is expected to be up and running within the next six months.

Bringing in air pollution data from areas that were left unchecked till now, the new system would enable monitoring of new "high population density" pockets in the city and access their influence on the pollution rate in the Capital. The city at present has only three automatic monitoring sites that provide information about the pollution levels and the Board maintains its status report with a network of manual monitoring sites across the city.

"Covering newly populated areas of the Capital, the new automatic machines would ensure that there is proper and continuous surveillance especially in areas that are seeing a heavy population growth. Though there are manual monitoring sites, the new sites would ensure that there is a steady flow of information through which we can monitor the impact of the new settlements in the Capital on the overall air quality. The automatic monitoring system is more accurate and will work towards ensuring that we keep a close watch on the pollution levels. Another advantage that we have with the system is that information can be accessed at any point of time," said CPCB Director (Laboratory) S. D. Makhijani.

When brought in, the latest facility will also allow the department to maintain records about the trends over a period of time. The proposed area that would come under surveillance has gone unchecked so far.

"We have short-listed places in Delhi and are working on the areas that would be best suited for the same. There is a need to add more locations to the existing strength and the expansion has been on the cards for some time now. It is essential that we initiate a program to cover Delhi that is plagued by high density of human and vehicular population." said Dr. Makhijani.

#### **55. Monitoring Station in Taiwan Expected To Yield Data on Pollution From China**

A new air quality testing station in Taiwan will gather key data that complements existing regional monitoring systems in East Asia, helping experts worldwide to study long-range transboundary air pollutants, including sulfur dioxide and mercury, the Taiwan

Environmental Protection Administration (TEPA) said April 13.

The Lulin Atmospheric Background Station (LABS), situated in central Taiwan's Lulin Mountain at 2,862 meters above sea level, is Taiwan's first station meeting international standards, TEPA said. The height ensures that the station's readings will not be affected by local pollutants, officials said.

According to Lin Neng-Huei, professor of atmospheric sciences at National Central University, the performance of LABS, whose construction cost NT\$25 million (US\$770,000), will be as good as others of the Global Atmosphere Watch, the atmospheric chemistry component of the Global Climate Observing System under the World Meteorological Organization.

The station will also gather data on ozone, carbon dioxide, carbon monoxide, aerosol optical depth, trace gases, radiation, and other atmospheric conditions.

At the opening ceremony of LABS April 13, dozens of environmental scientists from Taiwan, the United States, South Korea, Japan, Hong Kong, Thailand, and other countries said the installation was part of a broader effort to strengthen international cooperation in the field of air pollution monitoring and control. Currently, both Japan and South Korea have similar stations.

Experts from the U.S. National Oceanic and Atmospheric Administration (NOAA) said the new site in Taiwan would compliment existing monitoring systems in East Asia, giving scientists a clearer picture of regional air quality.

"In terms of existing stations in East Asia, the one at Lulin Mountain might have better performance at detecting pollutants from east coast of China, where industrialization has progressed rapidly," according to Russ Schnell, director of observatory and global network operations for the Global Monitoring Division under NOAA's Earth System Research Laboratory.

Both the United States and Canada have complained about the transmission of airborne pollutants from China.

## **LATIN AMERICA**

### **56. Peruvian Legislation Sets Standards For Cutting Sulfur in Diesel by 2010**

On March 22<sup>nd</sup>, Peru published legislation regulating the sulfur content in diesel fuel as a way to improve air quality. Law 28694 requires the sulfur content in diesel fuel to fall to 50 parts per million (ppm) by Jan. 1, 2010. The legislation originated in a bill first published in February 2005 that called for the sulfur content in diesel fuel to fall progressively over a five-year period. The draft called for reaching the 50 ppm target by 2011.

The law requires the Finance Ministry to begin increasing the excise taxes on diesel fuel based on sulfur content as of Jan. 1, 2008, with the higher taxes for dirtier fuels. The National Environmental Council (CONAM) will determine the "harm level" caused by the varying sulfur contents.

Peru currently allows the use of diesel with 5,000 ppm of sulfur.

Environmental groups have criticized the legislation for being too slow and for allowing dangerous loopholes. Article 4 of the law, for example, lets the Ministry of Energy and Mines (MEM) "establish geographic zones in the country where use of diesel fuel with higher sulfur content may be authorized."

Giovanni Goyzueta, part of the air-quality division at CONAM, said the legislation is both good and bad. "We are pleased that the target for hitting 50 ppm has been reduced by a year and that CONAM will determine harm levels," he said. "We disagree with the clause that allows MEM to bypass limits. The law should prohibit the use of dirty fuels nationwide."

Roger Arevalo, chief executive of the state-owned oil company Petroperu, said the law will mean nothing if Congress does not approve legislation to allow for the modernization of Petroperu's refinery. "We need at least \$400 million to modernize the Talara refinery to meet the 2010 target. Time is running out for us to start work, so if the legislation is not passed soon we will not be able to modernize in time to meet any targets."

Congress passed legislation Feb. 9 that would remove Petroperu from a series of government controls to allow it to spend its profits--approximately \$200 million in operating profits earned in 2005--on modernization. However, President Alejandro Toledo vetoed the legislation, and Congress is now debating the law again. The Energy and Mines Commission voted March 21 to override the president's veto, and the Economy Commission did the same the following day. The full Congress now has to vote to override the veto.

Spain's Repsol-YPF, which owns Peru's other major refinery, La Pampilla, has pledged a \$350 million investment over the coming decade to modernize the complex.

### **57. Colombia Promulgates Stricter Standards In Bid to Curb Air Pollutants**

On April 3<sup>rd</sup>, Colombia's Environment Ministry issued a decree setting stricter ambient air standards for the nation. Decree 979, which modifies Decree 02 issued in 1982 and Decree 948 issued in 1995, reduces the maximum permissible levels for sulfur dioxide, nitrogen dioxide, ozone, and carbon monoxide in the ambient air and, for the first time, sets a limit for permissible levels of particles smaller than 10 micrometers.

The decree was implemented by Resolution 601, of April 4, which also defines alert thresholds for high pollution levels, stipulates measures to be taken in response, and requires local authorities to measure pollution and "periodically" inform citizens.

The decree also addresses limits for "nonconventional contaminants with carcinogenic effects," including lead, cadmium, and mercury as well as "substances generating offensive odors."

The pollution limits set by the new decree range from 20 percent to 50 percent stricter than those contained in the 1982 Decree 02 which it replaced.

The measure also sets for the first time limits for particulate matter, nitrogen oxides, and ozone. The maximum concentration of particulate matter smaller than 10 micrometers is a 24-hour average of 150 micrograms per cubic meter or an annual average of 70 µg/m<sup>3</sup>.

In 2009, the annual average limit for particulate matter is to drop to 60 µg/m<sup>3</sup> and in 2011 to 50 µg/m<sup>3</sup>. The new decree specifies that local authorities may set stricter standards if they desire. Penalties for environmental violations, laid out in Article 85 of Law 99 of 1993, include daily fines of up 300 times the monthly minimum wage, suspension of business licenses, and business closures.

The new decree also sets the one-, eight- and 24-hour exposure levels for particulate matter and other contaminants which are to trigger "prevention," "alert," and "emergency" danger levels. Local authorities may impose restrictions on vehicle circulation, incineration, and use of industrial ovens.

The decree lists actions which authorities should put into effect to reduce air pollution, including modernizing vehicles, switching vehicles to cleaner-burning fuels, and increasing vegetation.

According to the decree's text, air pollution causes 6,040 deaths annually and costs the nation 1.5 trillion pesos (\$652 million) annually in medical attention and lost economic productivity.

According to the Environment Ministry, the concentration of particles smaller than 10 micrometers (PM-10) is between 60 µg/m<sup>3</sup> and 70 µg/m<sup>3</sup> in the cities of Medellin, Cali, and Bucaramanga. But in some sections of the capital, Bogota, the concentration is above 70 micrograms per cubic meter.

The ministry added that "reducing these concentrations below 50 micrograms per cubic meter requires great economic efforts on the part of the government, citizenry, and industries."

For the government, which owns the refineries, reducing sulfur levels in vehicle fuels would cost \$1.5 billion and take three to four years. However, the government has begun preparations to import lower-sulfur fuels from abroad, the ministry said.

For industries, the ministry recommends switching from dirtier fuels, such as coal, to cleaner ones such as natural gas, as well as adding pollution controls.

Finally, for vehicles, the ministry recommends promoting use of cleaner fuels, in part by eliminating the subsidy on diesel. The ministry also recommends the promotion of mass transit.

The ministry also announced a \$1.9 million loan from the World Bank to install and upgrade systems for evaluating air pollution levels throughout Colombia.

## **AFRICA**

### **58. South Africa Issues Draft Policy Paper on Environmental Taxes**

South Africa is considering the introduction of taxes and other measures to encourage environmental sustainability, according to a draft policy paper released for public comment in April by the Treasury. The document, *A Framework for Considering Market-Based Instruments to Support Environmental Fiscal Reform in South Africa*, weighs various options for taxes and other market-based incentives aimed at strengthening sustainable development in the country and addressing key environmental issues, including air pollution, climate change, biodiversity, land degradation, water scarcity and quality, and waste management.

The document asserts that these measures should be considered as complementary to existing environmental regulations.

"The National Treasury believes that, where appropriate, environmentally-related taxes could have an important role to play in South Africa's future tax policy," it says. "In combination with other measures, such as regulation and voluntary approaches, these instruments can play a role in meeting current and future environmental challenges. In addition, environmentally-related taxes could help to improve the efficiency and equity of the tax system."

The paper mentions taxation as one of numerous options, including the elimination of "perverse" subsidies for environmentally damaging practices, such as tax breaks for certain land uses; instituting deposit-refund systems; and introducing targeted subsidies to promote environmentally sound technologies, like renewable energy sources.

"Market-based instruments, particularly environmentally-related taxes and charges, may have certain advantages over traditional regulatory approaches and may be a more efficient way to address certain environmental concerns," the paper says.

Environmentally related tax instruments, such as levies on fuel, already account for nearly 10 percent of South Africa's tax revenues, but all current environmental tax instruments have been intended primarily to raise revenue and have lacked specific environmental intention, according to the document.

"By intervening and influencing the institutions that determine how markets operate, government can play an important role in encouraging more efficient resource use," the document says.

The draft document says existing levies may need to be changed to make them more environmentally effective, that new taxes with specific environmental objectives may be needed, and that tax laws that carry "perverse" environmental incentives may need to be reformed.

The document proposes reviewing the existing structures for vehicle licensing fees, fuel taxes, vehicle customs, and excise duties. Customs and excise duties, for example, could be reworked to give incentives for the purchase of more efficient cars and to encourage the use of cleaner fuels.

In addition, the report also says that new taxes may be needed on packaging and products such as batteries and tires in order to encourage better waste management. These new taxes could be implemented along the same lines as the levy that was introduced on plastic shopping bags to encourage conservation and fund recycling

initiatives, according to the document.

It also says the government may want to consider introducing new taxes on electricity, water use, and wastewater.

While the document notes that tax policy has an important and varied role to play in South Africa's environmental sustainability efforts, it also stresses the need for careful consideration of potential effects on poverty alleviation and development, international competitiveness, and regional policies.

## **GENERAL**

### **59. IPCC Expert Says Global Warming Evidence Grows**

Evidence humans are to blame for global warming is rising but governments are doing too little to counter the threat, the head of the United Nations climate panel said during a speaking engagement in Oslo. Rajendra Pachauri, chairman of the Intergovernmental Panel on Climate Change (IPCC), also said that costs of braking climate change in coming decades might be less than forecast in the IPCC's last report in 2001.

"If one looks at just the scientific evidence that's been collected it's certainly becoming far more compelling. There is no question about it," he said of research since 2001 into a link between human emissions of greenhouse gases and rising temperatures. Pachauri was more forthright than at the last UN climate meeting in Montreal, Canada, in December, when he declined to say whether there was clearer scientific evidence that human activities were to blame.

The last IPCC report in 2001 said there was "new and stronger evidence" that gases released by burning fossil fuels in power plants, factories and cars were warming the planet.

Warming may herald catastrophic climate changes such as more heat waves, droughts, floods and rising sea levels.

The IPCC, grouping research by about 2,000 scientists, will present its next report to the United Nations in 2007. The report is the mainstay for environmental policy-making.

Still, Pachauri said it was too early to draw exact conclusions.

A recent BBC report said the IPCC would say in 2007 that "only" greenhouse gas emissions can explain freak weather patterns. "That's premature because the report is still nowhere near completion," he said.

Pachauri said the world needed to do more. "Given the gravity of the situation and the importance of taking action I hope that the global community will move a little more rapidly with some future agreements," he said.

The UN's Kyoto Protocol, which obliges industrial nations to cut greenhouse gas emissions, entered into force last year after years of wrangling and weakened by a US pullout.



Pachauri said people living in island states such as the Maldives in the Indian Ocean, Tuvalu in the Pacific or low-lying countries such as Bangladesh were among those most at risk. "They are living in a state of fear," he said. "We must understand the reasons behind their fears. We're really talking about their very existence, the complete devastation of the land on which they're living."

And cities from New York to Shanghai, from Buenos Aires to London, could also be swamped by rising seas.

The IPCC report says that costs of curbing greenhouse gases in the toughest case could delay world growth from reaching projected 2050 levels until 2051 or 2052. "That's not a heavy price to pay," he said in a speech at Oslo University. "Personally I think these (IPCC) projections are pessimistic."

He said more US companies, cities and states were acting to cap greenhouse gas emissions even though President George W. Bush pulled the United States out of Kyoto in 2001, saying it was too costly and wrongly excluded developing nations. "I think (US action) is going to gather momentum," he said. He noted that even Bush had said in January that the United States was "addicted to oil".

## **60. Drop In Air Pollution Linked To Reduced Mortality**

Reductions in fine particulate air pollution do seem to translate into a survival benefit on a population level, researchers have shown. The drop in mortality "was observed specifically for deaths due to cardiovascular and respiratory disease and not from lung cancer, a disease with a longer latency period and less reversibility," Dr. Francine Laden, from Harvard Medical School in Boston, explained in a statement.

A direct link between death rates and small airborne particles 2.5 microns in diameter or less -- dubbed PM2.5 -- has been noted in numerous epidemiological studies, but it was unclear if improvements in particle exposure would actually lead to better survival, according to a report by Laden and her colleagues. As they explain in the *American Journal of Respiratory and Critical Care Medicine*, in an earlier analysis of data from the Harvard Six Cities study, long-term exposure to ambient PM2.5 was associated with increased mortality.

Laden's team analyzed data for 8 additional years of follow-up, during a period when air pollution was declining in many of the cities studied. The urban areas included in the study were Watertown, Massachusetts; Kingston and Harriman, Tennessee; St. Louis, Missouri; Steubenville, Ohio; Portage, Wyocena and Pardeeville, Wisconsin; and Topeka, Kansas.

Consistent with previous findings, the overall mortality in those cities rose steadily with each increase in PM2.5 of 10 microgram per cubic meter. As PM2.5 levels fell during follow-up, so did overall mortality. The results suggest that increases in mortality related to PM2.5 are "at least in part reversible," the researchers conclude.

The follow-up study found that an average of three percent fewer people died for every reduction of one  $\mu\text{g}/\text{m}^3$  in the average levels of PM2.5 fine particulate matter, defined as

having a diameter of 2.5 microns or less -- narrower than the width of a human hair. This decreased death rate is approximate to saving 75,000 people per year in the U.S., said lead author Francine Laden, HSPH Assistant Professor of Environmental Epidemiology.

The largest drops in mortality rates were in cities with the greatest reduction in fine particulate air pollution. The findings remained valid after controlling for the general increase in adult life expectancy in the U.S. during both the original and follow-up study periods (1979 to 1989 and 1990 to 1998).

The follow-up study population consisted of nearly 8,100 white participants. The annual mean concentration of fine particulate matter declined during the study period by seven micrograms  $\mu\text{g}/\text{m}^3$  of air per decade in Steubenville, five micrograms in St. Louis, three micrograms in Watertown, two micrograms in Harriman, one microgram in Portage, and less than a microgram in Topeka.

Recently, the EPA's external science advisors recommended that the agency back new air quality standards that would reduce by one to two  $\mu\text{g}/\text{m}^3$  of air the acceptable standard of average levels of PM<sub>2.5</sub>. The EPA proposed lowering the level of the 24-hour fine particle standard but keeping unchanged the annual standard, set in 1997. "Our study supports the science advisors' position," said Laden. "When cities make those reductions, the results save lives."

In addition to Laden, the study's authors are Joel Schwartz, HSPH Professor of Environmental Epidemiology; Frank Speizer, Edward H. Kass Professor of Medicine at Harvard Medical School and HSPH Professor of Environmental Science; and Douglas Dockery, chair of the HSPH Department of Environmental Health and lead author on the original Six Cities study.

The EPA and the National Institute of Environmental Health Sciences funded this follow up.

In an editorial on the article in the same issue of the journal, Bert Brunekreef, Ph.D., of the Institute for Risk Assessment Science at the Universiteit Utrecht and the University Medical Center in Utrecht, The Netherlands, wrote:

"The investigators show that the city-specific reduction of PM<sub>2.5</sub> was associated with a reduction in mortality rates. The reason why this is so important is that, until now, it was not clear whether the cohort studies were showing effects that resulted from lifetime cumulative exposure. If so, late changes in exposure would have little, if any, effect on survival. These new findings suggest another dynamic--namely that recent exposures do matter. This would be consistent with pollution affecting primarily a dynamic "pool" of susceptible individuals whose susceptibility itself may to some extent have been increased by lifelong, cumulative pollution exposure. We do know that smoking cessation leads to reductions in respiratory, cardiovascular and lung cancer risks, with different lags. The findings in this study, which show no effect on pollution reduction on lung cancer and the strongest effects on respiratory and cardiovascular mortality reduction, seem to show a similar pattern. The practical implication is that pollution reduction, even beyond the relatively low levels that have been achieved in the past half-century, will lead to public health benefits."

Dr. Brunekreef also highlights the study's limitations: the size of the study population was

relatively small; some effects of clear medical importance were not considered statistically significant; and the PM<sub>2.5</sub> concentrations during the second phase of the study were estimated. Moreover, because participants in the last phase were not interviewed regularly, potential variables--such as a change in smoking habits--may not be reflected in the data. He concluded that additional studies are needed.

### **61. NASA Study Links "Smog" to Arctic Warming**

NASA scientists have found that a major form of global air pollution involved in summertime "smog" has also played a significant role in warming the Arctic. In a global assessment of the impact of ozone on climate warming, scientists at the NASA Goddard Institute for Space Studies (GISS), New York, evaluated how ozone in the lowest part of the atmosphere changed temperatures over the past 100 years<sup>3</sup>. Using the best available estimates of global emissions of gases that produce ozone, the GISS computer model study reveals how much this single air pollutant, and greenhouse gas, has contributed to warming in specific regions of the world.

According to this new research, ozone was responsible for one-third to half of the observed warming trend in the Arctic during winter and spring. Ozone is transported from the industrialized countries in the Northern Hemisphere to the Arctic quite efficiently during these seasons.

Ozone plays several different roles in the Earth's atmosphere. In the high-altitude region of the stratosphere, ozone acts to shield the planet from harmful ultraviolet radiation. In the lower portion of the atmosphere (the troposphere), ozone can damage human health, crops and ecosystems. Ozone is also a greenhouse gas and contributes to global warming.

The impact of ozone air pollution on climate warming is difficult to pinpoint because, unlike other greenhouse gases such as carbon dioxide, ozone does not last long enough in the lower atmosphere to spread uniformly around the globe. Its warming impact is much more closely tied to the region it originated from. To capture this complex picture, GISS scientists used a suite of three-dimensional computer models that starts with data on ozone sources and then tracks how ozone chemically evolved and moved around the world over the past century.

The warming impact of low-altitude ozone on the Arctic is very small in the summer months because ozone from other parts of the globe does not have time to reach the region before it is destroyed by chemical reactions fueled by ample sunshine. As a result, when it is summertime in the Northern Hemisphere, ozone-induced warming is largest near the sources of ozone emissions. The computer model showed large summer warming from ozone over western North America and eastern Europe/central Asia, areas with high levels of ozone pollution during that time of year.

The new results identify an unexpected benefit of air pollution control efforts worldwide,

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<sup>3</sup> Shindell, D., G. Faluvegi, A. Lacis, J. Hansen, R. Ruedy, and E. Aguilar 2005. The role of tropospheric ozone increases in 20th century climate change. *J. Geophys. Res.*, in press.

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according to lead author Drew Shindell. "We now see that reducing ozone pollution can not only improve air quality but also have the added benefit of easing climate warming, especially in the Arctic."

The research was supported by NASA's Atmospheric Chemistry Modeling and Analysis Program.

## **62. German Named to Head UN Environment Agency**

Secretary-General Kofi Annan chose a German conservationist to head the UN Environment Program for a four-year term, a UN spokesman has announced. Achim Steiner, now director-general of the World Conservation Union, will replace another German, Klaus Toepfer, as head of UNEP, based in the Kenyan capital, Nairobi.

Steiner, 44, is expected to assume his post on June 15 after ratification by the UN General Assembly, UN spokesman Stephane Dujarric said.

UNEP was established in 1972 to guide environmental activities at the United Nations, especially among developing nations, through its scientific advisory groups. Its widely recognized activity is Earthwatch, an international monitoring system designed to facilitate the exchange of information on significant environmental risks among governments.

The World Conservation Union that Steiner heads is the world's largest environmental network with over 1,000 members in 140 countries, including governments and advocacy groups.

Dujarric said Steiner had "worked both at the grass-roots level and at the highest levels of international policy-making to address the connections between environmental sustainability, social equity, and economic development."

Steiner was born in Brazil and received degrees from Oxford University and the University of London and studied at the German Development Institute in Berlin as well as Harvard Business School.

## **63. Greenhouse Gas Concentrations Rise To Record Levels, U.N. Report Finds**

Average global concentrations of greenhouse gases hit record levels in 2004, with carbon dioxide continuing to rise at the fastest pace, the U.N. World Meteorological Organization said in a report released on March 14<sup>th</sup>. Carbon dioxide levels rose 1.8 parts per million in 2004, or 0.5 percent, reaching a concentration of 377.1 parts per million, according to WMO's Greenhouse Gas Bulletin.

Carbon dioxide levels are about 35 percent above pre-industrial levels, according to the bulletin, which the Geneva-based agency said was the first of what will be an annual report.

WMO's observations "show that levels of carbon dioxide, the most abundant greenhouse gas in the atmosphere, continue to increase steadily and show no signs of leveling off," according to a statement from WMO Secretary General Michel Jarraud.

The rise in greenhouse gas concentrations, which include gases such as nitrous oxide and methane, has been linked by scientists to changes in the Earth's climate, including an increase in global average temperatures.

The findings suggest that concentrations of carbon dioxide are continuing an upward trend that began with the dawn of the industrial age in the late 1700s and have continued to accelerate with the increased consumption of fossil fuels.

The bulletin also noted a slight increase in global concentrations of nitrous oxide in 2004 over 2003. Methane concentrations, however, "have shown signs of reaching a plateau," with virtually no increase reported in 2004, it said.

The bulletin said nitrous oxide concentrations have risen by about 0.8 parts per billion annually since 1988 and climbed to 318.6 parts per billion in 2004. Over the last decade, nitrous oxide emissions have increased by 8 parts per billion, WMO said.

Nitrous oxide concentrations have increased at a far slower rate than carbon dioxide, rising only about 18 percent since the 18th century, WMO said. About one-third of nitrous oxide emissions are tied to human activities such as fuel combustion, fertilizer use, the burning of wood and other biomass, and some industrial processes.

Methane concentrations, meanwhile, totaled 1,783 parts per billion in 2004 and have increased 37 parts per billion over the last decade, according to the bulletin. WMO said methane concentrations have increased 155 percent since the late 1700s, reflecting increased human activities in fossil fuel extraction, agriculture, and landfills, the report said.

However, the increase in global methane emissions may have leveled off in recent years, with WMO reporting "virtually no rise" in methane concentrations in 2004. Methane concentrations have increased by less than 5 parts per billion per year since 1999, the WMO said.

About 60 percent of global methane emissions are related to human activity, the report said.

The findings were based on data collected from 44 nations. WMO plans to release data for 2005 in November.

#### **64. New WHO Air Quality Guidelines Issued**

To update the WHO Air quality guidelines (AQG), and to assure their global applicability, WHO established a working group consisting of experts in epidemiology, toxicology, air quality exposure assessment, air quality management, and public policy. Based on the review of the newly accumulated evidence on health aspects of air pollution, the working group agreed on the updated guidelines for particulate matter, ozone, nitrogen dioxide and sulfur dioxide. To facilitate implementation of the guidelines in all WHO Regions, especially in more polluted areas, the group recommended interim targets which, if achieved, would result in significant reductions in pollutant-related health risks and would indicate a progress towards the guideline values.

The Table below summarizes the updated WHO Air quality guideline levels. They are recommended to be achieved everywhere in order to significantly reduce the adverse health effects of pollution.

Updated WHO Air quality guideline values

Pollutant	Averaging time	AQG value
Particulate matter <b>PM<sub>2.5</sub></b>	1 year	10 µg/m <sup>3</sup>
	24 hour (99 <sup>th</sup> percentile)	25 µg/m <sup>3</sup>
<b>PM<sub>10</sub></b>	1 year	20 µg/m <sup>3</sup>
	24 hour (99 <sup>th</sup> percentile)	50 µg/m <sup>3</sup>
<b>Ozone, O<sub>3</sub></b>	8 hour, daily maximum	100 µg/m <sup>3</sup>
<b>Nitrogen dioxide, NO<sub>2</sub></b>	1 year	40 µg/m <sup>3</sup>
	1 hour	200 µg/m <sup>3</sup>
<b>Sulfur dioxide, SO<sub>2</sub></b>	24 hour	20 µg/m <sup>3</sup>
	10 minute	500 µg/m <sup>3</sup>

#### A. Particulate matter

The evidence on airborne PM and public health is consistent in showing adverse health effects at exposures experienced by urban populations in cities throughout the world, in both developed and developing countries. The range of effects is broad, affecting the respiratory and cardiovascular systems and extending to children and adults and to a number of large, susceptible groups within the general population. The risk for various outcomes has been shown to increase with exposure and **there is little evidence to suggest a threshold below which no adverse health effects would be anticipated**. In fact, the lower range of concentrations at which adverse health effects has been demonstrated is not greatly above the background concentration which has been estimated at 3-5 µg/m<sup>3</sup> in the United States and Western Europe for particles smaller than 2.5 micrometer, PM<sub>2.5</sub>. The epidemiological evidence shows adverse effects of particles after both short-term and long-term exposures.

The choice of indicator for particulate matter also merits consideration. The most recent and extensive epidemiological evidence is largely based on studies using PM<sub>10</sub> as the exposure indicator. Further, at present the majority of monitoring data is based on measurement of PM<sub>10</sub> as opposed to other particulate matter metrics. As an indicator, PM<sub>10</sub> comprises the particle mass that enters the respiratory tract and includes both the coarse (PM<sub>10</sub>-PM<sub>2.5</sub>) and fine (PM<sub>2.5</sub>) particles considered to contribute to the health effects observed in urban environments. In most urban environments, both coarse and fine mode particles are likely to be prominent, the former primarily produced by mechanical processes such as construction activities, road dust resuspension and wind, and the latter primarily from combustion sources.

Based on known health effects, both short-term (24-hour) and long-term (annual)

guidelines are needed for both of the PM indicators.

The annual average guideline value of  $10 \mu\text{g}/\text{m}^3$  for PM<sub>2.5</sub> was chosen to represent the lower end of the range over which significant effects on survival have been observed in the American Cancer Society Study (ACS). Adoption of a guideline at this level places significant weight on the long-term exposure studies using the ACS and Harvard Six-Cities data. In these studies, robust associations were reported between long-term exposure to PM<sub>2.5</sub> and mortality. The historical mean PM<sub>2.5</sub> concentration was  $18 \mu\text{g}/\text{m}^3$  (range of 11.0 to  $29.6 \mu\text{g}/\text{m}^3$ ) in the Six-Cities study and  $20 \mu\text{g}/\text{m}^3$  (range of 9.0 to  $33.5 \mu\text{g}/\text{m}^3$ ) in the ACS study. Thresholds were not apparent in either of these studies, although the precise period(s) and pattern(s) of relevant exposure could not be ascertained. In the ACS study, statistical uncertainty in the risk estimates becomes apparent at concentrations of about  $13 \mu\text{g}/\text{m}^3$ , below which the confidence bounds significantly widen since the concentrations are relatively far from the mean. In the Dockery et al. study, the risks are similar in the cities at the lowest long-term PM<sub>2.5</sub> concentrations of 11 and  $12.5 \mu\text{g}/\text{m}^3$ . Increases in risk are apparent in the city with the next-lowest long-term PM<sub>2.5</sub> mean of  $14.9 \mu\text{g}/\text{m}^3$ , indicating likely effects in the range of 11 to  $15 \mu\text{g}/\text{m}^3$ . Therefore, an annual concentration of  $10 \mu\text{g}/\text{m}^3$  would be below the mean of the most likely effects levels indicated in the available literature. Targeting a long-term mean PM<sub>2.5</sub> concentration of  $10 \mu\text{g}/\text{m}^3$  would also place some weight on the results of daily exposure time-series studies examining relationships between PM<sub>2.5</sub> and acute adverse health outcomes. These studies have long-term (three- to four-year) means in the range of 13 to  $18 \mu\text{g}/\text{m}^3$ . Although adverse effects on health cannot be entirely ruled out even below that level, the annual average WHO AQG represent levels that have been shown to be achievable in large urban areas in highly developed countries, and attainment is expected to effectively reduce the health risks.

In addition to PM<sub>2.5</sub> and PM<sub>10</sub>, ultra fine particles (UF) have recently attracted significant scientific and medical attention. These are particles smaller than 0.1 micrometer and are measured as number concentration. While there is considerable toxicological evidence of potential detrimental effects of UF particles on human health, the existing body of epidemiological evidence is insufficient to reach a conclusion on the exposure/response relationship to UF particles. Therefore no recommendations can be provided as to guideline concentrations of UF particles at this point.

## B. Ozone

The second edition of the WHO AQG (WHO 2000) set the guideline value for ozone at  $120 \mu\text{g}/\text{m}^3$  for an 8-hour daily average. Since the mid- 1990s there has been no major addition to the evidence from chamber studies or field studies. There has however been a marked increase in health effects evidence from epidemiological time-series studies. Combined evidence from those studies show convincing, though small, positive associations between daily mortality and ozone levels, independent of the effects of particulate matter. Similar associations have been observed in both North America and Europe. These time-series studies have shown effects at ozone concentrations below the previous guideline of  $120 \mu\text{g}/\text{m}^3$  without clear evidence of a threshold. Evidence from both chamber and field studies also indicate that there is considerable individual variation in response to ozone. In view of these considerations, there is a good case for reducing the WHO AQG from the existing level of  $120 \mu\text{g}/\text{m}^3$ .

It is possible that health effects will occur below this level in some sensitive individuals.

Based on time-series studies, the number of attributable deaths brought forward can be estimated at 1-2% on days when ozone concentration reaches this guideline level as compared with the background ozone level.

There is some evidence that ozone also represents unmeasured toxic oxidants arising from similar sources. Measures to control ozone are also likely to control the effects of these pollutants.

Hemispheric background concentrations of tropospheric ozone vary in time and space but can reach average levels of around  $80 \mu\text{g}/\text{m}^3$ . These arise from both anthropogenic and biogenic emissions of ozone precursors and downward intrusion of stratospheric ozone into the troposphere. The proposed guideline value may occasionally be exceeded due to natural causes.

There is some evidence that long-term exposure to ozone may have chronic effects but it is not sufficient to recommend an annual guideline.

### C. Nitrogen dioxide

Evidence from animal toxicological studies indicates that long-term exposure to  $\text{NO}_2$  at concentrations above current ambient concentrations has adverse effects. In population studies  $\text{NO}_2$  has been associated with adverse health effects even when the annual average  $\text{NO}_2$  concentration complied with the WHO-2000 annual guideline value of  $40 \mu\text{g}/\text{m}^3$ . Also some indoor studies suggest effects on respiratory symptoms among infants at concentrations below  $40 \mu\text{g}/\text{m}^3$ . Together these results support a lowering of the annual  $\text{NO}_2$  guideline value. However,  $\text{NO}_2$  is an important constituent of combustion-generated air pollution and is highly correlated with other primary and secondary combustion products, it is unclear to what extent the health effects observed in epidemiological studies are attributable to  $\text{NO}_2$  itself or to other correlated pollutants. The current scientific literature, therefore, has not accumulated sufficient evidence to change the WHO 2000 guideline value of  $40 \mu\text{g}/\text{m}^3$  for annual  $\text{NO}_2$  concentration.

Many short term experimental human toxicology studies show acute health effects at levels higher than  $500 \mu\text{g}/\text{m}^3$ , and one meta-analysis has indicated effects at levels exceeding  $200 \mu\text{g}/\text{m}^3$ . The current scientific literature has not accumulated evidence to change from the WHO 2000 guideline value of  $200 \mu\text{g}/\text{m}^3$  for 1-hour  $\text{NO}_2$  concentration. There is still no robust basis for setting an annual average guideline value for  $\text{NO}_2$  through any direct toxic effect. Epidemiological evidence has emerged, however, that increases the concern over health effects associated with outdoor air pollution mixtures that include  $\text{NO}_2$ . These studies have shown for example, that bronchitic symptoms of asthmatic children increase in association with annual  $\text{NO}_2$  concentration, and that reduced lung function growth in children is linked with increased  $\text{NO}_2$  concentrations within communities already at current North American and European urban ambient air levels. Recently published studies document that  $\text{NO}_2$ , as a marker of a complex mixtures of traffic-related combustion pollution, can have higher spatial variation than particle mass. In addition, these studies reported adverse effects on the health of children living in the areas characterized by higher levels of  $\text{NO}_2$  even when the overall level was low. Furthermore, recent studies on indoor  $\text{NO}_2$  concentrations have added evidence on adverse effects of  $\text{NO}_2$  on respiratory symptoms in children. The WHO AQG 2000 annual average  $\text{NO}_2$  guideline value of  $40 \mu\text{g}/\text{m}^3$  is within the exposure ranges reported in these investigations. They also show that these associations cannot be completely explained by co-exposure to PM, but that other components in the mixture



(such as organic carbon and nitrous acid vapor) might explain part of the association. Since such components are not routinely measured, and NO<sub>2</sub> concentrations in ambient air are readily available, it seems reasonable to retain a prudent annual average limit value for NO<sub>2</sub>. Such a limit takes into account that there may be direct toxic effects of chronic NO<sub>2</sub> exposure at low levels. In addition, the annual guideline value may help to control complex mixtures of combustion-related pollution (mainly from road traffic).

In experimental studies the lowest level of nitrogen dioxide exposure reported in more than one laboratory shows a direct effect on pulmonary function in asthmatics at 560 µg/m<sup>3</sup>. Studies of bronchial responsiveness among asthmatics indicate an increase in responsiveness at levels upwards from 200 µg/m<sup>3</sup>. The WHO AQG 2000 short term NO<sub>2</sub> guideline of 200 µg/m<sup>3</sup> is not challenged by more recent studies, and should therefore remain.

#### D. Sulfur dioxide

Controlled studies with exercising asthmatics indicate that some of them experience changes in pulmonary function and respiratory symptoms after periods of exposure as short as 10 minutes. Based on this evidence, it is recommended that a value of **500 µg/m<sup>3</sup>** should not be exceeded over **averaging periods of 10 minutes**. Because exposure to sharp peaks depends on the nature of local sources and meteorological conditions, no single factor can be applied to this value in order to estimate corresponding guideline values over somewhat longer periods, such as an hour.

Day-to-day changes in mortality, morbidity or lung function related to 24-hour average concentrations of sulfur dioxide are necessarily based on epidemiological studies in which people are in general exposed to a mixture of pollutants, with little basis for separating the contributions of each to the effects, which is why guideline values for sulfur dioxide were linked before 1987 with corresponding values for particulate matter. This approach led to a guideline value before 1987 of 125 µg/m<sup>3</sup> as a 24-hour average, after applying an uncertainty factor of 2 to the lowest-observed-adverse-effect level. In the 2000 revision, it was noted that recent epidemiological studies showed separate and independent adverse public health effects for particulate matter and sulfur dioxide, and this led to a separate WHO AQG for sulfur dioxide of 125 µg/m<sup>3</sup> as a 24-hour average. More recent evidence, beginning with the Hong Kong study of a major reduction in sulfur content in fuels over a very short period of time, shows an associated substantial reduction in health effects (childhood respiratory disease and all age mortality outcomes). In time-series studies on hospital admissions for cardiac disease, there is no evidence of a concentration threshold within the range of 5-40 µg/m<sup>3</sup> in both Hong Kong and London. Daily SO<sub>2</sub> was significantly associated with daily mortality in 12 Canadian cities with an average concentration of only 5 µg/m<sup>3</sup>. If there were an SO<sub>2</sub> threshold for either the Burnett et al. study of daily mortality, or the annual mortality study of Pope et al., they would have to be very low. For the significant associations in the ACS cohort for 1982-1998 in 126 US metropolitan areas, the mean SO<sub>2</sub> was 6.7 µg/m<sup>3</sup>.

Nevertheless, there is still considerable uncertainty as to whether sulfur dioxide is the pollutant responsible for the observed adverse effects or, rather, a surrogate for ultra-fine particles or some other correlated substance. For example, in Germany (Wichmann et al. 2000) and the Netherlands (Buringh et al. 2000) a strong reduction of SO<sub>2</sub> concentrations occurred over a decade. Although mortality also decreased with time, the association of SO<sub>2</sub> and mortality was judged to not be causal and was attributed to a

similar time trend of a different pollutant (PM). In consideration of: (1) the uncertainty of SO<sub>2</sub> in causality; (2) the practical difficulty of reaching levels that are certain to be associated with no effects; and (3) the need to provide greater degrees of protection than those provided by the guidelines published in 2000, and assuming that reduction in exposure to a causal and correlated substance is achieved by reducing sulfur dioxide concentrations, then there is a basis for revising the 24 hour guideline downward for sulfur dioxide, and the above guideline is recommended as a prudent precautionary level.

#### **65. Global Market For Diesel Light Vehicles is Expected to Reach 26 % by 2015**

Global demand for diesel light vehicles is expected to nearly double over the next 10 years -- increasing from 15 million sales in 2005 to 29 million in 2015 --according to J.D. Power Automotive Forecasting.

J.D. Power Automotive Forecasting projects the global market share for diesel-powered cars and light trucks will reach 26 percent by 2015 – an increase from 18 percent in 2005. While Western Europe has been a key driver in the rapid growth of diesel vehicle demand for the past 10 years, increased demand from consumers in other regions will promote growth during the next decade.

"As a proven, cost-effective and 'off-the-shelf' solution, diesel has a head start over other emerging fuel-efficient technologies," said Alastair Bedwell, senior manager for J.D. Power Automotive Forecasting. "With energy prices at elevated levels and new regulatory pressure to improve light-truck fuel efficiency, a range of fuel-efficient alternatives to the conventional gasoline engine will be required. The United States and Canada are markets with enormous potential for diesel light-vehicle sales."

The diesel share of U.S. light-vehicle sales is expected to increase from 3.2 percent in 2005 to more than 10 percent by the middle of the next decade (see above). Conversely, prospects for diesel light-vehicle demand within the key Asian markets remains mixed. "South Korea and India are key markets for diesel growth in Asia, and the market in China is continuously developing," said Bedwell. "However, near- and mid-term prospects for diesel vehicle sales in Japan remain limited. There has been some rejection of diesel technology among consumers, despite Japanese manufacturers embracing the technology."

J.D. Power and Associates expects a slowing of growth in the Western Europe diesel car market as some key markets reach saturation. However, growth in demand in Eastern Europe is expected to eclipse that of Western Europe during the forecast period. While Euro-5 emission limits will not disrupt the diesel market, Euro-6 limits have the potential to negatively alter the fiscal relationship between diesel and its competitors. As a result, diesel share in Western Europe is expected to peak at below 60 percent of the new-vehicle market.

Volkswagen is expected to remain the largest global supplier of diesel-fueled light vehicles, followed by Ford Motor Company. Additionally, Toyota is slated to be the fastest-growing global diesel new-vehicle provider from 2005 through 2015.

J.D. Power Automotive Forecasting gathers diesel light-vehicle sales data from 50 global markets. An assessment of local fiscal, regulatory and technical demand drivers are

used to forecast potential diesel sales.

Consumer attitudes toward diesel cars and light trucks, as well as attitudes of key vehicle manufacturers within particular markets, are also considered while developing the sales forecast. Additionally, the cost benefits of diesel and its principal competitors for each market are compared with local factors -- such as diesel fuel supply infrastructure --to achieve a robust forecast.

## **66. Has Global Warming Reached A 'Tipping Point'?**

Human-fuelled global warming has reached a "tipping point," according to a new survey of scientific research that found warming would continue even if greenhouse gas emissions halted immediately. "It would keep on warming even though we have stopped the cause, which is greenhouse gases from the combustion of fossil fuels," David Jhirad of the Washington-based World Resources Institute said. The rate of warming would be slower, Jhirad said, but a kind of thermal inertia would ensure that global temperatures continue their upward trend.

He referred to a report released by the non-profit institute that analyzed research reports on climate change for 2005.

"Taken collectively, they suggest that the world may well have moved past a key physical tipping point," the institute wrote.

Jhirad said there were actually two tipping points. The first is that there is no doubt human activities cause global warming; a more physical tipping point is that the effects of global warming are evident now.

The report, based on research published in journals including Science and Nature, also found the effects of climate change were so severe they should spur urgent action to prevent more damage and to combat damage that has already occurred. "We can't assume this change is so far in the future that we can afford to delay," Jhirad said.

New policies should encourage companies to make technological and commercial innovations that will cut air pollution, Jhirad said, adding US companies were also clamoring for political leadership.

Jhirad said he was "underwhelmed" by US political leadership on this issue. In 2001, President George W. Bush pulled the United States out of the Kyoto Protocol, the United Nations' main plan to curb global warming. He denounced Kyoto as an economic straitjacket that would cost US jobs and said it wrongly excluded developing nations.

Jhirad said the United States should adopt a system of carbon trading, like one in place in much of Europe, where companies that emit few greenhouse gases get credits that can be traded with companies that emit a lot.

## **67. Experts Explore Potential For Development of 'Hydrogen Economy'**

Fuel cells have enormous promise, as they have since the technology was first developed in the 1960s, but a number of issues still have to be addressed before that

promise can be realized, a panel of industry and government experts said March 30<sup>th</sup> at GLOBE 2006.

Fuel cells were first developed in the 1960s for highly specialized applications, such as space travel, but infrastructure limitations and high development costs have so far discouraged broader applications.

The panelists discussed ongoing efforts to meet the considerable cost, storage, and infrastructure problems that stand in the way of establishing a large-scale and global hydrogen economy.

Frank Trotter, president and CEO of General Hydrogen Corp., envisioned a hydrogen economy that develops from the "bottom up," particularly in countries such as the United States and Canada, where geography presents significant barriers to the development of a large-scale hydrogen infrastructure.

He said the most immediately viable application for fuel cells will continue to be in niche markets, such as for industrial vehicles and off-road equipment. For example, Trotter's company has developed a hydrogen fuel cell replacement for lead acid batteries in electric forklifts.

"It's an economic solution today, and a big one. There are more than four million forklifts worldwide," he said. "This is where I believe an application generates a wider infrastructure."

Hydrogen can be produced from a wide range of sources, including fossil fuels, renewable energy, nuclear power, and chemical processes.

Government support for hydrogen technologies has been steadily increasing over the past decade, as has private investment. Graham Pugh, an official with the U.S. Department of Energy, discussed a 16-nation collaborative effort launched in 2003 called the International Partnership for the Hydrogen Economy. The partnership provides a forum for member nations to organize and coordinate international research and development of hydrogen fuel cell technologies.

"We have a large research and development program for hydrogen fuel cell technologies in the United States," Pugh said. "But if we have that, and Japan has that, and the European Union has that, we may all be doing the same things. Why not try to work together in a complimentary fashion?"

Pugh said another goal of the partnership is to identify the leading projects underway at private companies, government agencies, nongovernmental organizations, and partnerships. Pugh said recognition is intended in part to promote public awareness of the benefits of developing a hydrogen economy.

"Demonstration projects themselves accomplish a lot of things. Not only do they create the seed for infrastructure, they also create public acceptance, which we see as having very high value," he said.

The most optimistic outlook for the hydrogen economy envisions a system that relies solely on renewable energy. Iceland, which generates 85 percent of its power from

geothermal and hydroelectric source, has already developed plans to use renewable energy as the foundation for its hydrogen economy.

Jon Bjorn Skulason, general manager of Icelandic New Energy Ltd., told the panel this goal is achievable because of Iceland's size and population, which is about 300,000 people. In places such as the United States, hydrogen will have to come from natural gas and other hydrocarbons, at least for the near future.

"There are few countries like Iceland," he said. "We need to bridge the gap from the current situation to a future renewable society and that will take a few decades.

"There are many locations around the world that have substantial natural gas supplies. If you reform natural gas into hydrogen and then use it in fuel cells, you can achieve higher efficiency than burning natural gas in an internal combustion engine," he said. "There are many ways to begin."

### **68. OECD Officials Put Climate Change at Center of Aid Agenda**

Environment and development officials from the world's industrialized countries agreed April 4<sup>th</sup> that helping poorer nations adapt to climate change should be at the center of their foreign aid agendas. The new pledge to use foreign aid as a weapon against climate change was the principal highlight of an April 3-4 meeting of development and environment ministers from the 30-member Organization for Economic Cooperation and Development.

Meeting together for the first time since 1991, development and environment ministers discussed the various links between environmental protection needs and poverty reduction efforts in developing countries. Recognizing that environmental degradation and resource depletion were key problems in many developing nations, ministers approved a new Framework for Common Action that establishes a series of "shared goals" for the use of foreign aid in this area.

Swedish Environment Minister Lena Sommestad hailed the new pledge to tighten links between environmental protection and development cooperation, noting that "we can't attack poverty without taking environmental concerns into account." OECD countries must continue offering "support" for developing countries as they adapt to climate change, particularly as they expand energy use to meet new economic needs, Sommestad said.

"We need to help them transform energy supply in a sustainable way, to ensure that when they expand energy use they do so in a way that won't undermine the climate, the atmosphere, or the ecosystems of this planet," Sommestad said.

Ministers recognized in a statement that climate change is "a serious and long-term challenge" with "the potential to affect every part of the globe." The new Declaration on Integrating Climate Change Adaptation into Development Cooperation includes a commitment from OECD countries to "better integrate climate change adaptation in development planning and assistance, both within their own governments and in activities undertaken with partner countries."

OECD countries pledged to use their massive development aid budgets--more than \$106 billion in 2005--to fund new initiatives aimed at helping developing countries identify and implement adaptation strategies.

In this context, countries plan to integrate climate change considerations into almost all aspects of development cooperation, from poverty reduction strategies to long-term investment plans, as well as strategic and project-level environmental impact assessments, according to the joint declaration.

OECD countries also pledged assistance for developing country efforts "to reduce their vulnerability to climate variability and climate change, to identify and prioritize adaptation responses, and where necessary to help integrate such considerations within a wide range of sectorial interventions and projects," according to the statement.

Development assistance programs should help poor countries improve assessment of vulnerability to climate change and aid in the planning and implementation of national climate change action plans, according to the declaration.

OECD countries also agreed to improve information flows on climate variability and climate change, both across their own governments, and to those in the developing world.

"This could include improving climate monitoring, developing in-country and regional capacity for analyzing and interpreting climate observational data, improving the quality of information on sector and location-specific climate change impacts, as well as the communication of uncertainties associated with climate change projections," according to the declaration.

Finally, OECD countries agree to "encourage" regional initiatives on climate change impacts, vulnerability assessment, and adaptation options "in order to promote transboundary initiatives, encourage South-South cooperation, and avoid duplicated efforts."

Ministers asked the secretariat of the Paris-based OECD to develop new guidance for integrating climate change adaptation into development cooperation, as well as new methodologies for monitoring progress in this area.

The OECD was also given a mandate to conduct new analytical work on the economic aspects of adaptation to climate change, including the anticipated costs and benefits in areas such as agriculture and soil management; water, fisheries, and coastal management; forest management; and disaster risk management.

Ministers also called on the OECD to suggest ways of expanding use of existing international financing mechanisms and instruments, such as the Kyoto Protocol's Clean Development Mechanism, which allows rich countries to offset greenhouse gas emissions by funding clean energy and climate adaptation projects in the developing world.

Outside the climate change area, ministers instructed the OECD to develop "good practices" for linking environment and development policies and adapting them for use in foreign aid projects, with an emphasis on biodiversity protection, prevention of

desertification, chemical management, and natural resource management.

### **69. G8 Says Fossil Fuels Expected To Be Basis Of Energy Until 2050**

Fossil fuels will remain the basis of the fast-growing world energy industry till 2050, G8 energy ministers said in a statement after an energy security meeting in Moscow. "Despite the increased presence of alternative sources in the energy mix, the fossil fuels will remain the basis of the world energy industry for at least the first half of the 21st century," the statement said.

Russia, chairing the G8 group for the first time this year, has made energy security the No. 1 issue for its presidency.

"Wide-scale development of safe and secure nuclear power" was still a crucial alternative for long-term environmentally sustainable diversification of energy supply, the statement added.

Ministers from the United States, Japan, Germany, Britain, France, Italy, Canada and Russia were aware that the 21st century is sure to "witness a significant increase of the global consumption of energy, primarily by dynamically developing economies."

Russia is the world's second largest oil exporter after Saudi Arabia and provides about a quarter of the natural gas consumed in the European Union. The country has seen its state coffers swell at a time when rising demand has doubled oil prices.

Moscow also invited officials from China, India and the oil-producing cartel OPEC in a bid to launch the first ever global energy security dialogue.

### **70. Scientists Fear New Attempts To Undermine Climate Action**

Britain's scientists are drawing up a plan to fight renewed attempts by skeptics and industry-funded lobby groups to derail international action on climate change. According to a confidential internal memo, the Royal Society expects "groups and individuals" to question the science of global warming and the need to cut greenhouse gas emissions.

It predicts that lobbyists will try to undermine a report next year from the UN's Intergovernmental Panel on Climate Change (IPCC), which is expected to give a new warning on climate change.

Sources say the report, a draft of which was handed to governments earlier this month, will warn that global warming could drive the Earth's temperature to levels far higher than previously predicted. The report draws together research over the past five years and will be made public in February.

The Royal Society memo says: "It seems likely that these groups will again seek to undermine the IPCC in the period around publication. There are already signs these groups will be targeting European countries and Canada to seek to provoke opposition to the Kyoto protocol."

The document says the oil company Exxon Mobil has tried "to influence public opinion

about the threat of climate change". It also says "concerted efforts" were made in 2004-05 to change the way the UK media covered climate science after Tony Blair declared that global warming was one of his priorities.

The memo shows concern that parts of UK media do not reflect the scientific consensus that human emissions of carbon dioxide are driving climate change. It highlights articles in the Daily Mail and the Daily Telegraph, which it says "appeared to be directly influenced by information distributed by lobbyists".

But the memo also criticizes environmental campaigners for misrepresenting scientific evidence and says that green groups and the British media "have been guilty of expressing unjustified certainty about the science of climate change".

It criticizes Greenpeace for blaming global warming for the 2003 heat wave that killed 30,000 people across Europe. Global warming could not be blamed for individual weather events, although it does make some more likely to occur.

In a statement, the Royal Society said: "This is an internal memorandum based on our own analysis of the way in which climate change has been covered in the UK media.

"It is clear that a number of well-funded and well-orchestrated media campaigns were carried out, by groups that are opposed to the Kyoto protocol and measures to restrict greenhouse gas emissions. There are signs that these groups are preparing similar media and political offensives ahead of the publication of the IPCC fourth assessment report in 2007."