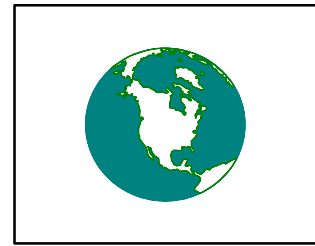


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CAR LINES

ISSUE 2009 - 1

FEBRUARY 2009

Table of Contents

EUROPE	4
1. London Too Polluted to Meet EU Air-Quality Standards	4
2. DEFRA Data Shows That UK is Making Progress	4
3. France to Follow Ambitious Road Map for Emission Cuts, Tax Incentives	5
4. French Senate Backs Sarkozy's Road Map for Transportation, Climate Policy	6
5. Denmark Proposes Levying Charge to Encourage 'Green Driving'	7
6. 103 Million Euros Slated For Danish Electric Car Network	7
7. EU Official Data Show Car CO ₂ Trends	8
A. Average CO ₂ Emissions for the New Car Fleet In 2005, 2006 And 2007	8
B. Vehicle Mass	9
C. Vehicle Emissions by Fuel Type	10
D. Conclusions.....	12
8. UK Report Says Diesel Cars 'Take Decades to Become Cost Effective'	12
9. Green Power Seen "Key to Sustainable Urban Mobility"	13
10. Poland's Car Recycling Scheme "Dysfunctional"	14
11. EC Says Romania's New Car Tax Breaches EU Laws	14
12. British Car Industry Gets €275m Green Stimulus	14
13. Verheugen Hints At More Support for Greener Cars	15
14. Less Fog Explains Warming Europe, Study Says	15
15. MEPs Seek To Toughen Industry Emissions Laws.....	15
16. Parliament Getting Closer On Pollution Charges for Trucks	16
17. Swedes Gear Up To Take the Lead on Electric Cars	17
18. Ukraine Pollution, Enforcement Are Top Priorities, but Progress is Slow	17
19. Wind Farms, Road Pricing Scheme, Carbon Capture Lead Dutch Agenda	18
20. German Cabinet Proposes Incentives for Clean Cars, Tax on Vehicle Emissions.....	18

21.	Britain's Carbon Emissions Fell in 2007, but Those from Transport Grew	18
22.	Volkswagen, Toshiba to Partner on Electric Car.....	19
23.	European Mayors Sign Pledge To Reduce Greenhouse Gas Emissions	19
24.	EU Assigns International Airlines to Member Nations for Emissions Monitoring....	20
25.	Portuguese Parliament Encourages Low-Tech Transport	20
26.	New German Institute to Research Climate Change	21
27.	EU Sets Out Draft Negotiating Position for U.N. Climate Talks in December	21
28.	Parliament Sets Out Climate Policy Vision To 2050	22
29.	EU Lawmakers Strike Deal on Green Tire Standards	23
30.	Climate Must Underpin European Transport Network	23
NORTH AMERICA		25
31.	Obama Takes Steps on Car Fuel Efficiency, Greenhouse Emissions	25
32.	U.S. Should Adopt California Car Rules: Schwarzenegger	26
33.	Obama's Team Signals Focus on Climate Change.....	26
A.	Obama's EPA Pick Must Restore Integrity: Senators.....	26
B.	U.S. Must Lead On Economy, Climate Change: Clinton.....	27
C.	Obama Energy Pick Says Will Fight Global Warming	27
34.	Denver Pilot Program Cuts Emissions by City Vehicles 10%	28
35.	Vancouver Port to Offer Shore Power to Cruise Ships in Effort to Cut Emissions ...	29
36.	Tesla May Use Evonik Battery Cell Widely	29
37.	Too Little, Too Late For "Green" Big 3?.....	30
38.	Ethanol Producer, Poet, Opens First Cellulosic Ethanol Pilot Plant	32
39.	Obama Renewables Plan More Ambitious Than Appears	33
40.	Exxon CEO Doubts Obama's Alternative Energy Goal Achievable.....	33
41.	BlueFire: Cellulosic Delay to Be Less Than 6 Months	34
42.	Cleaner Air Extending Lives, Study Shows	34
43.	Rising Sea Levels Threaten East Coast	35
44.	EPA in the Process of Reversing Wide Series of Bush Decisions	36
A.	California's Car Emissions Waiver.....	36
B.	Ruling on CO ₂	36
C.	Smog and Soot Air Standards.....	37
D.	EPA Drops Appeal over Utility Mercury Ruling	38
45.	Ford Preparing Green Car Entries	38
46.	Ford Selects Battery Supplier for Plug-In Hybrid	39
47.	GM To Import First Volt Engines, Plant On Hold	40
48.	Honda Plans Insight Hybrid below \$20,000 in U.S.....	41
49.	Wal-Mart Testing New Hybrid Trucks for Its Fleet.....	41
50.	Senator Boxer Says Climate Bill Possible "In Weeks"	42
51.	Federal Court Upholds EPA's Rural Dust Rule.....	43
52.	Automakers' Study Claims Poor Fuels Hamper Canada's Efforts to Cut Emissions..	43
SOUTH AMERICA.....		44
53.	Bolivia Cuts Imports of Used, Diesel Vehicles in Attempt to Decrease Pollution ...	44
54.	Colombia Officials Expect to Cut Water, Air Pollution, Make Diesel Cleaner	44
55.	Chile to Update Environmental Institutions; Air Pollution Plan for Santiago	45
56.	Chile Unveils Climate Change Action Plan	46
57.	Peru Implements New Environmental Ministry; Low Sulfur Fuel Delayed	47

58.	Peru's Congress Approves Agency to Check for Environmental Compliance.....	48
59.	Brazilian State Oil Firm to Invest \$6 Billion to Produce Low-Sulfur Diesel.....	49
60.	Costa Rican Officials Seek Greater Control over Pollution	49
	ASIA-PACIFIC.....	49
61.	Major Legal Upgrades Possible in China's Pollution Laws and Policies	50
62.	Minister Says Financial Crisis Will Test China's Environmental Progress.....	51
63.	Beijing Bans High-Polluting Vehicles, Uses Incentives, Fines to Remove Dirty Cars.....	51
64.	Thai Climate Plan Envisions Clean Technology; Air Pollution Also on Agenda	52
65.	Singapore Government Offers Incentives to Boost Energy Efficiency	53
66.	Mazda to Cut Catalyst Precious Metal Use in Mazda3	54
67.	Tokyo to Encourage Ships to Hook Up To Electricity at Pier	55
68.	Pertamina Guarantees Gasoline and Diesel Supply for the Philippines	55
69.	South Korea Announces 'Green New Deal' But Relaxes Some Green Rules	56
70.	Nissan, NEC to Spend \$1 billion On Battery Output: Report	57
71.	Australia GM Unit to Build Small Car	57
72.	Hong Kong Cooperates With Mainland to Control Pollution from Factories.....	58
73.	India Pre-Poll Gift: Petrol Price Cut by Rs 5, Diesel by Rs 2	59
74.	Toyota India to Bring In Land Cruiser Diesel	60
75.	Hyundai Motor, Kia Surge on Obama's Auto Policies	60
76.	Top 3 Chinese Automakers Take Almost Half of Domestic Market	61
77.	China's Auto Industry Gets a Shot in the Arm.....	61
78.	Survey Finds That Three-Fourths of Chinese Concerned About Environment	62
79.	China to Subsidize Clean-Energy Vehicles in 13 Large Cities	62
80.	Building a Low Carbon Nation Being Pursued in China	63
	GENERAL.....	64
81.	Largest-Emitting Nations Agree to Act To Mitigate Shipping, Aviation Emissions ..	64
82.	WMO Says 2008 Among 10 Warmest Years on Record	66
83.	Tibetan Glacial Shrink to Cut Water Supply By 2050	67
84.	Melting Glaciers on Qinghai-Tibet Plateau 'Worrisome'	67
85.	Air Pollution May Prompt Abnormal Heart Rhythm	68
86.	Study Links Children's Lead Levels, Standard Aptitude Test (SAT) Scores	68
87.	Top Airlines Want Aviation Emissions in Global Climate Pact	69
88.	Carbon Dioxide's Climate Effect Appears Irreversible, Multinational Study Finds ..	69
89.	Study Finds That Antarctica Is Warming, Not Cooling	70
90.	UN Urges Crackdown on Mercury to Protect Health.....	71
91.	US Scientist Says Global Warming Worse Than Predicted	72

EUROPE

1. London Too Polluted to Meet EU Air-Quality Standards

The air quality in London, host of the 2012 Summer Olympics, is too polluted to meet European Union standards and needs an extension to comply with EU environmental rules, the U.K. said. Air in the city, whose 2012 Olympic Park is Europe's largest public construction project, contained too many particles in a test from 2005 to 2007, the Department for Environment, Food and Rural Affairs said in a statement. The government aims to exempt eight parts of the country from EU regulations for two more years.

EU member countries may seek delayed enforcement of limits on small particles until 2011, a year before London's July 27-Aug. 12 Games. Failure to comply can lead to fines.

The U.K. report comes days after the government agreed to kick in 461 million more pounds (\$652 million) for Olympic Park construction after organizers failed to raise money from banks hurt by the global economic crisis. The Games' 9.3 billion-pound budget remains unchanged, according to Olympics Minister Tessa Jowell.

EU rules require regions to have a daily average of no more than 40 micrograms per cubic meter of PM10s and a daily level of 50 micrograms may not be exceeded more than 35 times a year. Greater London had a daily average of 43.3 micrograms of PM10s in 2007, the most recent year for which data is available, and exceeded 50 micrograms on 102 occasions, according to DEFRA.

Glasgow, Swansea, Brighton, the West Midlands, West Yorkshire, Yorkshire and Humberside, and Eastern England are the other regions that will require exemptions, the government said. Britain is divided into 43 areas for air-quality measurement.

The government consultation will run until March 10, the environmental agency said. The application for an extension will be submitted to the European Commission "as soon as possible after this consultation has closed".

A dozen EU countries have already applied for the derogation following an amendment to the EU's Cafe air quality directive last year.

2. DEFRA Data Shows That UK is Making Progress

In some UK cities, air pollution has been twice the World Health Organization's recommended maximum levels in recent years and with regard to the EU's air quality standard for airborne particles (PM10s), the UK is now threatened with legal action for failing to comply with acceptable levels. Yet it seems that now there may be a glimmer of hope, as the Department for Environment Food and Rural Affairs (DEFRA) has released figures which show that emissions of all gases covered in the UK Air Quality Directive fell between 2006 and 2007, with the exception of benzene.

The pollutants covered by the directive include 1,3-butadiene, carbon monoxide, lead, nitrogen dioxide, ozone, particulates (PM10 and PM2.5), polycyclic aromatic hydrocarbons and sulfur dioxide. The UK Air Quality Directive contains policies for the assessment and management of air quality and for the implementation of European Union (EU) and other international

agreements. The Directive sets objectives for the main air pollutants thought to be dangerous to human health and ecosystems.

Defra has also published the 2007 results from the National Atmospheric Emissions Inventory (NAEI) for UK emissions of sulfur dioxide, nitrogen oxides, non-methane volatile organic compounds (NMVOCs) and ammonia. The National Emissions Ceiling Directive (NECD) as set by the EU governs the acceptable emission levels for these gases and the UK can now boast that emissions of each of the four pollutants have fallen between 2006 and 2007, with decreases of 2 per cent for NMVOCs, 3 per cent for ammonia, 7 per cent for nitrogen oxides, and 12 per cent for sulfur dioxide. In many places, it means that the UK is now meeting its commitments for these four gases.

This represents a continuation of the long term trend of a reduction in emissions of these pollutants. Since 1990, there have been decreases of 21 per cent for ammonia, 46 per cent for nitrogen oxides, 64 per cent for NMVOCs, and 84 per cent for sulfur dioxide.

These four pollutants are primarily responsible for acidification and eutrophication which can be damaging to ecosystems, and the formation of ground-level ozone which can be harmful to both human health and ecosystems.

There was a 12 per cent decrease in sulfur dioxide emissions from 0.67 million tons in 2006 to 0.59 million tons in 2007. The UK is committed to reducing emissions to approximately 0.59 million tons by 2010 under the EU NECD, so is already on target. The main source of emissions of sulfur dioxide in 2007 was combustion in energy production and manufacturing industries.

Emissions of nitrogen oxides fell 7 per cent, from 1.60 million tons in 2006 to 1.49 million tons in 2007. The UK is committed to reducing emissions to approximately 1.17 million tons under the EU NECD by 2010, so it still needs to make significant cuts in nitrogen emissions to meet the target. Road transport was the largest source of emissions of nitrogen oxides in 2007, accounting for 30 per cent of the total.

There was a 2 per cent decrease in emissions of non-methane volatile organic compounds (NMVOCs) from 0.96 million tons in 2006 to 0.94 million tons in 2007. The UK is committed to reducing emissions to approximately 1.20 million tons by 2010 under the EU NECD so has already exceeded this commitment.

And finally, there was a 3 per cent decrease in emissions of ammonia, from 297 thousand tons in 2006, to 289 thousand tons in 2007. The UK is committed to reducing ammonia emissions to below 297 thousand tons by 2010 under the NECD so is on target here also.

3. France to Follow Ambitious Road Map for Emission Cuts, Tax Incentives

France's Grenelle Environment program is a package of ambitious policies and initiatives formulated at the Grenelle Environment Forum, a national environmental policy summit held in Paris in October 2007. France intends to continue implementing and expanding Grenelle in 2009, with some 50 measures, including ones affecting emissions reduction, recycling, energy efficiency, biodiversity, and water already under way or planned, the ministry said.

Easily the star measure of the Grenelle plan is the "bonus-malus" incentive program, which encourages consumers to buy low carbon dioxide-emitting cars and which Sarkozy claims has boosted sales of such vehicles. The program offers buyers of low-emission cars bonuses as

high as €5,000 (\$6,814), while buyers of high carbon dioxide-emitting vehicles can be assessed onetime taxes ranging as high as €2,600 (\$3,544).

To ensure that new “de-carbonized” vehicles have a market, France will extend the top bonus to light vehicles emitting under 60 grams of carbon dioxide per kilometer (3.4 ounces per mile) and will extend the offer to 2012.

France has also announced a €400 million (\$548.8 million) plan to fund research and development of ultra-low carbon vehicles.

France's minister of ecology, energy, sustainable development, and territorial planning, Jean-Louis Borloo has said he wants to extend the bonus-malus to other consumer products that pollute, consume energy, or otherwise affect the environment, such as light bulbs, computers, televisions, and mobile telephones.

As part of Grenelle, France's 2009 budget introduced new environmental taxes, tax incentives for sustainable development, and a plan to reevaluate and adjust the entire tax system to better take into account the polluting effect of certain activities and tax them accordingly. Igniting protests from grain and ethanol producers, the budget gradually phased out tax incentives for biofuels from 2009 to 2012, on the grounds that they are no longer necessary.

One of the Grenelle goals is to reduce carbon dioxide emissions in the French transportation industry by 20 percent. The 2009-2012 budget contains a measure to apply France's so-called kilometer taxes on heavy trucks—currently used on an experimental basis in Alsace—to the entire French territory, starting in 2011, with receipts distributed to territorial governments and the agency for financing French transportation infrastructure (AFITF), the ministry of budget said.

Full application of the road tax depends on EU approval of a proposed revision of the Eurovignette Directive, which regulates and limits fees member states can charge vehicles traversing their territory (see story this issue).

In December 2008, Borloo presided over the signing of a “voluntary” charter by 10 major transportation companies that agreed, over the coming three years, to improve the environmental performance of their fleets, totaling some 16,000 trucks and 18,000 drivers. The plan, which gives participating companies identifying stickers to put on their trucks, will save some 20 million liters (5.3 million gallons) of diesel while cutting the sector's carbon dioxide emissions by some 90,000 metric tons, the ministry said.

4. French Senate Backs Sarkozy's Road Map for Transportation, Climate Policy

On February 10th, the French Senate voted overwhelmingly to approve major legislation implementing the first installment of the Grenelle Environment road map; 312 senators out of a possible 341 voted to approve the bill known as Grenelle 1, with 29 communist party senators abstaining.

The bill sets France's objectives for transportation, energy, and climate, among other things. It includes provisions for levying a kilometer tax on heavy trucks, improving energy efficiency of buildings, boosting the share of renewable energy, and lowering greenhouse gas emissions.

A different version of the bill was adopted by the National Assembly in October by a vote of 526-4. The newly approved bill must now have a second reading in both houses, during which new amendments could be added, the ministry said.

5. Denmark Proposes Levying Charge to Encourage 'Green Driving'

Denmark's center-right government has published a new transportation strategy designed to promote fuel efficiency and reduce carbon dioxide emissions. Most prominent is a new "green driving charge," the level of which depends on a vehicle's mileage and location.

Other measures cited in a December 8th white paper issued by the Transport Ministry include a waiving of the registration fee for electric car purchases, a commitment to more public transportation capacity, new energy efficiency requirements for taxis and public transportation, "green certificates" for trucks, and fresh guidelines on the purchase of vehicles for state agencies.

New transportation projects would not be permitted if the cost to the countryside is deemed to be too high, according to the white paper, although no specific criteria were provided.

The new driving charge, which would be offset by a reduction in the value-added tax on car purchases, would use satellite technology to track the route and time of individual journeys via transmitters installed in vehicles. Foreign trucks and cars would also be subject to the charge, the document said, but it did not expand on how these vehicles would be tracked.

The white paper offered no timetable for implementing the driving charge but said the levy would be phased in gradually from 2011 and initially would be applied to trucks.

A Transport Ministry official said that the system would be flexible enough to regulate traffic flow in busier periods. He said the charge would be lower for more environmentally friendly and energy efficient vehicles, and could be higher in areas where good public transportation options exist. The new system would make it easier to create favorable pricing conditions for cars with new technologies, such as electric cars and plug-in hybrids, he added.

The new strategy follows the government's April 2007 decision to introduce a mileage-based tax-free allowance system which favored low-mileage vehicles through vehicle registration tax breaks. A legal proposal, which would likely entail changes to Denmark's Road Traffic Act, will be submitted to Parliament in 2009 or 2010, the government white paper said.

6. 103 Million Euros Slated For Danish Electric Car Network

Better Place, the group working to build networks for electric cars around the globe, has announced it's closed on €103 million in funding to develop a plug-in car infrastructure in Denmark. Under the agreement, Denmark's DONG Energy will work with Better Place Denmark to develop the network and would also become the network's preferred supplier of renewable energy. Together, the organizations hope to have electric cars ready for the Danish mass market by 2011.

Since last year, Better Place has unveiled initiatives for electric car networks in Israel, California, Hawaii, Australia and Ontario, Canada.

7. EU Official Data Show Car CO2 Trends

EU carbon dioxide emissions from new cars fell by 1.25 per cent in 2007 to reach an average of 158 grams per kilometer (g/km), according to the latest official monitoring report published by the European commission. The report charts carmakers' progress in cutting CO2 emissions from new vehicles between 2005 and 2007. The official data confirm the findings of an analysis published by T&E last August.

The commission's emission monitoring reports were originally conceived to track manufacturer's progress towards a voluntary reduction target of 140g/km by 2008. The reports are now used to measure the industry's compliance with new legal limits on CO2 emissions from new vehicles.

A. Average CO₂ Emissions for the New Car Fleet In 2005, 2006 And 2007

Following the enlargement of the EU¹ on 1 May 2004 and 1 January 2007, data on the average CO₂ emissions for the new car fleet became available for the EU25 and EU27 Member States. For the monitoring years 2005, 2006 and 2007 the following table² presents the EU15, EU10, EU25 and EU 27 situation:

Table 1 : Monitoring Data

2005	EU 15		EU 10		EU 25			
Fuel	Registrations	g CO ₂ /km	Registrations	g CO ₂ /km	Registrations	g CO ₂ /km		
Petrol	6,896,573	168	507,746	158	7,404,319	167		
Diesel	6,966,671	155	199,518	154	7,166,189	155		
Petrol + Diesel	13,863,244	161	707,264	157	14,570,508	161		
2006	EU 15		EU 10		EU 25			
Fuel	Registrations	g CO ₂ /km	Registrations	g CO ₂ /km	Registrations	g CO ₂ /km		
Petrol	6,816,135	164	513,111	157	7,329,246	164		
Diesel	7,243,160	157	210,746	155	7,453,906	157		
Petrol + Diesel	14,059,295	160	723,857	156	14,783,152	160		
2007	EU 15		EU 10		EU 25		EU 27 ³	
Fuel	Registrations	g CO ₂ /km	Registrations	g CO ₂ /km	Registrations	g CO ₂ /km	Registrations	g CO ₂ /km
Petrol	6,432,418	161	526,920	157	6,959,338	160	7,126,498	160
Diesel	7,440,235	155	248,768	156	7,689,003	155	7,820,165	155
Petrol + Diesel	13,872,653	158	775,688	157	14,648,341	158	14,946,663	158

In 2005, the CO₂ average⁴ for the EU25 was 161g/km. The CO₂ average for the EU10 was approximately 2.5% lower than for the EU15. The total number of registrations in the EU10

¹ Data for Romania and Bulgaria are not relevant for the reporting period 2005 and 2006 as they joined the EU in 2007.

² The table includes vehicles of all manufacturers irrespective of their origin.

³ Excluding Bulgaria as no data for the year 2007 was delivered.

accounted for about 5% of the registrations in the EU25. In the EU10, almost 72% of the vehicles were petrol fuelled while in the EU15 the petrol share was just below 50%.

In 2006, the CO₂ average for the EU25 decreased by 1g/km to reach 160g/km. The CO₂ average for the EU10 was 2.5% lower than for the EU15. The total number of registrations in the EU10 accounted for about 5% of the registrations in the EU25 (a slight increase from 4.8% in 2005, to 4.9% in 2006). The EU10 share of petrol vehicles amounted to 71% while in the EU15 the petrol share dropped to 48.5%. There was thus an increase in the share of diesel vehicles in both parts of the EU but at different absolute levels.

In 2007, the CO₂ average for the EU25 decreased to 158g/km, 1.25% down compared to 160g/km for 2006. The EU27 average CO₂ was also 158g/km. The EU27 share of petrol vehicles was 47.7%. The share of petrol vehicles dropped further for the EU15 (46.4%) and the EU10 (67.9%). Compared to the number of registrations in the EU27, the EU12⁵ accounted for about 7.2% (5.2% for the EU10)⁶.

B. Vehicle Mass

In 2007, the EU25 average vehicle mass was 1382kg. The EU27 average mass for the same year was 1380kg and thus almost the same as for the EU25. This is to be expected as Bulgaria and Romania have a relatively small share in the market and are not expected to influence the EU27 average significantly. Additional details are shown in Table 2.

Table 2: Average mass^(1, 2) of new passenger cars for the EU 15, EU10, EU25 and EU 27

YEAR	EU15 ⁽⁸⁾	%Change	EU10	%Change	EU25 ⁽⁷⁾	%Change	EU27 ⁽⁶⁾
1995 ⁽³⁾	1099	-					
1996 ⁽³⁾	1123	+ 2.18%					
1997 ⁽³⁾	1137	+ 1.25%					
1998 ⁽³⁾	1166	+ 2.55%					
1999 ⁽³⁾	1185	+ 1.63%					
2000 ^(3, 5)	1186	+ 0.08%					
2001 ^(3, 5)	1197	+ 0.93%					
2002 ^(4, 5)	1413	+ 18.05%					
2003 ^(4, 5)	1404	- 0.64%					
2004 ⁽⁵⁾	1351	- 3.77%	1277	-	1347	-	
2005 ⁽⁵⁾	1362	+ 0.81%	1247	- 2.35%	1357	+ 0.74%	
2006 ⁽⁵⁾	1376	+ 1.03%	1281	+ 2.73%	1372	+ 1.11%	

⁴ Emission values for vehicles of associations ACEA, JAMA and KAMA and other manufacturers are corrected by 0,7% for the change in driving cycle, more information related to this change can be found in COM(2004) 78 final.

⁵ Except Bulgaria.

⁶ Compared to EU25, EU10 accounted for 5.3%.

2007 ⁽⁵⁾	1386	+ 0.73%	1313	+ 2.50%	1382	+ 0.73%	1380
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- (1) Article 2(8) of decision 1753/2000/EC, Section 2.6 of Annex I to Directive 70/156/EEC.
- (2) Petrol and diesel-fuelled vehicles only, other fuels and statistically not identified vehicles are not expected to affect these averages significantly.
- (3) Mass data as delivered by the associations. This is the mass of the empty vehicle which is 75kg lower than the mass of the car in running order which is employed in the reporting from 2002 onwards. See footnote 12 of section 2.2 for definitions of mass.
- (4) Mass data inflated because reported values partly related to one Member State to maximum mass rather than mass as defined in Decision 1753/2000/EC.
- (5) Values for ACEA, JAMA & KAMA members. New passenger cars placed on the EU15 market by other manufacturers would not influence the EU15 average significantly.
- (6) Excluding Bulgaria as no data for the year 2007 was delivered.
- (7) Excluding Malta 2005-2007, Slovakia in 2006 and 2007 as explained in footnote 12.
- (8) Excluding Greece 1995-2001 for ACEA and 1995-2000 for KAMA. Excluding Finland 1995-1999 for KAMA and 1996-2000 for ACEA

C. Vehicle Emissions by Fuel Type

Table 3: Average specific emissions of CO₂ of new passenger cars per fuel type, for the EU 15, EU10 and EU25

CO ₂ (g/km)															
EU15	1995 (1)	1996 (1)	1997 (1)	1998 (1)	1999 (1)	2000 (1)	2001 (2)	2002 (2)	2003 (2)	2004 (2)	2005 (2)	2006 (2)	2007 (2)	Change 95/07 [%] (4)	Change 04/07 [%] (4)
Petrol	189	186	184	182	180	178	173	172	171	170	168	164	161	-14.8 %	-5.3%
Diesel	179	178	175	171	165	163	156	157	157	155	155	157	155	-13.4 %	0%
Petrol + Diesel ⁽³⁾	186	184	182	180	176	172	167	166	164	163	161	160	158	-15.1%	-3.1%
EU10										2004 (2)	2005 (2)	2006 (2)	2007 (2)		Change 04/07 [%] (4)
Petrol										158	158	157	157		-0.6%
Diesel										151	154	155	156		3.3%
Petrol + Diesel ⁽³⁾										156	157	156	157		0.6%
EU25										2004 (2)	2005 (2)	2006 (2)	2007 (2)		Change 04/07 [%] (4)
Petrol										169	167	164	160		-5.3%
Diesel										155	155	157	155		0 %
Petrol + Diesel ⁽³⁾										162	161	160	158		-2.5%

- (1) Data as delivered by manufacturers associations.
- (2) CO₂ values for 2001-2007 are corrected by 0.7 % for the change in driving cycle. For 2002-2007 official EU data are taken.
- (3) Petrol and diesel-fuelled vehicles only, other fuels are not expected to affect these averages significantly.

(4) All percentage values are based on rounded numbers.

Table 4: Average specific emissions of CO₂ of new passenger cars per fuel type, for each association in the EU15

CO ₂ (g/km)														
ACEA	1995 (1)	1996 (1)	1997 (1)	1998 (1)	1999 (1)	2000 (1)	2001 (2)	2002 (2)	2003 (2)	2004 (2)	2005 (2)	2006 (2)	2007 (2)	Change 95/07 [%]
Petrol	188	186	183	182	180	177	172	172	171	170	169	166	162	-13.8 %
Diesel	176	174	172	167	161	157	153	155	154	153	153	155	154	-12.5 %
Petrol + diesel ⁽³⁾	185	183	180	178	174	169	165	165	163	161	160	160	157	-15.1 %
JAMA	1995 (1)	1996 (1)	1997 (1)	1998 (1)	1999 (1)	2000 (1)	2001 (2)	2002 (2)	2003 (2)	2004 (2)	2005 (2)	2006 (2)	2007 (2)	Chang e 95/07 [%]
Petrol	191	187	184	184	181	177	174	172	170	171	166	160	157	-17.8 %
Diesel	239	235	222	221	221	213	198	180	177	170	168	165	162	-32.2 %
Petrol + diesel ⁽³⁾	196	193	188	189	187	183	178	174	172	170	167	162	159	-18.9 %
KAMA	1995 (1)	1996 (1)	1997 (1)	1998 (1)	1999 (1)	2000 (1)	2001 (2)	2002 (2)	2003 (2)	2004 (2)	2005 (2)	2006 (2)	2007 (2)	Chang e 95/07 [%]
Petrol	195	197	201	198	189	185	179	178	171	160	158	154	150	-23.1 %
Diesel	309	274	246	248	253	245	234	203	201	189	187	184	178	- 42.4 %
Petrol + diesel ⁽³⁾	197	199	203	202	194	191	187	183	179	168	167	165	162	-17.8 %

(1) Data as delivered by manufacturers associations.

(2) CO₂ values for 2001-2007 are corrected by 0.7 % for the change in driving cycle. For 2002-2007 official EU data are taken.

(3) Petrol and diesel-fuelled vehicles only, other fuels are not expected to affect these averages significantly.

(4) All percentage values are based on rounded numbers.

Table 5: Trends in composition of new cars registered in the EU25 for each association

EU 25					
ACEA	2004 (1)	2005 (1)	2006 (1)	2007 (1)	Change '04- 07'(2)
Petrol	47.0%	45.6%	45.0%	42.5 %	-4.5

Diesel	50.9%	52.8%	53.9%	55.3 %	4.4
Totals (3)	12,207,279	12,024,503	12,121,720	12,154,993	-0.4 %
JAMA	2004 (1)	2005 (1)	2006 (1)	2007 (1)	Change '04- 07'(2)
Petrol	67.1%	67.4%	65.7%	61.9 %	-5.2
Diesel	29.4%	29.1%	31.3%	31.9 %	2.5
Totals (3)	2,001,546	2,058,302	2,156,273	2,214,826	10.7 %
KAMA	2004 (1)	2005 (1)	2006 (1)	2007 (1)	Change '04- 07'(2)
Petrol	70.6%	67.7%	63.0%	57.5 %	-13.1
Diesel	25.4%	29.5%	34.6%	36.6 %	11.2
Totals (3)	629,893	736,911	713,978	713,603	13.3 %
EU25 (4)	2004 (1)	2005 (1)	2006 (1)	2007 (1)	Change '04- 07'(2)
Petrol	50.7%	49.7%	48.8%	46.1 %	-4.6
Diesel	46.9%	48.3%	49.7%	51.0 %	4.1
Totals (3)	14,838,718	14,819,716	14,991,971	15,083,422	1.7 %

(1) For 2004-2007 official EU data are taken.

(2) The change over the period 1995 to 2007 for petrol and diesel driven cars represents the change in the absolute share of each fuel type of total registrations. The change for the total cars is the growth or drop in absolute new registrations. The change in total cars represents the growth in the EU25 new registrations over the period.

(3) Totals include statistically unidentified vehicles and vehicles using 'other fuel' types.

(4) New passenger cars put on the EU market by other manufacturers do not affect the numbers significantly.

D. Conclusions

The average emissions from new cars registered in the EU in 2007 amounted to 158g CO₂/km, 15.1% below the 1995 starting point of 186 g CO₂/km⁷. The emission level dropped by 1.23% from 2004 to 2005, by 0.6% from 2005 to 2006 and by 1.25% from 2006 to 2007. The EU25 average mass in 2005 was 1357kg, 1372 kg in 2006 and 1382kg in 2007 (1380kg for the EU-27).

8. UK Report Says Diesel Cars 'Take Decades to Become Cost Effective'

The pump price, combined with the higher cost of the initial purchase of a diesel vehicle, means it can take many years for switching to diesel to pay off for low mileage drivers according to a new analysis. The fuel has long been seen as more cost effective than petrol because it provides more miles to the gallon but having previously been less expensive than petrol it now costs about 12p a liter more. The pump price, combined with the higher cost of the initial purchase of a diesel vehicle, means it can take many years for switching to diesel to pay off for low mileage drivers.

⁷ EU15.

According to research by car experts Parker's a BMW 318 diesel could take 28 years to recoup the extra cost. Buying a diesel Mini could take the driver up to seven years to break even. A Ford Mondeo diesel could take six years.

More than half the new cars sold every year in the UK now run on diesel. The trend has been encouraged by the Government's road tax policy. Because diesels emit less CO2, they sit in lower tax bands which are now graded according to how much a car pollutes. Until the mid-1990s it had even more benefits - it was also cheaper at the pumps. However, massive worldwide demand coupled with a shortage of diesel refineries mean the price has overtaken that of petrol, and the financial benefits have begun to erode.

BMW 318i ES 4-door (left) ■ Petrol Fuel consumption: 47mpg Price: £20,965 ■ Diesel Fuel consumption: 60mpg Price: £23,655 Extra cost: £2,690 Mileage to break even: 285,634 miles Time to break even at: 10,000 miles per year: 28 years 12,000 miles per year: 24 years	Ford Mondeo 1.6 Zetec 5-door ■ Petrol Fuel consumption: 38mpg Price: £17,269 ■ Diesel Fuel consumption: 50mpg Price: £18,314 Extra cost: £1,075 Mileage to break even: 74,535 miles Time to break even at: 10,000 miles per year: Seven and half years 2,000 miles per year: Six years
Mini Cooper 3-door 1.6 (left) ■ Petrol Fuel consumption: 52mpg Price: £12,995 ■ Diesel Fuel consumption: 72mpg Price: £14,065 Extra cost: £1,070 Mileage to break even: 77,410 miles Time to break even at: 10,000 miles per year: Seven and half years 12,000 miles per year: Six years	Volkswagen Golf 1.6S 5-door ■ Petrol Fuel consumption: 39mpg price: £14,317 ■ Diesel VW Golf 2.0TDi S 5-door Fuel consumption: 62mpg Price: £16,000 Extra cost: £1,683 Mileage to break even: 57,583 miles Time to break even at: 10,000 miles per year: nearly six years 12,000 miles per year: five years

And while diesel cars have traditionally held their value better than petrol ones, that is no longer such a major factor because they are now common. Parker experts noted, for example, 'In the trade the premium for diesel small used cars has all but disappeared, and on mid-size cars it's about £400.' They continued, 'In Europe the tax on diesel is traditionally much lower so that buying diesel makes more sense. 'But in the UK, though the Government says it wants us to move towards a low-carbon economy it has never favored diesel in tax terms. '

9. Green Power Seen "Key to Sustainable Urban Mobility"

EU research commissioner Janez Potočnik called on the European road transport sector to provide "workable solutions" to the electrification of urban travel within 18 months at a recent stakeholder meeting in Brussels. "Choosing such a path to sustainable transport in our cities is essential if we are to meet the EU's climate change targets," Mr. Potočnik told a meeting organized by the European Road Transport Research Advisory Council (Ertrac).

The commissioner welcomed Ertrac's research strategy for the electrification of urban transport, which sets detailed research priorities for developing vehicles, infrastructure and services. Ertrac should present "the next generation" of road transport at the next transport research meeting in June 2010, he said.

In a related development, transport commissioner Antonio Tajani pledged to try and secure the adoption of a delayed action plan on urban mobility before the end of the current commission mandate in June.

Ertrac presented road transport scenarios for 2030 split along four main themes: urban mobility, long-distance transport, safety, and energy and environment. In each case Ertrac identified the main drivers of change and early "no-regret" research and development priorities. Across the four themes, key factors shaping the future of road transport are climate change, energy and economic uncertainty, demographic change, and shifting consumer expectations, Ertrac said.

Demand-side measures will be a crucial element in developing greener vehicles, Mr. Potočnik said. The European commission will be supporting the development of a procurement network of regional and local authorities to pool demand for clean buses and other vehicles.

10. Poland's Car Recycling Scheme "Dysfunctional"

Poland's end-of-life vehicle recycling scheme is "dysfunctional", Polish car recycling group FORS said in a recent statement. The vast majority of old cars are treated illegally and with little regard for environmental regulations, according to the group.

Only 15 per cent of cars end up in authorized recycling facilities each year, FORS said. This low rate is causing heavy financial losses in companies that have invested in such facilities, it claimed. Under EU law Poland is required to develop a network of vehicle collection and recycling points across the country.

11. EC Says Romania's New Car Tax Breaches EU Laws

On December 22nd, the European Commission wrote a letter to Romanian authorities saying that the new car tax regulations seem to be not in line with EU legislation. The European Commission informed the Romanian Government that the emergency decree issued by the former cabinet, which triples the country's car tax, breaches EU laws.

Environment minister Nicolae Nemirschi said one option would be to suspend the decree the former liberal government passed in December and go back to the tax values charged in July. The minister also presented another variant, where the registration tax would be lowered, but vehicle owners would pay an annual tax calculated in ratio to the car's pollution standards.

A decision in about the car tax will be made after January 15th, after the Ministry of Environment and the Ministry of Transport analyze this vehicle taxation regime. Romania's former liberal government decided last April to introduce the pollution tax for cars, calculated depending on the technical data of each car, based on carbon dioxide emissions, which replaced as of July 1, 2008, the tax for the first registration of cars which was then effective. Amendments to the car tax brought a fall in the number of new cars, and boosted used car imports. On the backdrop of the increase in the number of imported second-hand cars, the government decided via an emergency decree in December to triple the car tax for used cars, and to suspend it for new cars with Euro4 engines of up to 2,000 cubic centimeters, registered for the first time in Romania and the European Union.

12. British Car Industry Gets €275m Green Stimulus

The UK government has announced funding of GBP250m (€275m) to help the car industry invest in the development of low-carbon vehicles. The announcement was part of a package of measures on transport that was recently adopted.

Other measures in the package include an expansion of Heathrow airport, London's main airport. This move has been strongly criticized by green groups, but the government says it will restrict the use of a new runway to the cleanest aircraft. It also plans to set a long-term emission reduction target for 2050, and to push for an international agreement setting strict CO2 limits for the sector.

13. Verheugen Hints At More Support for Greener Cars

The European automobile industry could receive more financial aid for developing greener cars, EU industry commissioner Günter Verheugen suggested recently. Speaking at a conference in Paris, Mr. Verheugen said the "green car initiative" announced last year as part of a wider EU economic recovery plan proposed by the European commission should be "pursued further". Under the initiative, carmakers will receive €5bn for investments in green technologies.

But he added the subject had not been raised at a recent meeting with EU finance ministers to discuss the difficulties facing the car industry. The EU should continue to support research into greener technologies even if this does not "bring significant help for the current economic crisis of the sector", the commissioner said.

14. Less Fog Explains Warming Europe, Study Says

Fewer foggy, misty and hazy days help explain why Europe's temperatures have risen so fast over the past 30 years, a finding that could help predict future climate change, according to new research. Clearer skies due to changing weather patterns and less air pollution have contributed on average to about 5 to 10 percent of the region's warmer temperatures during this period, said Geert Jan van Oldenborgh, a researcher at the Royal Netherlands Meteorological Institute.

"The temperatures in Europe have been going up twice as fast as climate models had predicted in the past decades. Less fog means more sunshine on the ground and hence higher temperatures," Van Oldenborgh, who worked on the study, said in a telephone interview.

The U.N. Intergovernmental Panel on Climate Change has predicted global temperature increases this century of 1.8 to 4 degrees Celsius.

In Europe, however, temperatures have been outpacing climate models and Van Oldenborgh and colleagues wanted to find out why. They collected data from 342 weather stations at airports across Europe and measured the levels of fog, mist and haze going back to 1976. The number of days with visibility less than 2 kilometers are half of what they were 30 years ago, falling to an average 10 days from 20 days, the researchers reported in the journal *Nature Geoscience*.

Changes in weather patterns and better air pollution policies play a role in the clearer skies but the researchers do not know how big an impact each contributes on its own, Van Oldenborgh said. "Climate is not simple and this is a new factor," Van Oldenborgh said. "It doesn't explain everything but it explains a lot.

15. MEPs Seek To Toughen Industry Emissions Laws

MEPs on the European Parliament's environment committee will vote soon for tougher demands to be placed on industry to curb air pollution. If agreed, the integrated pollution prevention and control (IPPC) directive will require 52,000 industrial plants across the EU to

meet minimum standards on emissions and would merge seven existing laws on air pollution. Companies would have to follow the “best available techniques” to reduce emissions of common pollutants such as nitrogen oxide and sulfur dioxide.

But Holger Krahmer, a German Liberal MEP who is drafting the Parliament's position on the directive, said that the draft proposed by the European Commission had too many loopholes and that a derogations would become the standard, rather than the tougher minimum rules. “In the current directive, we have too much flexibility for member states...we have to reduce flexibility and we have to make sure flexibility is not misused,” he said.

Member states have a patchy record on implementing existing air-quality directives. Only around 50% of EU industrial plants had received air-pollution permits by mid-2006, according to the latest figures collected by the Commission. Krahmer said that only Germany, Sweden and Austria had implemented the IPPC directive properly.

Some MEPs, including Claude Turmes (Luxembourgish Green) and Anders Wijkman (Swedish centre-right), have put forward amendments calling for performance standards on carbon dioxide (CO₂) to be included in this directive. On 13 January, a group of non-governmental organizations published a report calling for CO₂ performance standards to be included in the directive to help the EU meet its targets of reducing greenhouse gas emissions. The report said that a limit of 150 grams CO₂ per kilowatt hour on new plants by 2010 could reduce greenhouse gas emissions from the power sector by 10% by 2020.

Air pollution in Europe has fallen in recent decades, but the Commission wants countries to do more to improve air quality. Large factories are responsible for 83% of sulfur dioxide, 34% of nitrogen oxides and 43% of dust emitted in the EU. The Commission said that its proposal would reduce by 13,000 the number of premature deaths and would save costs of between €7 billion and €28 bn per year.

16. Parliament Getting Closer On Pollution Charges for Trucks

The European Parliament's transport committee will soon decide whether member states should be able to charge trucks for the environmental and social damage they cause. Under the plan, which has split the Parliament and raised stiff opposition from the haulage industry, trucks would be charged for air and noise pollution, congestion and for contributing to climate change.

“This is an enabling directive, so member states are not obliged to charge for these costs...This directive would enable them to apply the polluter-pays principle for the first time,” says Saïd El Khadraoui, a Belgian Socialist MEP who is drafting the Parliament's position on the directive. Under current rules on toll charges for heavy-goods vehicles, governments are forbidden to levy these “external” charges. In July the European Commission proposed widening the scope of the existing Eurovignette directive on road tolls, to allow governments to charge for air pollution, noise and congestion. El Khadraoui supports this proposal, but thinks that member states should not be stopped from charging for emissions of carbon dioxide (CO₂) costs as well.

But other members in the Parliament oppose this plan, arguing that the road transport sector already pays for pollution through fuel taxes and that the proposal puts an extra burden on a sector that has a lot of problems in the economic downturn. This echoes the arguments of the industry.

El Khadraoui says that he would like to avoid double taxation and has drawn up compromises, including a proposal that member states can only charge for CO₂ emissions as an alternative to fuel taxes – i.e., they can have either, but not both. In another compromise, he suggests that if member states want to include congestion in road tolls, they must set up similar policies for cars.

The vote comes as a new report claims that trucks are responsible for a far higher share of congestion and pollution than previously thought. Trucks cause 20% of congestion and 23% of total carbon emissions from road transport, according to a study published by Transport and Environment (T&E) on 12 January. The researchers, from CE Delft, an environmental consultancy, also conclude that “no significant change in the fuel efficiency of road transport has taken place”.

Once El Khadraoui has worked out a common position with his colleagues in the Parliament, he must also persuade member states to support the proposal. The MEP expects a first-reading agreement before the Parliament's elections, in June, but says that finalizing this dossier before the Parliament breaks up in May looks doubtful.

17. Swedes Gear Up To Take the Lead on Electric Cars

Swedish ministers have held preliminary talks with energy companies Fortum, Vattenfall and E.ON on plans to develop "a common functional infrastructure" for electric and hybrid cars, the government has announced.

All parties agreed on the need for a standardized "open system" that encourages competition and also involves smaller companies, energy minister Maud Olofsson said in a statement. The consensus was that collaboration between energy suppliers and the automotive industry could enable Sweden to take the lead in "the global introduction of electric cars".

18. Ukraine Pollution, Enforcement Are Top Priorities, but Progress is Slow

In 2007, Ukraine's Ministry for Environmental Protection worked out a draft National Environmental Strategy through 2020, a draft Concept of Water Protection, a draft Law on Environmental Monitoring, as well as a draft Environmental Code. All of these were expected to be discussed and adopted in 2008, but the Parliament was unable to deliver on its pledges. The draft measures are now due to be considered in 2009.

The government has laid out a number of action plans relating to the environment, however. For example, the government hopes to reduce urban pollution by limiting nitrogen oxide, particulates, and other vehicle emissions.

In July 2008, the Transport and Communication Ministry drafted a bill to amend Ukraine's law On Some Issues of Imports of Vehicles and their Registration. The bill would require passenger vehicles and light trucks to meet emissions targets equivalent to the Euro 3 standards by July 1, 2009. Vehicles would then have to meet Euro 4 standards by July 1, 2011, and Euro 5 requirements by July 1, 2014.

Ukrainian authorities also have drafted legislation to increase engagement of the country's civil society in tackling local environmental issues.

Despite stated goals to improve environmental protection, Ukraine's regulators have reported evidence of inadequate enforcement of existing regulations.

19. Wind Farms, Road Pricing Scheme, Carbon Capture Lead Dutch Agenda

Since 2007, the Netherlands has introduced a series of ambitious plans to confront environmental problems. The main program, called the Schoon en Zuinig (Clean and Efficient) action plan, calls for a 30 percent reduction in greenhouse gases by 2020, as well as drastic increases in the use of renewable energy.

In 2009, the country will step up its efforts to achieve these goals by installing wind parks on the North Sea and developing a new driving tax system, carbon capture projects, and other plans.

Perhaps most drastically, the Netherlands plans to introduce a road pricing system, by doing away with vehicle purchase taxes and using satellites to charge drivers fees based on how many kilometers they drive. "The price per kilometer is based on CO2 emissions, and at the same time, the fixed taxes on cars will be reduced. So this will be kind of a greening of tax incentives for cars," Maas said. "The main tool [for reducing emissions from cars] is now this road pricing system."

Although the country's main environmentally oriented political party, GroenLinks (the Green Party), supports the instrument, spokesman Tom van der Lee said there's "a lot of debate" about specifics of the plan. "There are a lot of problems in agreeing in how this tax should look," said van der Lee. He speculated that the lack of consensus and uncertainty about costs could delay the project, which is scheduled to be phased in from 2009 to 2012.

20. German Cabinet Proposes Incentives for Clean Cars, Tax on Vehicle Emissions

On January 13th, the German Cabinet proposed new financial incentives to entice consumers to buy lower-polluting vehicles and a tax on vehicle carbon dioxide emissions. The proposed tax and incentives would be part of Germany's two-year, €50 billion (\$64 billion) stimulus package, according to the Federal Ministry for the Environment, Nature Conservation, and Nuclear Safety.

Germany currently taxes vehicles based on their cubic capacity. Under the Cabinet proposal, the tax would be changed to a levy based on a vehicle's carbon dioxide emissions, effective July 1.

The proposal would also provide a €2,500 (\$3,200) bonus for consumers who upgrade their older vehicles. If a vehicle that is at least 9 years old and has been registered with the current owner for one year or more is scrapped, the government will provide a €2,500 bonus to an owner to purchase a car that meets or exceeds Euro 4 emissions standards.

The Cabinet proposal still must be approved by the legislature.

Apart from environmental aspects, the economic stimulus package, the largest in Germany's history, includes employment incentives, investments in infrastructure, tax cuts, and other support for families.

21. Britain's Carbon Emissions Fell in 2007, but Those from Transport Grew

The United Kingdom emitted 542.6 million metric tons of carbon dioxide in 2007, a 1.5 percent drop from 551.1 million metric tons in 2006, according to final estimates published on February 3rd by the Department of Energy and Climate Change.

The residential sector recorded the highest fall in emissions (4.6 percent), followed by the business sector (2.6 percent) and the energy supply sector (1.8 percent). But the industrial and transportation sectors posted growths of 9.5 percent and 1 percent, respectively, the department said.

Carbon dioxide emissions represented the bulk—about 85 percent—of the United Kingdom's total greenhouse gas emissions, which reached 636.6 million metric tons in 2007, 1.7 percent less than the previous year's 647.9 million metric tons.

Friends of the Earth (FOE) said the published figures are misleading because they failed to include the United Kingdom's share of international shipping and aviation emissions.

22. Volkswagen, Toshiba to Partner on Electric Car

Volkswagen and Toshiba signed a letter of intent to co-develop an electric-powered version of Volkswagen's subcompact Up! concept car according to a press report. "The objective is a cooperation for the development of electric drive units and the accompanying power electronics for Volkswagen's planned new small (car) family," Volkswagen reportedly said in a statement.

"Furthermore, Volkswagen and Toshiba are planning the development of battery systems with a high specific energy density for the next generation of electric vehicles," the statement continued.

In May 2008, Volkswagen and Sanyo Electric Co., Ltd. agreed to co-develop lithium-ion (Li-ion) battery systems for Hybrid Electric Vehicles (HEV). More recently, the German automaker's 2009 Jetta TDI was named Green Car Journal's 2009 Green Car of the Year.

23. European Mayors Sign Pledge To Reduce Greenhouse Gas Emissions

On February 10th, mayors and civic leaders from 372 European cities pledged to back European Union emissions-reduction goals by cutting their greenhouse gas emissions by at least 20 percent by 2020. In signing at the European Parliament the "Covenant of Mayors," each city committed to adopting a sustainable energy action plan within 12 months, with plans submitted to independent evaluators. The cities will produce progress reports every two years, which will also be independently assessed. The European Commission said in a statement that the scheme could lead to emissions reductions equivalent to the closing down of 20 coal-fired 50-megawatt power plants.

Among the cities signing the agreement were European capitals such as Brussels, Budapest, Dublin, and Paris. The Commission said cities from 23 of the 27 EU member states would participate, along with cities from non-EU countries Bosnia, Croatia, Norway, Switzerland, Turkey, and Ukraine.

The European Commission said the pledge would reinforce an overall EU goal of reducing carbon dioxide emissions by at least 20 percent by 2020 compared to 1990 levels.

24. EU Assigns International Airlines to Member Nations for Emissions Monitoring

On February 11th, the European Commission published a preliminary list of airlines that will be required to participate in the European Union's Emission Trading Scheme (ETS) from January 1, 2012. The list, which includes all airlines, cargo services, and corporations operating flights into and out of EU airports, links each operator to an EU member state, which will be responsible for ensuring the compliance of each airline with the ETS regulation.

The legislation sets an emissions cap for 2012 of 97 percent of average annual emissions between 2004 and 2006, beyond which airlines must buy additional carbon allowances. The cap will fall to 95 percent of base emissions in 2013.

The Commission said the list is considered preliminary because its accuracy needs to be checked by "member states and other relevant stakeholders." The Commission said feedback on the list should be provided by March 31st, and that the Commission would "publish an updated list at any time if it becomes aware of the need to modify the list."

The Commission said airlines had been assigned to particular member states for compliance purposes on the basis of having an operating license from the member states in question, or because an airline's "emissions in the base year are mostly attributable to that member state."

The Commission's list includes 749 U.S. companies that operate flights into and out of the European Union. Not all are commercial airlines, as corporations operating executive flights above a certain threshold are also obligated to participate in the ETS. According to the list, responsibility for overseeing U.S. airlines will be shared among a number of countries, including Belgium, France, Germany, and the Netherlands. However, most U.S. operators will be assigned to Ireland or the United Kingdom.

Among the largest U.S. commercial operators, American Airlines, Continental Airlines, and United Airlines would be administered by the United Kingdom; Northwest Airlines by the Netherlands; and Delta Airlines by Germany.

25. Portuguese Parliament Encourages Low-Tech Transport

On February 5th, citing environmental and emissions concerns, the Portuguese Parliament published a resolution calling on the government to draw up a national mobility plan that promotes the use of bicycles and other low-impact forms of transportation. Resolution 3/2009, which the Assembly of the Republic first approved on January 23rd, was published in the *Diario da Republica*, Portugal's national register. The resolution calls for a panel of government ministries, municipal associations, and the National Sustainable Development Council to "elaborate, approve and present" to Parliament a national plan for promoting "soft" forms of transportation. The Parliament was referring to transportation methods that are low-speed, occupy little space, and emit no greenhouse gases. In addition to bicycles, the resolution mentions "simply walking," skateboards, skates, scooters, and any other mode that presents "a real alternative to the automobile." The resolution states that any plan must have public education components and verifiable goals, such as increasing the percentage of cyclists in Portugal by 2012. Likewise, it must promote dialogue at all levels of government to lift barriers to transportation alternatives and launch pilot programs that integrate the alternative modes with public transportation systems. In a second resolution (4/2009), the Assembly called on the government to create a regulatory framework for integrating low-impact transportation networks into municipal mobility plans.

26. New German Institute to Research Climate Change

A new institute in Potsdam will focus on climate change, sustainability, and earth system research, two German officials said on February 2nd. The founding of the Institute for Advanced Sustainability Studies (IASS) was announced by German Minister of Education and Research Annette Schavan and Johanna Wanka, minister of education in the Federal State of Brandenburg. Klaus Toepfer, former head of the United Nations Environment Program (UNEP) and former German environment minister, was appointed director of the new institution. Germany's Ministry of Education and Research and Brandenburg's Ministry of Science, Research, and Culture will fund the IASS. Potsdam already is the base of the Potsdam Institute for Climate Impact Research (Potsdam-Institut fuer Klimafolgenforschung) and the German Research Center for Geosciences of the Helmholtz Association (Deutsches GeoForschungsZentrum, GFZ). The IASS will begin research work in the fall.

27. EU Sets Out Draft Negotiating Position for U.N. Climate Talks in December

Developed countries should all participate in an integrated cap-and-trade market for greenhouse gas emission allowances by 2015, while providing a fund of up to €175 billion (\$231.5 billion) annually to combat climate change, the European Commission said on January 28th. The Commission put forward the ideas in a policy paper outlining the European Union's negotiating position ahead of the 15th Conference of the Parties to the United Nations Framework Convention on Climate Change (COP-15), which will take place in Copenhagen in December, and which aims to conclude an international deal to tackle climate change that would succeed the Kyoto Protocol, once its emissions-reduction commitments expire at the end of 2012.

EU Environment Commissioner Stavros Dimas told reporters that a "strong and comprehensive international agreement is vital," and that the chances of finalizing a deal at Copenhagen have improved because of a "willingness to go ahead" with cap-and-trade in the United States under the Obama administration.

Dimas said that a number of countries, including Australia, Japan, and New Zealand, are moving forward with cap-and-trade schemes, and that emissions trading should become an obligation for all Organization for Economic Cooperation and Development (OECD) countries.

"The idea of an OECD carbon market is becoming increasingly realistic," Dimas said, adding, "The wider it is, the better it is," because of efficiencies of scale. The OECD has 30 member nations.

The Commission reiterated the established EU position that, in order to limit global warming to no more than 2 degrees Celsius (3.6 degrees Fahrenheit) above pre-industrial levels, developed countries should adopt emissions reduction targets to be achieved by 2020, while developing countries should commit to reducing the carbon intensity of their economic growth.

Emerging economies should agree to reduce their emissions by 15 percent to 30 percent compared to a business-as-usual scenario, in particular by limiting tropical deforestation, the Commission said. By 2011, all developing countries should set out a plan showing how they would achieve this, with strategies assessed by a "new international mechanism." In a Commission briefing document, this international mechanism was identified as a "technical support and assessment panel" that would evaluate and approve measures proposed by

developing countries, and would identify the financial support needed for implementation, with money provided by “third countries and multilateral funds.”

A review, to take place in 2016, would be built into the plan, the Commission said.

On the crucial issue of funding for climate measures, the Commission said that commitments totaling €175 billion (\$231.8 billion) annually by 2020 would be needed for mitigation, while up to €50 billion (\$66.2 billion) annually would be needed by 2030 to cope with the unavoidable results of global warming.

Many emissions reduction projects in developing countries are currently funded through the U.N. Clean Development Mechanism (CDM), which generates emission offset credits for industrialized countries that finance projects. However, this system “needs to be reformed,” and use of CDM credits by major emerging economies such as China should be phased out by 2020, to be replaced by cap-and-trade systems.

The Commission said that financing for developing countries could instead be provided through an international fund into which developed countries would pay depending on how much pollution they produce, or how wealthy they are.

Alternatively, the United Nations could raise funds by giving developed countries emission caps and withholding a portion of emission allowances, which would be auctioned to countries needing additional carbon credits, the Commission said.

The Commission's proposals will be discussed by EU member state governments represented in the EU Council before an EU negotiating position ahead of COP-15 is finalized.

EU Commissioner Dimas said he expects the governments of the 27-member EU bloc to endorse the policy paper.

28. Parliament Sets Out Climate Policy Vision To 2050

The European parliament has recommended a long list of additional policy actions the EU should undertake to combat climate change. MEPs adopted a non-legislative resolution that closely mirrors recommendations made by a temporary climate committee last year.

The resolution also reiterates many demands made in a parliamentary resolution on EU energy policy, including for a minimum 80 per cent cut in greenhouse gases by 2050 and a binding energy efficiency target and EU-wide smart grid by 2020.

Other specific recommendations include a long-term target for the buildings sector to achieve zero-energy performance in all new residential buildings by 2015 and in new commercial and public buildings by 2020. This goes further than European commission proposals.

But MEPs did not back an earlier call to reduce meat production to reduce methane emissions. German rapporteur Karl-Heinz Florenz welcomed this.

Climate change should be the highest priority in long-term EU budgeting, MEPs say. They recommend the commission considers binding emission reduction targets for the agricultural sector, including the waste industry in emission trading, and incentives for citizens to save energy including free energy audits.

Speaking on behalf of the parliament's EPP group, Mr. Florenz's colleague Romana Jordan Cizelj said: "The best areas to take action are in energy policy, transport and industry. On top of this, there are many new areas, such as the sustainable use of forests, ICT and development policies towards third countries."

The parliament's temporary committee on climate change was created nearly two years ago; it will now be dissolved.

29. EU Lawmakers Strike Deal on Green Tire Standards

The European parliament and EU member states have reached agreement on new standards for tires that will reduce carbon emissions and noise pollution from vehicles. Negotiators agreed on new tire rolling resistance and noise limits as part of a first reading agreement on new EU vehicle type approval rules. The deal is expected to be endorsed by member states and confirmed by the full parliament in a plenary vote on 11 March.

The agreed text largely follows the commission's original proposal. EU lawmakers left unchanged proposed limits for rolling resistance and noise emissions, albeit introducing specific derogations for snow tires and "special use" tires which are "intended for mixed use both on- and off-road or for other special duty".

Snow tires will be allowed to exceed rolling resistance limits of 6.5-12 kilograms per ton by one kg/ton and to emit one decibel (dB) of extra noise, while special use tires for trucks will be allowed to emit 2dB of extra noise on top of the 72-75 dB limits proposed.

Only professional off-road tires that are "primarily used for servicing in severe off-road conditions" will be completely exempt from the new requirements, according to the agreed text.

The new standards will apply from 2012, with rolling resistance limits to be tightened in 2016-17. Tire pressure monitoring systems will also be mandatory for cars from 2012 and the commission is asked to investigate extending this requirement to other vehicle types. The commission is also asked to propose a noise classification of EU roads.

Meanwhile, the parliament's industry and energy committee debated a separate commission proposal on tire labeling. MEPs do not yet agree on where the label should be displayed – whether on the tires or only at point-of-sale – and how its entry into force date should be specified.

The committee favors a website with extra information on the label for consumers. It is due to vote on the proposals at the end of March with a plenary vote to follow in May.

30. Climate Must Underpin European Transport Network

The European Commission has adopted a Green Paper setting out the future challenges of its policy for a trans-European transport network (TEN-T). TEN-T policy needs to be realigned to contribute more effectively to objectives aimed at combating climate change and to support Europe's increasing international role through better infrastructure connections with its neighbors and the wider world. Importantly TEN-T policy also needs to be adapted to strengthen its supporting role for economic and social development within the framework of the Lisbon strategy. The integration of all transport modes and intelligent transport systems can be

strengthened if TEN-T policy provided a basis guaranteeing efficient and safe transport services reflecting the future demands of citizens and economic operators. In the light of these challenges and lessons drawn from previous TEN-T policy implementation, the Commission sets out future objectives and proposes three options for TEN-T development, while stressing the need for coherence between planning ambitions and instruments for their implementation.

"We have to develop forward-looking responses to tomorrow's needs for transport infrastructure in Europe. While building on 15 years of experience, we need to harness new ideas to redirect and streamline the policy approach and – more importantly – the commitment to ensure its full implementation", said Vice-President Antonio Tajani in charge of Transport.

A better integrated trans-European transport network is the basis for efficient, safe, secure and high quality freight and passenger transport. It is crucial for contributing to common European objectives, such as the achievement of climate change objectives, providing better connections between Europe, its neighbors and the wider world and supporting economic and social development in the framework of the Lisbon strategy.

Combining all transport modes, making best possible use of fully interoperable intelligent transport systems and assimilating new transport and energy technologies are at the heart of a future-oriented network integration. These three elements support the further development of co-modal transport services for freight and passengers. In the freight sector, such a network development approach is for example vital for the expansion of logistics services which rely on the principle that each transport mode is used according to its respective advantages within the transport chain, while enhancing the efficiency of overall operations both from an economic and environmental perspective.

To support co-modal transport services for freight, infrastructure development within the framework of the future TEN-T policy needs to give particular attention to:

- the appropriate development of ports' infrastructure and more efficient hinterland connections to respond to the increasing role of maritime transport;
- the integration of fully interoperable and commercially viable rail freight corridors and of Green Corridors;
- the removal of bottlenecks on major transport axes;
- inter-modal connections, freight handling in urban areas and the potential of air freight transport;
- the application of intelligent transport systems for all transport modes and new pricing systems, stimulating efficient infrastructure use.

In parallel, necessary infrastructure for co-modal services for passenger transport (such as connections between air and rail services or integrated ticketing) need to be developed too.

TEN-T policy will build on what has been achieved before but will also look ahead to exploit new opportunities. A further key component to the successful delivery of TEN-T policy is the range of the instruments available to support its implementation. In this regard the Green Paper highlights a number of possibilities both financial and non financial, stressing the need to establish a good match between the policy ambitions and the availability of suitable instruments.

The Commission invites Member States' governments and the broad range of stakeholders – infrastructure managers and users, researchers and investors, economic operators and NGOs,

regional and local authorities and interested citizens – to express their views on three proposed options for TEN-T development and on the wider policy objectives. The Parliament is also preparing an own initiative report on the future of the trans-European transport network which is foreseen to be adopted by the plenary in April 2009.

NORTH AMERICA

31. **Obama Takes Steps on Car Fuel Efficiency, Greenhouse Emissions**

President Obama instructed key federal agencies to reexamine two policies that could force automakers to produce more fuel-efficient cars that yield fewer greenhouse gas emissions. The move, which the White House has privately trumpeted to supporters as "the first environment and energy actions taken by the president, helping our country move toward greater energy independence," could reverse two Bush-era decisions that have helped shape the nation's climate policy and its auto market.

Obama instructed the Environmental Protection Agency to reconsider whether to grant California a waiver to regulate automobile tailpipe emissions linked to global warming and he ordered the Transportation Department to issue guidelines that will ensure that the nation's auto fleet reaches an average fuel efficiency of 35 miles per gallon by 2020, if not earlier.

On December 19, 2007, then-EPA Administrator Stephen L. Johnson blocked the efforts of California and more than a dozen other states to limit automobiles' carbon dioxide emissions, arguing that President George W. Bush had addressed the issue by signing a law that same day raising the corporate average fuel-efficiency standard to 35 miles per gallon by 2020. But California's tailpipe emissions rules would have effectively required even greater fuel-efficiency increases, by seeking to cut vehicles' greenhouse gas emissions by 30 percent between 2009 and 2016.

The Bush administration never issued near-term guidelines for tighter fuel-efficiency standards: The Transportation Department circulated a proposal last fall that would have required auto companies to build new cars averaging as much as 31.8 miles per gallon by 2015, compared with the current level of 27.5 miles per gallon, but it announced less than two weeks before Bush left office that it would not issue formal guidelines.

Obama, who has consistently urged U.S. automakers to produce more fuel-efficient cars, is likely to accelerate the timeline for raising the nation's corporate average fuel economy for cars and trucks. The Transportation Department guidelines must be issued no later than April in order to affect the 2011 auto fleet.

Granting a waiver for California to regulate tailpipe emissions would affect nearly half the U.S. auto market. Thirteen other states -- including Maryland -- and the District have already adopted California's proposal, while at least four others have pledged to do so. When EPA rejected the waiver, Obama issued a statement saying the decision "is yet another example of how this Administration has put corporate interests ahead of the public interest. If the courts do not overturn this decision, I will after I am elected president."

In a rebuke of the Bush administration, Obama said Washington would no longer stand in the way of states. "The federal government must work with, not against, states to reduce greenhouse gas emissions," Obama said. He added: "The days of Washington dragging its heels are over. My administration will not deny facts; we will be guided by them."

The Clean Air Act gives California special authority to regulate vehicle pollution because the state began regulating such pollution before the federal government got into the act. But a federal waiver is still required. Other states can choose to adopt California's standards or the federal ones if a waiver is issued. The EPA has issued several waivers to California in the past to control emissions related to smog. California's latest proposal was intended to take effect in the 2009 model year, but was never implemented because of EPA delays on the waiver request.

Automakers have pushed for a single national standard, arguing California's waiver request would require production of two types of vehicles and could require dealerships in some states to limit sales of large trucks.

32. U.S. Should Adopt California Car Rules: Schwarzenegger

California hailed President Barack Obama's move toward letting it and other states regulate greenhouse gases from cars as an "historic win" for clean air and said the federal government should adopt similar national standards. California Gov. Arnold Schwarzenegger said it would be a great idea for the entire United States to follow California's lead on rules for more efficient cars that would cut their greenhouse gas emissions by 30 percent by 2016.

"We have always been a laboratory for the federal government so I think they will look at it very closely, seriously, to doing it nationwide," Schwarzenegger said at a news conference. He added in a statement that it was an "historic win for clean air and for millions of Americans who want more fuel-efficient, environmentally-friendly cars."

California, the most populous U.S. state, once choked on smog in major cities, especially Los Angeles. Dirty air still regularly clogs cities and valleys, but federal and state efforts over decades have cut pollution, even as the car remained key to the state's culture.

More than a dozen other states plan to follow California's lead, and Mary Nichols, the top climate change official in California, estimates that more than half U.S. new cars sold would be affected by rules in that small group of key states.

"The automobile industry fought this tooth and nail, and for years Washington blocked us from implementing this, but we never gave up," said Schwarzenegger.

33. Obama's Team Signals Focus on Climate Change

A. Obama's EPA Pick Must Restore Integrity: Senators

Lisa Jackson, President-elect Barack Obama's choice to head the Environmental Protection Agency, needs to restore integrity to a department that fallen into disrepute, Democratic senators said at her confirmation hearing. Jackson, commissioner of New Jersey's Department of Environmental Protection and a 15-year veteran of the federal environment agency, vowed to be guided by science and the rule of law if confirmed as U.S. EPA administrator.

"If I am confirmed, I will administer with science as my guide," Jackson told the Senate Environment and Public Works Committee, which considered her nomination. "Political appointees will not compromise the integrity of EPA's technical experts to advance particular regulatory outcomes."

This was in contrast to the reputation of the environment agency under President George W. Bush. Critics have accused his administration of favoring industry and politics over environmental science.

The hearing was loaded with barbs for the departing Bush EPA chief, Stephen Johnson, a career agency scientist who has nonetheless drawn fire for failure to take action to curb the greenhouse emissions that spur climate change.

"This is an agency that has fallen into significant disrepute," Sen. Sheldon Whitehouse, a Rhode Island Democrat, said. "More than anything else it needs its integrity restored ... Administrator Johnson has been a disgrace."

"For the past eight years, the Bush administration has not provided the leadership we need on some of the biggest environmental challenges of our time -- global warming, energy independence and cleaning up our nation's air," Sen. Tom Carper, a Delaware Democrat, told the committee.

Boxer, who in the past called for Johnson's resignation, said the agency "needs to be awakened from a deep and nightmarish sleep."

Republican senators, including ranking committee member James Inhofe of Oklahoma, defended Johnson's record but also said they looked forward to working with Jackson.

Also, former EPA chief Christine Todd Whitman wrote in the journal *Nature* that that she was overruled on environmental policy issues by Vice President Dick Cheney. Morale is low among "many highly talented" people at EPA because they have been ignored, said Whitman, who headed the agency from 2001 to 2003.

B. U.S. Must Lead On Economy, Climate Change: Clinton

The United States must work with emerging economies in the current economic crisis and also must lead the effort to fight global climate change, Secretary of State-designate Hillary Clinton said in prepared remarks for her confirmation hearing before the Senate Foreign Relations Committee. "We know that emerging markets like China, India, Brazil, South Africa and Indonesia are feeling the effects of the current crisis. We all stand to benefit in both the short and long term if they are part of the solution," Clinton said.

"The world is in need of an urgent, coordinated response to climate change and as President-elect Obama has said, America must be a leader in developing and implementing it," Clinton said. "At the extreme it threatens our very existence, but well before that point, it could very well incite new wars of an old kind -- over basic resources like food, water and arable land," she said.

C. Obama Energy Pick Says Will Fight Global Warming

The Obama administration will tackle the threat of global warming by seeking a cap-and-trade system to cut greenhouse gas emissions, Steven Chu, President-elect Barack Obama's pick to be U.S. energy secretary, told lawmakers at his confirmation hearing before the Senate Energy and Natural Resources Committee. "Climate change is a growing and pressing problem. It is

now clear that if we continue on our current path, we run the risk of dramatic, disruptive changes to our climate in the lifetimes of our children and grandchildren," Chu said.

Chu said the administration will push for a cap-and-trade system, which would require power plants, oil refineries and other industrial facilities to buy and sell pollution permits to spew global warming emissions. "It speaks to the importance he views this area," Chu said of Obama's concerns about global warming.

Chu said he looks forward to working with Carol Browner, who Obama selected as the White House czar to coordinate climate change policy among the various federal agencies and departments. "She has a difficult task ahead of her," he said.

Chu said China would have to be part of an international agreement to reduce emissions. The United States could bring China into the effort by providing it with technology to reduce energy use, particularly in building construction. "If China doesn't follow, we'll have to relook at this," he said.

Chu, who shared a Nobel Prize in physics in 1997, leaves as director of the Lawrence Berkeley National Laboratory in California to head the Energy Department.

Chu said he will work quickly to implement those parts of Obama's planned economic stimulus plan that relate to energy, though he did not provide any details. "Economic stimulus means we have to move fast," Chu said.

He said the United States faces "immediate threats" because of dependence on oil. "We must make a greater, more committed push toward energy independence and with it a more secure energy system," he said.

Chu reiterated Obama's comments that the administration would be willing to consider expanded offshore drilling as part of a comprehensive energy policy. But he noted that the United States has only 2 percent of the world's oil reserves and accounts for just 5 percent of global oil production.

Chu said he would also act quickly to get the Energy Department's \$18 billion guaranteed loan program for new nuclear power plant projects up and running. He said nuclear power was important in the climate change fight because it does not produce greenhouse gas emissions.

34. Denver Pilot Program Cuts Emissions by City Vehicles 10%

A pilot project called "Driving Change," involving employees of EnCana Oil & Gas (USA) Inc. and Denver's city government, improved driving habits over the last several months, reducing carbon dioxide emissions from their vehicles by 10 percent, the city and the company have announced. The pilot tested whether equipment that measured a vehicle's idling and driving performance — and then gave the information to drivers as feedback on their habits via a website that included fuel consumption — could lead to a change in driving habits, cutting greenhouse gas emissions from vehicles and improving fuel efficiency.

"Once the Driving Change system revealed and quantified the idling issue, we were able to use the system to target the problem and measure our success in reducing this wasteful practice, allowing us to reduce greenhouse gas emissions and save money on fuel at the same time," Denver Mayor John Hickenlooper said in a statement.

EnCana, the Denver-based subsidiary of EnCana Corp., based in Calgary, Alberta, underwrote the pilot program and 30 of its employees participated. The company said it planned to spend about \$400,000 when it was announced in March 2008. The city also participated, allowing equipment to be attached to 160 public vehicles. It was also attached to 240 citizen vehicles.

According to the U.S. Environmental Protection Agency, motor vehicles are the fastest-growing source of carbon dioxide. It has been estimated that greenhouse gas emissions from vehicles accounts for 30 percent of Denver's total carbon footprint, the city and EnCana said.

According to the city and EnCana, the results of the Driving Change pilot program include:

- Measurement improves performance: From May through November, there was a 10 percent overall driving improvement in participating vehicles in Denver, as measured by carbon dioxide emissions per mile. This includes reductions in engine idling, fast accelerations and fast stops.
- Tracking driving behavior has a great impact on engine idling: From May through November, idling decreased by more than 35 percent among participating vehicles, which equates to a reduction of 5 minutes of idling — or a little less than 1 pound of carbon dioxide — per vehicle, for every hour of operation.
- Driver education works: As Driving Change participants were educated in the program's goals and tracked their results, they became more likely to turn their vehicles off. For example, participating Denver drivers provided with more extensive education reduced engine idling more than 40 percent through the end of November.

35. Vancouver Port to Offer Shore Power to Cruise Ships in Effort to Cut Emissions

Vancouver, British Columbia will become Canada's first port to reduce its users' emissions of greenhouse gases and other air pollutants by providing shore power for visiting cruise ships, British Columbia Transport Minister Kevin Falcon said. The initiative, which takes effect in the 2009 cruise ship season, is expected to reduce carbon dioxide emissions by 3,200 to 3,700 metric tons in its first year of operation and to reduce emissions of air contaminants, including particulate matter, hydrocarbons, nitrogen oxides, sulfur oxides, and ammonia, by 110 to 130 metric tons per year, Falcon said in a December 17th statement.

About 60 shore-power-enabled cruise ships are expected to visit Port Metro Vancouver in 2009. Falcon said the use of shore power will reduce their consumption of marine diesel fuel by 1,000–1,500 metric tons, based on estimates provided by the cruise lines.

The initiative will be funded equally by the provincial government, federal government, and cruise ship industry.

36. Tesla May Use Evonik Battery Cell Widely

Electric car startup Tesla Motors said it may use battery cells produced by Evonik Degussa GmbH, an affiliate of Daimler AG, for its own cars if they proved a better option than products from its current Japanese suppliers. Privately held Tesla said earlier it had been selected by Daimler to supply battery packs and chargers for an electric version of the Smart minicar, saying it expected orders for about 1,000 units initially.

Tesla founder and Chief Executive Elon Musk told reporters at the Detroit Auto Show that the Smart deal could extend to Tesla using Evonik's cells for its own Roadster and other models.

Tesla had recently signed a second supply contract with an unidentified Japanese battery cell maker to get dual sourcing on the battery cells, he said. Musk said Tesla was constantly evaluating cell makers, including some from South Korea and China, but Japanese manufacturers had thus far had the best quality.

Tesla plans to invest \$350 million to produce a new electric sedan priced around \$50,000 that it expects to unveil as early as next month. Tesla currently sells the \$109,000 Tesla Roadster, one of the first entrants into the electric car market.

He said Tesla was also looking to expand overseas, first setting up service centers in Britain, Germany and probably one in southern France. He said Asia would likely follow, probably starting with Japan and eventually to other markets such as China and Singapore.

Tesla has applied for low-cost loans from the U.S. Department of Energy to cover up to 80 percent of planned investment projects worth \$450 million.

37. Too Little, Too Late For "Green" Big 3?

Automakers at the world's premier auto show have pinned their hopes on "green" models but for some companies the immediate future is shaping up as a battle for survival. U.S. auto sales dropped by 18 percent in 2008 to a 16-year low of 13.2 million, pushing financially strapped General Motors Corp and Chrysler to the brink of collapse. In December the two were approved for \$17.4 billion in emergency government loans. But the money has conditions that must be met as early as March and include more concessions from the United Auto Workers union and company debt holders.

"People are wondering, 'Is the company going to make it? Is the company going to be viable?'" GM Chief Operating Officer Fritz Henderson told reporters at the Detroit auto show. Henderson, vice chairman Bob Lutz and other GM executives said they were confident GM could make the changes it needs to turn itself around with U.S. government support. But they also indicated they could need further help along the way.

Ford Motor Co has not asked for government loans but told lawmakers last year it wanted a \$9 billion line of credit from the government in case the U.S. economy worsens.

A number of big automakers, including Nissan Motor Co, pulled out of the show this year to save money. For those who remained, the stars of the show were a slew of new or improved fuel-efficient and eco-friendly "green" cars like the Toyota Prius and Chevrolet Volt. GM said it was on track to offer the vehicle in November, 2010, and announced a major contract with Korean manufacturer LG Chem Ltd to make the batteries, the key to success for all new electric vehicles.

But uncertainty continued to trump hope for most. Lutz, the biggest booster of the Volt, was asked if U.S. auto sales were going to recover to the 15-million unit level. "Who the heck knows?" Lutz told reporters.

GM, Chrysler and Ford joined Toyota Motor Corp and Honda Motor Co Ltd to tout all-electric or new hybrids.

The Japanese automakers, which have steadily whittled away at the Big 3's U.S. market share over the years, are seen as the clear market leaders in fuel efficiency. Toyota unveiled its third-generation Prius, the world's top-selling hybrid, targeting U.S. sales of 180,000 units in its first year and 400,000 globally in 2010. Masatami Takimoto, Toyota's executive vice president of research and development, said the new Prius had a combined city/highway mileage of 50 miles per gallon, versus 46 mpg for the current model and 41 mpg for the first Prius version.

"Toyota believes that in the long run we'll have small electric cars for short-distance driving, plug-in hybrids that run on biofuels for regular use, and on a bigger scale hydrogen fuel-cell cars will survive in the end game," he said.

Low-cost Chinese carmakers, such as BYD, also carved out a place on the main Detroit showroom for the first time.

While the Big 3's green push may help them earn points with skeptical U.S. lawmakers, the challenges facing all the Big 3 are still enormous. The UAW made record givebacks on health benefits, wage rates and other issues in landmark contracts in 2007. The union has stiffened its opposition to doing much more.

All eyes are on the incoming Barack Obama administration and the bigger Democratic Party majorities in Congress. Obama backed the emergency loans extended by the Bush administration and is seen as more labor-friendly to UAW. But Obama has called for accountability, reforms and green plans of his own.

Automakers also want Obama to use tax incentives and other breaks to get shell-shocked U.S. consumers to pry open their pocketbooks and buy the new generation of green cars. "I do think we are going to need some help in the marketplace with the new administration in terms of an energy policy that would drive demand for these vehicles," Ford Executive Chairman Bill Ford told reporters. "With gasoline still below \$2 per gallon in some parts of the country, I think we are going to need some help."

GM research chief Larry Burns added that government backing for electric-car technology should be modeled on support for the semiconductor industry in the 1980s.

Other developments:

- Ford said it will have a small electric car ready for launch in 2011 that would get 100 miles to a charge, as well as a plug-in hybrid by 2012. It also will offer an electric commercial van in 2010. Ford officials said electric car sales would focus on urban markets with initial sales of 5,000 to 10,000 units. "We are moving to more hybrids, whether they are regular hybrids or plug-in hybrids," Ford Chief Executive Alan Mulally told reporters.
- General Motors Corp will invest \$30 million in its planned U.S. plant that will build next-generation batteries for its all-electric Chevrolet Volt, the head of GM's Chevrolet brand has announced. The facility, scheduled to open in Michigan in 2010, will assemble lithium-ion battery cells manufactured by South Korea's LG Chem Ltd into 400-pound packs, which will power the Volt plug-in car. The Volt, which is being designed to run 40

miles on a single battery charge, has become the centerpiece of GM's attempt to reinvent its product line at a time when sales remain at decade lows.

- Japan's Toyota, the current king of green in the auto sector thanks to its Prius hybrid sedan, showed off its FT-EV electric concept and said it would launch an electric car for city commuting by 2012 in the United States. "Last summer's \$4-a-gallon gasoline was no anomaly," said Irv Miller, Toyota Motor Sales U.S.A. group vice president. "It was a brief glimpse of our future." However, Toyota still considers gasoline-electric hybrid vehicles its long-term core powertrain technology. It said it plans to introduce a hybrid car for its Lexus brand this summer.
- Japan's Nissan Motor Co Ltd is promoting plans to commercialize electric cars, but Toyota has stressed such cars, including its own, would be suited only for short-distance travel for the time being given the limitations on battery storage technology and recharging infrastructure.
- Honda, meanwhile, said it will begin selling the Insight, the first of its next generation hybrid cars, in Japan in February, followed by launches in Europe and the United States in March and April. The Insight has listed gas mileage of 40 miles per gallon in the city and 43 on the highway in the United States, but the company said the potential for as much as 72 mpg exists.

38. Ethanol Producer, Poet, Opens First Cellulosic Ethanol Pilot Plant

The top U.S. ethanol producer, Poet, has opened an \$8 million pilot plant to produce an alternative low-carbon motor fuel made from corn cobs and other crop residue. The 20,000 gallon (77,800 liters) per year plant in South Dakota is planned as a forerunner to the company's \$200 million commercial-scale cellulosic plant, called Project Liberty. The company hopes to open that plant in Emmetsburg, Iowa in 2011.

Politicians and companies hope cellulosic will be a viable fuel that emits less greenhouse gas than gasoline or conventional ethanol made from corn starch. Since it's expected to be made from fast-growing grasses and trees -- or in Poet's case crop wastes -- it should not be responsible for boosting food prices, which has been one of the criticisms of ethanol made from corn starch.

U.S. mandates require blenders to mix 16 billion gallons of cellulosic into gasoline by 2022 along with 15 billion gallons of ethanol made from traditional sources like corn starch.

Jeff Broin, the chief executive of Poet told reporters in a teleconference that the fuel made at the pilot plant costs about \$1 more per gallon than ethanol made from corn starch. "That may sound like a lot but just a year and a half ago it was several dollars a gallon, so we have made strides in reducing the cost," he said. Cellulosic should cost about the same as grain-based ethanol in about five to seven years, he added.

Poet hopes to eventually make cellulosic at all 26 of its starch ethanol plants, which have a capacity to make 1.5 billion gallons per year.

Outgoing U.S. Agriculture Secretary Ed Schafer said that cellulosic ethanol output could "explode" by 2012 if a commercial plant to produce the fuel works out. On the other hand, the government's top energy forecasting agency, the Energy Information Administration, said last

month that the United States will fall short of the mandates because of the uncertain development of next generation fuels.

Broin said 5 billion gallons of cellulosic ethanol, or nearly half of today's U.S. capacity to make grain-based ethanol, could eventually be made from corn cobs and other crop waste. But he was less optimistic about near-term U.S. cellulosic goals. He was not certain if the United States would meet the 2010 federal mandate to blend 100 million gallons of cellulosic into the gasoline pool.

39. Obama Renewables Plan More Ambitious Than Appears

President-elect Barack Obama's call for an ambitious renewable energy plan underscores just how bad things have gotten for makers of solar panels and wind turbines. The goal to double alternative energy production in three years will effectively maintain the high-flying industry's recent growth rates rather than targeting sharper increases, reflecting the harsh new reality facing green power.

Obama asked Congress "to act without delay" to pass legislation that included doubling alternative energy production in the next three years and building a new electricity "smart grid." In his speech, Obama gave few specifics on how he would enact those plans, but wind and solar companies who have seen investment in new projects grind to a virtual halt in recent weeks applauded the move as a major step forward for the United States, which trails nations such as Germany in its use of renewables.

An Obama aide said the administration would seek to add 20 gigawatts (GW) or more of wind power and 4 GW of geothermal and solar power in the next three years, doubling the nation's current renewable power base of 24 GW through loan guarantees and, eventually, national renewable energy requirements.

40. Exxon CEO Doubts Obama's Alternative Energy Goal Achievable

Exxon Mobil CEO Rex Tillerson said it would be difficult to meet President-elect Barack Obama's goal to double its output of alternative energy sources during the next three years as part of his plan to revive the American economy. "I think that's going to be very challenging to do," Tillerson told reporters following a speech.

He said the United States will not be able to double biofuels output during that period and there was not enough manufacturing capacity to build the wind turbines needed to meet Obama's goal.

"I'm not wanting to be critical of his aspirational goal. Aspirational goals are good because they challenge us all to go out and find the right answer," Tillerson said of Obama's plan. But he added: "Let's be realistic about timeframes. Let's not fool ourselves." Despite calls for more alternative energy use, he said, "for the foreseeable future" the world will rely on oil and natural gas for 60 percent of its energy needs.

Renewable energy sources, which include solar, wind, hydroelectric, geothermal, biofuels and other biomass, accounted for 7 percent of U.S. energy supplies in 2007, according to the Energy Department.

Tillerson said the slowdown in the global economy would be temporary and then strong energy demand from emerging nations will return.

He also said that even with the weak economy, Exxon remained committed to investing in projects to meet future energy demand. He said the company was sticking with its \$125 billion capital spending budget planned for the next five years, despite the steep drop in oil prices and the global economic slowdown. Any changes to the capital spending budget will be announced in March at a meeting with analysts, he said.

Separately, Tillerson reiterated that it would be better for Congress to pass climate change legislation that levies a carbon tax to curb greenhouse gas emissions, instead of imposing a complicated cap-and-trade system that allows businesses to buy and sell pollution permits to spew emissions.

Tillerson said a carbon tax, which could be tacked on to fuel supplies and electricity consumption, was the most efficient way to reflect the cost of carbon. By comparison, a cap-and-trade system is difficult to verify, requires new government regulators and "a Wall Street of emissions brokers," he said.

41. BlueFire: Cellulosic Delay to Be Less Than 6 Months

BlueFire Ethanol Inc's delay in beginning construction of a cellulosic ethanol plant in Lancaster, California, should last less than six months, the company's president and CEO has announced. BlueFire said in a letter to shareholders late last month that it was delaying construction of the plant until further notice. The company is one of a handful that hopes to make a new alternative motor fuel from feedstocks like agricultural waste, wood scraps and fast growing grasses,

Rising construction costs, the credit crunch and difficulties in getting permits from the state of California led to the delay, the letter said.

Any delays in second-generation ethanol come as a blow to the industry, which is hoping to blossom amid criticism that traditional ethanol made from corn has led to higher food prices. Corn ethanol has also been blamed for helping to contribute to a dead zone in the Gulf of Mexico as excess fertilizer runs down the Mississippi River from fields in the nation's heartland.

In the face of rising construction costs, BlueFire had decided to delay building the plant until it had raised the full cost of it. He estimated that the company had raised about 20 percent of the roughly \$100 million cost of the 3.7-million-gallons-per-year plant.

42. Cleaner Air Extending Lives, Study Shows

The cleaner the air you breathe, the longer you will live. This is the conclusion of researchers at Brigham Young University who examined changes in life expectancy in 51 metropolitan areas, comparing those figures with improvements in air quality in each region from the early 1980s to the late 1990s. After controlling for smoking, socioeconomic factors and other variables, the scientists found that each decrease of 10 micrograms of pollutant particles per cubic meter of air was associated with an increase of more than seven months in average life expectancy.

Over all, life expectancy increased by an average of two years and eight months in the areas studied. Drawing on data from this and other studies, the researchers estimated that five months of the increase was attributable strictly to improvements in air quality.

“This is a large, nationwide natural experiment,” said C. Arden Pope III, a professor of economics at Brigham Young University and the lead author of the study. “We did an intervention — improved air quality — and the question is, ‘Did we get a return?’ The bottom line is yes, it looks like we did. Our efforts to clean up the air are helping.”

Several clean air advocates and public health specialists say the results also show that stronger standards for air pollutants are necessary. “The science suggests that there's a need for additional and more stringent regulation of particulate air pollution,” said Doug Brugge, a professor at Tufts University School of Medicine.

According to the Clean Air Task Force, a Boston-based nonprofit group, 24,000 people die each year as a result of small particle pollutants from power plants and another 21,000 people die from diesel exhaust's small particles in the country.

43. Rising Sea Levels Threaten East Coast

Sea levels on the United States' mid-Atlantic coast are rising faster than the global average because of global warming, threatening the future of coastal communities, the Environmental Protection Agency said. Coastal waters from New York to North Carolina have crept up by an average of 2.4 to 4.4 millimeters (0.09 to 0.17 inches) a year, compared with an average global increase of 1.7 millimeters (0.07 inches) a year, the EPA said in a report.

As a result, sea levels along the East Coast rose about a foot over the past century, the EPA's report, commissioned by the Climate Change Science Program, said.

The EPA focused on the mid-Atlantic region because it “will likely see the greatest impacts due to rising waters, coastal storms, and a high concentration of population along the coastline.” Higher sea levels threaten to erode beaches and drastically change the habitats of species in the area, often at a pace too fast for species to adapt and survive, the EPA said.

Communities in the area are at greater risk of flooding as a “higher sea level provides an elevated base for storm surges to build upon and diminishes the rate at which low-lying areas drain,” the report found. Floods will probably cause more damage in the future as higher sea levels gradually erode and wash away dunes, beaches and wetlands that serve as a protective barrier. Consequently, homes and businesses would be closer to the water's edge.

Rising sea levels have implications beyond the mid-Atlantic region, the report said. Ports challenged by rising waters could slow the transport of goods across the country, and disappearing beaches could hurt resorts and affect tourism revenue, the EPA said, damaging an already fragile U.S. economy.

“Movement to the coast and development continues, despite the growing vulnerability to coastal hazards,” the EPA said.

Scientists have said the rate sea levels are rising has accelerated. By the end of the century, global sea levels could be seven to 23 inches higher, the Intergovernmental Panel on Climate Change has predicted.

Federal, state and local governments should step in now to prepare for the rising seas, said the EPA along with the National Oceanic and Atmospheric Administration and the U.S. Geological Survey, who contributed to the report.

Governments should protect residents through policies that preserve public beaches and coastal ecosystems and encourage retrofits of buildings to make them higher, the agencies said. Engineering rules for coastal areas used today are based on current sea levels and will not suffice in the future, the report said.

Flood insurance rates also could be tweaked to accommodate risk from rising sea levels, the report said.

44. EPA in the Process of Reversing Wide Series of Bush Decisions

A. California's Car Emissions Waiver

The Environmental Protection Agency has announced that it would reconsider California's request for the authority to cut greenhouse gas emissions by new cars and trucks to combat global warming. The Bush administration had denied the state's request, but President Barack Obama asked EPA to take another look at the issue.

EPA Administrator Lisa Jackson has now signed a notice officially reopening the comment period on the waiver request. "EPA has now set in motion an impartial review of the California waiver decision," Jackson said. "It is imperative that we get this decision right, and base it on the best available science and a thorough understanding of the law."

The EPA will take public comment for 60 days through April 6 on the state's request. The agency will also hold a public hearing in Washington on March 5 on the issue.

The agency said the Clean Air Act gives the EPA the authority to allow California to adopt its own emissions standards for motor vehicles due to the seriousness of the state's air pollution challenges.

"EPA believes that there are significant issues regarding the agency's denial of the waiver. The denial was a substantial departure from EPA's long-standing interpretation of the Clean Air Act's waiver provisions," the agency said.

Automakers are against California's plan to cut emissions by 30 percent by 2016, arguing that it would result in a de facto increase in automobile fuel efficiency, which currently is set by the federal government. Manufacturers prefer a single fuel efficiency regulation approved by Congress and administered by the Transportation Department that is based on vehicle criteria -- not emissions.

The current proposal under consideration by transportation planners seeks to raise average fuel efficiency of the fleet by 40 percent by 2020. The California law would exceed that mandate years sooner.

B. Ruling on CO₂

Environmental Protection Agency chief Lisa Jackson has announced that her agency would reconsider a memorandum issued under the previous administration that guides authorities on

how to consider carbon dioxide emissions in permitting. The decision to review the memo and start the rule-making process for a final ruling on how CO₂ fits into the President's strategy to aggressively cut greenhouse gas emissions.

Specifically, Jackson said her agency would reconsider a memorandum by prior administrator Stephen Johnson on the federal Prevention of Significant Deterioration, or PSD, program under the Clean Air Act.

The decision puts pressure on Congress to legislate on greenhouse gas regulations if it wants to avoid EPA action, which industry fears would be much heavier handed.

Johnson wrote his memo after an EPA appeals board decision required EPA's Denver office to consider including CO₂ emissions regulation as part of a permit for a proposed expansion of the Deseret Power Electric Cooperative's coal-fired power plant in Bonanza, Utah. The memo reversed the appeals board decision, which could have set a precedent for any power plant or other emitters in the country.

Jackson said permitting authorities "should not assume that the memorandum is the final word on the appropriate interpretation of Clean Air Act requirements."

The memo published by Johnson was one of a number of "midnight" rules issued in the waning days of President George W. Bush's administration that environmentalists allege benefit industry and created obstacles for a new regulatory environment under President-elect Obama.

Jackson made the decision on the memo after a group of environmental organizations petitioned the EPA to reconsider Johnson's ruling and put on hold the memo's mandate. But Jackson said the agency declined to put the Johnson memo's policy on hold. Instead, she would soon start the agency process for drafting a new rule for a final decision on how to consider carbon dioxide in the permitting process.

The new EPA chief noted, however, that the memorandum doesn't bind states from issuing permits under their own State Implementation Plan, which could leave the door for state governments to enact more stringent permitting policies.

C. Smog and Soot Air Standards

The new Environmental Protection Agency chief, Lisa Jackson, has signaled that she will reconsider air-pollution limits set during the Bush administration that have been criticized as being too lenient. In an interview with USA TODAY, Jackson said a re-evaluation of the limits would be in keeping with her "back-to-basics" approach.

Asked whether the EPA would take a second look at the limits, Jackson said, "Yeah, I think we should." "The key ... is to be honest with the American people about what we know," she added.

During the Bush administration, the EPA set new limits for two kinds of air pollution: Ozone (smog) and Particulate Matter (soot). In both cases, the agency chose limits that were less strict than recommended by independent scientific experts.

Jackson also implied that during the Bush administration, the agency did not attend to its duties as the nation's environmental watchdog. Her first task "is to assure the American people that EPA is back on the job," she said. A January memo that listed her top priorities and was sent to

all EPA employees was intended "to remind them of their responsibility. It's great to say, hey, we're back. But now we have to make sure that we're never off our post again."

D. EPA Drops Appeal over Utility Mercury Ruling

In a shift from its position during the Bush administration, the Environmental Protection Agency has decided to drop its appeal of a decision that struck down its mercury rules for utilities, the Justice Department has announced. Moving to dismiss the case, Acting Solicitor General Edwin Kneedler said the EPA has decided to take a position consistent with the appeals court's decision and develop appropriate standards to regulate power-plant emissions under the law.

At issue was a ruling by a US appeals court that the EPA violated the Clean Air Act in 2005 when it exempted coal plants from the strictest emission controls for mercury and other toxic substances like arsenic, lead and nickel.

Bush administration lawyers appealed to the Supreme Court in October. But Kneedler said that in light of the EPA's decision the government no longer seeks review by the Supreme Court of the appeal court's ruling a year ago.

An organization representing individual electric utilities has also appealed the ruling to the Supreme Court. The high court is scheduled to consider that appeal on February 20.

The appeals court's ruling was viewed as a major victory for environmentalists and a setback for big US coal-burning utilities. Some 14 states, including New Jersey, New York and California, had sued the EPA over the rules, along with environmental and public health groups.

The nation's 1,100 coal-burning units emit about 48 tons of mercury each year, the largest unregulated US source. The EPA rule struck down by the appeals court would have set the cap at 38 tons per year by 2010 and 15 tons per year in 2018.

45. Ford Preparing Green Car Entries

A renewed commitment to build more fuel-efficient and battery-powered cars and hybrids has become central to the high-stakes turnaround plan at Ford Motor Co as it looks to ride out the industry's worst downturn in decades. In recent weeks, Ford has shown it wants back in the green car game by detailing an aggressive plan to roll out electric and plug-in hybrid vehicles over the next three years.

The moves by Ford have already won over critics and set the No. 2 U.S. automaker up to retake ground in the public perception that it had ceded to Toyota and cross-town rival General Motors Corp, whose plans for a plug-in hybrid Chevy Volt have been highly touted.

Ford, the only Detroit-based automaker not already operating under a government bailout, was lauded by environmentalists five years ago when it launched the first U.S.-made hybrid with the Escape SUV and followed up with a bold promise to sell hundreds of thousands more. But Ford's mounting financial problems and sputtering progress toward its goal forced the automaker to abandon its promise just a year later as Toyota Motor Corp cemented its grip on the hybrid market with its Prius.

Now Ford plans to introduce a battery-powered commercial van in 2010, a battery-powered small car the following year and a plug-in hybrid to challenge the Volt starting in 2012.

The stakes are high because Ford's planned investment is coming at a time when the U.S. government is demanding steep increases in fuel economy and has put money forward to help automakers adopt new fuel-saving technologies.

Ford also has made its standard gas engines more efficient, a nuts-and-bolts approach that has won over some critics looking to drive automakers toward improving fuel economy and reducing carbon emissions.

With U.S. auto sales falling 18 percent in 2008 and the downturn in a fourth year, the times have changed and so has Ford's management under Chief Executive Alan Mulally. Ford posted a record \$14.6 billion net loss in 2008, but has said it has enough cash to complete a turnaround without government loans if the downturn does not worsen, distancing itself from GM and Chrysler.

Ford executives say the automaker learned valuable lessons in building the Escape hybrid that advanced the technology for its Fusion hybrid sedan going on sale this year. The new Fusion hybrid can accelerate to up to 47 miles per hour and remain on electric power.

U.S. sales of hybrid vehicles and smaller cars in general surged in 2008 when gas prices shot to above a \$4 per gallon national average in July, but have plunged with a drop in gas prices and the downturn in the economy.

46. Ford Selects Battery Supplier for Plug-In Hybrid

A partnership between Johnson Controls Inc and France's Saft will supply a complete battery system for Ford Motor Co's first plug-in hybrid, due out in 2012, Ford has announced. Ford also said ahead of the Washington Auto Show that seven utilities, including Consolidated Edison Inc, American Electric Power Co and Michigan's DTE Energy Co, will join its ongoing research effort to test rechargeable plug-ins and assess their impact on the electrical grid.

Ford has not identified a vehicle to market but is testing a fleet of Escape hybrid sport utilities with its research partners.

"We are at the point where we need to work with the battery supply base, the utility industry and the government in order to find ways to make electrified vehicles an affordable proposition for consumers," said Sue Cischke, Ford group vice president for environment and safety.

The development adds new momentum in the race among major auto companies to develop mass-market batteries and roll out a commercially viable plug-in.

Johnson Controls Saft will develop a lithium-ion battery for Ford's plug-in vehicle. The five-year supply agreement includes a target of 5,000 units per year.

Johnson Control Saft recently signed a contract to provide batteries for BMW AG's 7 series hybrid car.

Chrysler LLC, which along with GM received a government bailout in December, has shown off three electric car prototypes and said it intends to sell one by next year as well. But analysts say Chrysler trails rivals in this area.

Japan's Toyota Motor Corp plans to market a test fleet of rechargeable hybrids to companies or government agencies by the end of next year. Toyota, a global sales giant with its leading Prius hybrid, is also preparing to build a factory to produce the next generation lithium ion batteries for plug-ins and electric-only vehicles.

47. GM To Import First Volt Engines, Plant On Hold

General Motors Corp has suspended work on a \$370 million engine plant in Michigan, forcing it to import engines for the initial production of its all-electric Chevy Volt, a senior union official told reporters. The move underscores both the pressure on GM to cut costs as it struggles to restructure under federal oversight and on the money-making potential for the plug-in hybrid vehicle.

Even before the decision to ship engines to the United States, GM executives said that they did not expect to make money on early sales of the highly anticipated car. It is scheduled to go into production in November 2010.

GM, which has been pledged \$13.4 billion of U.S. government loans in an emergency bailout, said last year it would build an engine plant in Flint to support the Volt and a new small car, the Chevy Cruze. The Flint engine plant, which was expected to open next year, was expected to build a turbocharged 1.4-liter engine for the Cruze small car and another version to extend the driving range of the Volt. In December, as GM scrambled to save cash and stay out of bankruptcy, the automaker said it was delaying the next phase of construction for the Flint plant but said it expected the delay would be temporary.

Most recently, a GM spokeswoman said some construction contracts for the plant had been canceled and that it would consider other nearby options for building the next-generation of small four-cylinder engines.

GM Chief Executive Rick Wagoner and Michigan Governor Jennifer Granholm had announced plans to break ground on the Flint engine plant in September after state officials helped arrange tax incentives for the construction.

GM is already building a version of the Chevy Cruze at its South Korean subsidiary and could source the early run of engines for the Volt from a supplier there.

Earlier this month, GM announced that Korea's LG Chem would supply the Volt's 400-pound lithium-ion battery pack, the vehicle's most expensive and critical component. GM plans to invest \$30 million to build a Michigan plant that will build battery packs for the Volt from cells supplied by LG Chem.

The Volt, designed to run 40 miles on battery power alone, has become the centerpiece of GM's attempt to reinvent its product line and focus on developing more fuel-efficient vehicles. The car's engine is designed to kick in after its electric-only range is exhausted as a generator that will send power back to the battery to keep the Volt running.

For that reason and the Volt's ability to recharge at a standard electric outlet, GM's design marks a potential advance on current generation hybrids which use both a combustion engine and a smaller battery in parallel.

GM plans to build about 10,000 Volts in the first year of production, eventually ramping up to about 60,000 units per year. The automaker has also said it will use the electric-drive architecture that underpins the Volt for other models, potentially including a more expensive Cadillac.

48. Honda Plans Insight Hybrid below \$20,000 in U.S.

Honda Motor Co said it wants to price the new Insight -- its first real attempt at selling gas-sipping hybrid cars in big volumes -- below \$20,000 in the U.S. market. Japan's No.2 automaker priced the new dedicated gasoline-electric car to start at 1.89 million yen (\$21,140) in Japan, where the car goes on sale on February 6 ahead of other markets. It had said in the past the selling price elsewhere would depend on exchange rates.

"We want to sell it for below \$20, 000," Executive Vice President Koichi Kondo told a news conference to launch the car.

The Insight, a production version of which debuted at the North American International Auto Show in Detroit recently, will have listed highway/city mileage of 40/43 miles per gallon in the United States.

Honda has said the five-door, five-seater Insight, which it is marketing as the first model under a new "Honda Green Machine" campaign, was its first true attempt to mass-market hybrid cars. Honda is targeting sales of 200,000 Insights a year globally, with 60,000 in Japan and about 100,000 in North America.

In the past decade, Honda has sold about 300,000 hybrid cars cumulatively against 1.7 million for Toyota Motor Corp, which was just two years ahead with its first hybrid. Toyota is scheduled to launch the third-generation Prius later this year, and executives have said it would be priced slightly higher than the current version, which starts around \$22,000 in the United States and 2.3 million yen in Japan.

Honda priced the Insight, to be built at the Suzuka factory in Japan, below 2 million yen in Japan, as promised, or about \$5,000 cheaper than the Civic hybrid. It plans to announce final pricing in Europe and the United States shortly before the car goes on sale in those markets, in late March and early April, respectively.

49. Wal-Mart Testing New Hybrid Trucks for Its Fleet

Wal-Mart Stores Inc has announced that it will test two new types of hybrid trucks and two types of trucks powered by alternative fuels as the world's largest retailer tries to make its trucking fleet more efficient. Wal-Mart said it is working with suppliers, including ArvinMeritor and Peterbilt, to develop and test the new technologies.

Wal-Mart has one of the largest private trucking fleets in the world, and vowed in 2005 to make its trucking fleet 25 percent more efficient by the end of 2008. It said the latest tests are an effort to double its fleet efficiency by 2015, from its 2005 baseline.

As part of the pilot program, Wal-Mart said 15 trucks operating in one of its distribution centers near Phoenix will be converted to run on Reclaimed Grease Fuel made with the cooking grease from its stores.

At a distribution center in Southern California, Wal-Mart said it will test Peterbilt trucks that operate on liquid natural gas.

Wal-Mart is also testing a diesel-electric hybrid truck developed by ArvinMeritor, and a Peterbilt heavy duty hybrid truck that uses a diesel-electric hybrid power system developed by Eaton Corp and Paccar Inc.

50. Senator Boxer Says Climate Bill Possible "In Weeks"

The Senate's top environmental lawmaker has offered a preview of major components of climate change legislation she said could be introduced "in weeks, not months." "We are not sitting back and waiting for some magic moment," Barbara Boxer, a California Democrat who chairs the Senate Environment and Public Works Committee, told reporters. "We're ready to go."

Boxer shepherded carbon-capping legislation to the Senate floor last year, the most progress any climate change bill has made in the U.S. Congress. That bill won 48 votes, with 36 opposed, but died after a procedural maneuver by opponents.

Any new legislation to limit emissions of climate-warming carbon dioxide -- such as those from coal-fired power plants and fossil-fueled vehicles -- would build on that earlier measure, but would not follow it exactly, Boxer said.

"We may move in three weeks, we may move in six weeks, we could move in 10 weeks," she said. "We could get a bill out of committee tomorrow ... I want to get a bill out of there that every member has a stake in, every member understands every word of it, and so it will take a while. "It could be weeks, not months, but it will be before the end of this year," she said.

That timeline would dovetail with moves toward an international agreement on climate change, set to be worked out in Copenhagen in December.

Environmental activists, including Boxer, have hailed the new Obama administration's commitment to U.S. leadership in the global process, as well as support for a law to cap carbon emissions and trade allowances for them in the United States.

Boxer's principles for global warming legislation aim for a law that would:

- set "certain and enforceable" short and long-term emissions targets;
- ensure state and local entities keep working to address global warming;
- establish a market-based system that cuts carbon emissions;
- use revenues from this carbon market to help consumers make the transition to clean energy and invest in new technology and efficiency measures;
- ensure a level global playing field with incentives for polluting countries to give their share to the international effort to curb climate change.

51. Federal Court Upholds EPA's Rural Dust Rule

A federal appeals court has denied an industry request to order U.S. EPA to reconsider its decision to regulate dust in rural areas, a move that agricultural groups say could stifle farmers unnecessarily. In its response to a host of legal challenges brought against the Bush administration's 2006 standards for airborne soot and dust, the U.S. Circuit Court of Appeals for the District of Columbia refused to exempt the regulation of farm dust.

The American Farm Bureau Federation and the National Pork Producers Council challenged EPA in 2006 over its decision to regulate coarse particulate matter -- or dust -- in rural areas, arguing that the agency had failed to show any negative health effects associated with the dust.

EPA had considered exempting farming and mining operations, but the agency ultimately decided it could not exclude particular industries.

Farming and agriculture groups said the regulations would hurt their industries, affecting everything from combine dust to feedlot dust and even the dust from gravel roads. But environmentalists argued against the exemption for some industrial sources, saying there was compelling evidence that agricultural dust negatively affected public health and the environment.

In its opinion, the court upheld EPA's rule for farm dust, saying that the industry petitioners "mistakenly equated an absence of certainty about dangerousness with the existence of certainty about safety."

While the judges acknowledged that evidence about the dangers of rural dust is "inconclusive," they said that the agency was not required to wait for conclusive results before regulating a pollutant believed to pose a significant risk to public health.

52. Automakers' Study Claims Poor Fuels Hamper Canada's Efforts to Cut Emissions

The poor quality of Canadian gasoline and diesel fuel is harming efforts to reduce vehicles' tailpipe emissions and overall fuel consumption, according to a report released on January 15th by the Pembina Institute. The report, Fuel Quality in Canada—Impact on Tailpipe Emissions, was commissioned by the Association of International Automobile Manufacturers of Canada. It said fuel economy and vehicle emissions are inextricably linked to fuel quality and that Canada is lagging behind international best practices on fuel characteristics such as sulfur content.

John White, chair of the lobby group and president of Volkswagen Group Canada Inc., said in a statement that "[a]ll Canadians want to save money when they fill up at the pumps, and they want to see reduced fuel consumption and decreased greenhouse emissions." He said, "Vehicle manufacturers are engineering improvements, but we can't do it alone. No question, we need better fuel quality in this country just to bring us to the levels utilized in other jurisdictions."

The federal government announced in early 2008 that it plans to set aggressive standards for vehicle manufacturers by regulating fuel consumption of motor vehicles, starting with 2011 model year vehicles. White said improved fuel quality would be a major factor in helping vehicle manufacturers to meet those targets, as well as to reduce emissions from the 18 million vehicles already on Canadian roads.

Fuel quality can either optimize or degrade vehicle components, with a direct impact on the performance of existing vehicles and the delivery of cleaner vehicle technologies, he said. For

example, the report said that “lean-burn” engine technologies could improve fuel economy by up to 15 percent, but that excessive sulfur in gasoline is preventing Canadians from experiencing the economic and environmental benefits of those technologies.

The lobby group representing Canada's petroleum sector responded to the report by arguing that Canadians already enjoy some of the highest-quality fuel choices in the world. The Pembina Institute report selectively focuses on data to support its conclusions, which are biased and subjective, Peter Boag, president of the Canadian Petroleum Products Institute (CPPI), said in a statement. “This report unfairly casts doubt on the good work of fuel providers, public servants, and the cooperation mechanisms already in place with automakers,” Boag said. “CPPI has in place collaborative processes specifically to ensure that automakers, fuel providers, and government are working together.”

In addition, Boag said the Association of International Automobile Manufacturers of Canada and its members have “regrettably” withdrawn from participation in standard-setting bodies like the Canadian General Standards Board. CPPI will meet with automakers in coming weeks as part of a commitment to ongoing technical cooperation, he said.

SOUTH AMERICA

53. Bolivia Cuts Imports of Used, Diesel Vehicles in Attempt to Decrease Pollution

On December 3rd, Bolivia issued a Supreme Decree prohibiting the importation of older used cars and of smaller diesel vehicles in an effort to limit both government fuel subsidies and pollution. Supreme Decree 29836 prohibits the importation of used cars more than 5 years old, of diesel vehicles with engines smaller than 4,000 cubic centimeters, and of all vehicles that use liquefied petroleum gas. Both diesel fuel and petroleum gas are heavily subsidized by the government.

After one year, the decree prohibits the importation of used cars more than 4 years old and after two years bans the importation of used cars more than 3 years old.

The decree updates Law 3467 of September 2006 and Supreme Decree 28963 of December 2006. Decree 29836's text says the importation of such vehicles has increased, causing “greater use of fuels, risks to health, and to the security of the population due to the production of gases which affect the ozone layer.”

54. Colombia Officials Expect to Cut Water, Air Pollution, Make Diesel Cleaner

Colombian environmental officials this year hope to push ahead with water and air regulations that promote sustainable use of natural resources and seek to reduce urban pollution. During 2009 the Environment Ministry plans to expand and modernize its network for measuring air pollution. It will continue implementing resolutions from June 2008 covering stationary and mobile air pollution sources. The ministry also plans to update regulations for stationary sources of pollution in 2009, and for mobile sources in 2010, according to ministry officials and documents.

This year the state oil company, EcoPetrol, plans to continue reducing the sulfur content in diesel fuels. The nation's traditionally high-sulfur fuels contribute heavily to air pollution across the country and in particular in the capital and largest city, Bogota, which frequently suffers from smog. During 2008, under a 2007 resolution and a February 2008 agreement with Bogota's

mayor and the environmental ministry, the company reduced the concentration of sulfur in its diesel from about 1,200 parts per million to about 200 ppm. This year the resolution requires it to reduce the sulfur content to 50 ppm by year's end. Sulfur concentrations in diesel fuels sold in the rest of the country, which are much higher than Bogota's, are to be reduced to 50 ppm by 2013.

By January 2010, all of the nation's express bus systems must be supplied with diesel with 50 ppm of sulfur. In its agreement with EcoPetrol, the Bogota municipal government promised to buy up and retire older, highly polluting diesel buses. However, Bogota's municipal oversight agency reported that in 2008 the city fell short of its goal for removing old buses from circulation.

To improve monitoring of air pollution, in 2008 the environment ministry developed the National Protocol for Inventory of Atmospheric Emissions to make it possible to compare air quality measurements in different cities. This year the ministry plans to develop a Protocol for the Control and Vigilance of Atmospheric Pollution Generated by Fixed Sources to standardize such measurements. It plans to continue implementing the Information System on Air Quality, which distributes air quality data in real-time over the Internet.

For its part, the Ministry of Social Protection plans to evaluate air and other forms of pollution's impact on health and set priorities. The ministries of the environment and of transportation plan to implement measures to control pollution from boats and ships.

A September 2008 report by the environment ministry noted little reduction in urban air pollution levels and recommended updating regulations, expanding the use of natural gas, and integrating air pollution impacts into land-use planning.

55. Chile to Update Environmental Institutions; Air Pollution Plan for Santiago

A bill to modernize Chile's environmental institutions and bring about the biggest change to the country's environmental legislation since the 1994 Basic Environment Law is set to dominate debate on environmental issues inside and outside Congress this year. Other issues include the construction of hydroelectric dams in southern Chile, many of which are opposed by environmental groups; plans to reduce air pollution, including possible restrictions on the use of older vehicles; and new rules to protect the country's salmon industry, which has been hit recently by the spread of the Infectious Salmon Anemia virus.

The proposed legislation to modernize Chile's environmental institutions and laws was unveiled in July and is now being debated in Congress. It would create a ministry for the environment and an office for environmental compliance and reform Chile's system for evaluating the environment impact of new projects.

Since the environment commission of the Chamber of Deputies (the lower house) forwarded the legislation in November, legislators have proposed more than 100 modifications on behalf of the government and other parties. A key change from the original bill promises the establishment of a ministerial council for sustainable development, a continuation of the existing council that guides the National Environment Commission (CONAMA). But rather than acting as a final arbiter on environmentally controversial projects as the current council does, the new council would be dedicated to overseeing standards and policies dictated by the new ministry and balancing protection of the environment with the country's need for economic development.

Debate also will focus on the powers of the new office for environmental compliance, which have been criticized by the private sector as excessive and dictatorial. The government has suggested that powers for interpreting standards and operating licenses should now lie with the corresponding ministry or the environmental approval system, meaning inspectors will not be able to act as judge and attorney when breaches are uncovered.

Because of the range of interests involved, debate on the bill is likely to be extensive. It also will have to compete for congressional time with a flood of legislation that is expected to deal with the downturn in the economy and the run-up to next December's parliamentary and presidential elections.

This year, the regional government for the greater Santiago region is set to present a reformulated plan to bring air pollution within legal levels by 2011. The plan is expected to limit the number of vehicles, especially older buses and cars not fitted with catalytic converters, when pollution reaches critical levels. It also will increase regulation of wood-burning stoves.

Although the arrival of liquefied natural gas to central Chile in the middle of the year should improve air standards, as industry and power plants reduce consumption of dirtier fuels like oil and coal, rising population and growing car use mean the capital is unlikely to meet the target without more radical measures.

56. Chile Unveils Climate Change Action Plan

On December 4th, President Michelle Bachelet presented Chile's first National Action Plan on Climate Change, outlining measures to be taken over the next four years to prepare the country for the effects of rising temperatures. The facilitating document, approved by the ministerial council of the National Environment Commission (CONAMA), sets out a series of policy guidelines for public agencies regarding climate change and its impacts. The plan, approved during the first week of United Nations-sponsored climate talks held in Poznan, Poland, seeks to guide action by business, universities, and non-governmental organizations, the government said.

At Poznan, Chilean Environment Minister Ana Lya Uriarte presented the action plan as a model that could be followed by other emerging economies. "Chile's position is that all countries, developed or developing, should draw up action plans that imply that each country can show transversal public policies to tackle the challenge of the hour," Uriarte said.

Chile has been a non-Annex I Party to the Kyoto Protocol since February 2005, meaning it is classified under the agreement as being vulnerable to the adverse impacts of climate change or to the potential economic impacts of climate change adaptation measures.

The action plan is divided into adaptation measures to prepare the country for the negative impacts caused by climate change and measures to mitigate Chile's emissions of greenhouse gases.

The adaptation measures are aimed largely at preparing Chile for reduced availability of water, as rising temperatures could cause a decline in rainfall and the retreat of glaciers in the Andes Mountains. These measures include creating an Environment Research Center in the arid Atacama region, with a focus on investigating water resources in the north of the country; starting an inventory of the country's glaciers; installing a glacier monitoring network; and crafting a Glacier Management Strategy.

Chile's climate plan also encourages the construction of desalination plants to provide drinking water to cities in Chile's arid north, the first of which will be built in the northern town of Arica. In addition, the plan calls for a 50 percent increase in the amount of irrigated land through the construction of new reservoirs, and the development of new species varieties for farming and forestry adapted to climate change.

The plan also includes measures to improve the country's ability to predict and respond to flooding and its effects. Under the plan, the government will repair 240 bridges from 2009–2014, will build 180 new bridges from 2009–2020, and will make more temporary bridges available. The plan also calls for greater capacity to tackle yellow fever, dengue, and malaria as well as carriers like *Aedes* and *Anopheles* mosquitoes.

Mitigation measures in the climate action plan are centered largely on the adoption of new energy sources to cut emissions from fossil fuels in transportation and power generation.

They include some previously announced measures, such as the creation of consortia to research second-generation biofuels from forestry products, with about \$11 million in government support; a \$400 million guarantor fund run by the Chilean Economic Development Agency (CORFO) to support new renewable energy and energy efficiency projects; and tax incentives for installation of solar heating or power systems.

Other measures include taking advantage of the energy potential of waste products, primarily from the country's agricultural and forestry sectors; establishing a Renewable Energy Center in 2009; implementing a national biofuels policy; measuring annual emissions from Chile's copper mining, agricultural, and forestry sectors; establishing a labeling system indicating the level of carbon dioxide emissions from new vehicles; creating incentives to promote the use of more energy efficient vehicles, such as hybrid and electric cars; and boosting infrastructure and safety to encourage greater use of alternative forms of transportation, such as bicycles.

57. Peru Implements New Environmental Ministry; Low Sulfur Fuel Delayed

Peruvian authorities will spend this year implementing a series of changes to the environmental protection system made in recent months, including creation of a new ministry. President Alan Garcia established the Environment Ministry May 18, 2008, through Legislative Decree 1013. The ministry was created as part of a larger package of 99 decrees—14 directly related to environmental protection—meant to smooth the way for implementation of a free-trade deal with the United States, the Peru Trade Promotion Agreement. The agreement was signed by U.S. President George W. Bush on December 14, 2007, but has been held up over environmental concerns, as well as labor issues and intellectual property rights.

The Garcia administration in November 2008 formally dismantled the agency that preceded the Environment Ministry, the National Environmental Council (CONAM), and on December 6th, presented the official structure of the new ministry. Besides the minister, the leadership structure includes a Deputy Ministry for Strategic Development of Natural Resources, Deputy Ministry for Environmental Management, General Secretariat, Multi-Sector Environmental Commission, and Environmental Consultative Commission.

Agenda items for the new ministry include expanding the country's landfill system and better management of solid waste. The ministry also plans better protection for the country's forests

and up to 10 air pollution plans to cut back on emissions of sulfur dioxide, hydrogen sulfide and others.

For the 2009 budget for the ministry and agencies folded into it, such as the weather service and a geophysical institute. A budget of PEN 205 million (\$68 million) was requested but less than half, \$31 million was approved. Of this amount, about \$12 million is for the ministry itself.

This minimal budget would be used to tackle the four top environmental problems in Peru: sewage treatment, solid waste disposal, air pollution, and mining liabilities, in that order. The Environment Ministry has among its priority goals for 2009 the implementation of 10 clean air action plans. A first step was the publication of a decree on August 22, 2008, that sets maximum limits on gases, including sulfur dioxide, benzene, hydrogen sulfide, total hydrocarbons expressed as hexane, as well as particulate matter.

The limits will be implemented in a staggered fashion, with the maximum levels for sulfur dioxide and hydrogen sulfide falling continuously from Jan. 1, 2009, through Jan. 1, 2014, when they are to be in line with international standards. The initial target date for the other gases is Jan. 1, 2010.

There is growing concern, however, that a number of steps needed to meet targets are not being taken. The \$1 billion upgrade of the country's principal oil refinery seems to be off the table, as a result of a corruption scandal involving the national oil company. The upgrade is necessary to reduce sulfur in diesel fuel to 350 parts per million (ppm) by 2010 from the current 3,500 ppm. The concession was supposed to be offered in October but was postponed. No date for the project had been set by the end of 2008.

Another trouble spot could be postponement of legislation requiring the use of clean additives in fuels. A 2003 law promoting the use of biofuels mandates 2 percent of biodiesel in diesel fuel as of Jan. 1, 2009, and 7.8 percent of ethanol in gasoline by Jan. 1, 2010. The government has remained silent about its plans.

58. Peru's Congress Approves Agency to Check for Environmental Compliance

On February 10th, the Peruvian Congress passed legislation creating the National Environmental Evaluation and Monitoring System aimed at guaranteeing compliance with environmental legislation. The legislation was submitted on December 18th, 2008, by the executive branch as the final step in implementing the different agencies created last May as part of the Environmental Ministry. President Alan Garcia has signaled that he will sign the bill into law.

The new system makes operational the Environmental Evaluation and Oversight Agency (OEFA).

"The new system will guarantee compliance with environmental standards, with maximum permitted limits (of contaminants), but we must be clear that it is not a regulatory body. It will monitor and fine individuals and companies that violate laws," Environment Minister Antonio Brack stated in Congress after the bill was passed. Article 3 of the law also states that the environmental system will ensure any fines meted out by "diverse state agencies will be done in an independent, impartial, quick, and efficient manner."

The Environmental Ministry is in charge of determining future fines, but the law does set some guidelines. For example, fines cannot exceed 100 tax units (equivalent to \$118,000 in fiscal year 2009) for companies that disregard precautionary measures, such as the temporary closure of a factory, ordered by environmental inspectors.

Under the legislation, supervision of energy and mining companies moves to the Environment Ministry's OEFA. This function was formerly performed by the Regulatory Agency for Investment in Energy and Mining, which will return to its original role of setting rates and ensuring compliance with investment commitments. Mining and energy are the two most important components of the Peruvian economy, accounting for \$21.2 billion of the \$31.6 billion in exports in 2008, according to the Central Bank.

59. Brazilian State Oil Firm to Invest \$6 Billion to Produce Low-Sulfur Diesel

Brazil's state oil company, Petrobras, plans to invest \$6 billion in refinery additions to produce low-sulfur diesel for all trucks and buses in the country's 14 largest cities by 2013, thus lowering urban air-pollution levels, according to a Petrobras spokeswoman.

An October 2008 agreement reached by Petrobras, the federal prosecutors' office, the federal and Sao Paulo state governments, and Brazil's eight bus and truck manufacturers requires a gradual phase in of low-sulfur diesel, with new trucks and buses required to use the cleaner fuel to comply with more stringent diesel emissions limits by 2012.

To comply with the agreement, Petrobras plans to spend \$4 billion to produce enough S-50 diesel (with a sulfur content of 50 parts per million) to supply all buses and trucks in Brazil's 14 largest cities by 2012. The state oil company then will spend \$2 billion more to shift production to ultra-low, S-10 diesel by 2013.

The switch to S-50 diesel from the current S-500 diesel fuel used in trucks and buses in Brazil's 14 largest cities will reduce particulate matter emissions by 5 percent to 10 percent in those cities, the Petrobras spokeswoman said.

60. Costa Rican Officials Seek Greater Control over Pollution

This year Costa Rica's Ministry of the Environment and Energy hopes to improve its regulation of water and air pollution and to create an air quality plan, according to officials. In air issues, Costa Rican officials hope to see an air quality plan finalized in the first trimester of 2009. The plan would create a national network of air quality monitors. Officials plan to work with private industry to reduce emissions and to promote the replacement of older vehicles with newer ones.

The Environment Ministry, together with the ministries of Health and of Science, is working to create clean production agreements with industries, beginning with livestock and vegetable processing companies, according to an environmental official. Although specific goals have not been set yet, an air quality official told the press that the target is emissions reductions of 20 percent to 30 percent.

Costa Rica also plans to continue programs to reduce the use of ozone-damaging substances so that they are completely eliminated in 2010. Costa Rica has collected some 3.5 tons of ozone-damaging substances, which the ministry plans to destroy, said an official.

ASIA-PACIFIC

61. Major Legal Upgrades Possible in China's Pollution Laws and Policies

This year in China will not bring a flurry of environmental legislation, but will include some changes to existing law and final touches on major legislation as policymakers eye broader concerns like carbon dioxide emissions and a slowing economy. China's environmental policy watchers say a few key regulatory items and implementation dates loom in 2009. But policymakers are apt to be busy dealing with carbon-emissions strategies ahead of the December 2009 United Nations Climate Change Conference in Copenhagen.

China is now, by most measures, the world's leading producer of climate change-causing emissions. Although it signed on to the Kyoto Protocol as a developing nation not bound to emissions targets, pressure on China will increase ahead of the Copenhagen talks to agree to measurable standards. In addition the incoming Obama administration may mean a lost ally for China in united opposition to mandatory emissions caps.

The global economic downturn also is likely to preoccupy China's central government. There are concerns that China's slowing growth will push environmental issues to the back burner, although the central government's own economic stimulus package includes clean development and environmental remediation goals. The \$586 billion, two-year economic spending plan is not specific about how much will be spent on environmental programs, but central planners have promised to make clean development a key goal and to change China's heavy dependence on polluting industries.

In more specific areas, Chinese environmental law-watchers hope this year will bring better coordination of enforcement efforts between central and local governments. The country's Circular Economy Law, approved by the National People's Congress in August 2008, went into effect Jan. 1, although implementing regulations have not yet been issued. The law, several years in the making, requires emissions-reduction plans at the local government level, targeting heavy-emitting industries like concrete and steel production.

The law puts the onus on local governments, unlike many of China's already tough but unenforced environmental laws. It requires local governments to issue detailed plans on which industries to target for reduced emissions and encourages the use of alternative fuels and clean production. Originally the law focused partly on household consumption of water, electricity, and gas, but the final version focuses primarily on industry. The law also targets farm consumption and emissions, all as part of the central government's push to reduce emissions 20 percent by 2010.

While the National Development and Reform Commission admitted in October 2008 that it is far behind on its 2010 goals, it has measured a 5.4 percent increase in overall energy efficiency.

Also on the horizon this year is the expected unveiling of major changes to the country's Law on Prevention and Control of Atmospheric Pollution, possibly including stricter emissions limits on automobiles. The emissions law was first approved in 1995 and most recently amended in 2000, before China's manufacturing and industrial sectors exploded and emissions levels soared.

Expected amendments to the pollution law also include placing more onus on local governments for enforcement, likely through financial incentives and improvements in the licensing system for polluting entities.

Besides those two sweeping law changes, China is expected to clarify its Environmental Impact Assessment Law, experts said. Although the basic law is sound, it needs further definition to ensure that the impact assessment process is applied as intended to all new or additional products that alter the natural environment.

Other potential changes in China's environmental law for 2009, according to the experts, are:

- Passage of a new energy law;
- Limits on construction of new, coal-fired power plants;
- Possible action on the long-awaited Ozone-Depleting Substances Act, to bring China formally in line with Montreal Protocol emissions standards;
- Improved systems for data collection to gauge the impact of China's pollution on human health, along with greater attention to legal remedies for health-harming pollution cases; and
- Increased opportunities, codified in law, for regular citizens to have a stake in the decision-making process for new projects that affect the environment and potentially human health.

62. Minister Says Financial Crisis Will Test China's Environmental Progress

China's environment minister has promised to keep an eye on the potential for worsening pollution as China undertakes an economic stimulus package that could lead to a revival of unclean production, state media reported on January 13th. Zhou Shengxian, head of the Ministry of Environmental Protection (MEP), told a conference in Beijing that his agency will closely monitor production facilities as the economic stimulus endeavor gets under way, the China Daily newspaper reported.

Zhou said economic spending would revive polluting factories like cement and steel production facilities that had gone dormant in recent years, the newspaper said. In addition, Zhou warned, companies losing money in the financial crisis could turn back or reduce their anti-pollution measures and could stop using more expensive clean technology.

China is embarking on a two-year, \$586 billion stimulus plan that relies heavily on infrastructure construction and upgrades, as well as tax reform and projects designed to attract private investment. Central government leaders unveiled the plan late in 2008 in response to growing concerns over the impact the global financial crisis has had on China's manufacturing sector, a pillar of the country's economy.

The ministry has indicated decreases in the last year in China's emissions of sulfur dioxide and also in chemical oxygen demand, a measure of water pollution. Environment ministry officials have credited clean technology, better enforcement of already strict pollution laws, and a slowdown in industry.

China has not yet released formal details of pollution data from 2008, but Zhou did say pollution reduction will have to increase in 2009 to meet central targets set five years ago.

63. Beijing Bans High-Polluting Vehicles, Uses Incentives, Fines to Remove Dirty Cars

Aiming to capitalize on the push for cleaner air generated by the run-up to the 2008 Summer Olympics, Beijing has taken further steps to reduce heavily polluting vehicle traffic. It is using

financial incentives to remove 350,000 additional vehicles from its roads, state media reported on December 31st. New rules took effect on January 1st, barring “yellow label” vehicles—heavily polluting trucks and older vehicles that fail to meet tighter emissions standards — from driving within most of the city, according to the Xinhua news agency. The initial ban prohibits those vehicles from driving within the 5th Ring Road, one of the major highways that encircle the capital. The ban will be expanded to areas within the 6th Ring Road by October 1st.

The rules impose fines on violators but also offer incentives of up to \$3,700 to drivers to scrap their “yellow label” vehicles.

Du Shaozhong, deputy director of the Beijing environmental protection bureau, said the affected cars make up 10 percent of vehicles on Beijing's roads but account for half of the emissions measured, including carbon dioxide, sulfur dioxide, and particulate matter, according to Xinhua.

Authorities implemented widespread bans on vehicles in Beijing ahead of and throughout the 2008 Olympics in August. The city also has continued a prohibition, calculated through license plate numbers, which prevents certain vehicles one day every week. Environmental officials have not released specific figures but have said that air quality in the city has improved significantly since.

64. Thai Climate Plan Envisions Clean Technology; Air Pollution Also on Agenda

Thailand is spearheading its 2009 environment strategy with policies and regulatory adjustments that aim to promote renewable energy and clean technologies. The Thai Cabinet in January 2008 endorsed a strategic plan to tackle climate change spanning 2008–2012. The plan aims to mitigate greenhouse gas emissions, boost public awareness with a new carbon labeling system, and foster international cooperation.

For its part, the energy ministry has raised its target for renewable energy to 10 percent of total national energy generation by 2011 from 8 percent. Electricity generated by fossil fuels is gradually being replaced by power generated from biomass, biogas, solar cells, wind power, mini-hydro, and waste, which now represent 4 percent of total electricity usage. This is almost double the renewable energy usage of 2007.

The government also is putting pressure on oil refiners to produce fuel that meets the low sulfur requirements for diesel fuel in the Euro IV standards, which will be implemented by 2012.

The ministry is seeking to promote renewable energy through price and tax incentives, special higher rates for power prices, and investment in research and development. To this end, the Department of Alternative Energy Development and Efficiency has budgeted 15.6 billion baht (\$446 million) to encourage the use of renewable energy in the next 15 years; roughly half the department's budget would be used to develop biomass energy generation through upgrading technology, building pilot projects, and improving the efficiency of raw material consumption.

Thailand has already made substantial progress in implementing the Kyoto Protocol's Clean Development Mechanism (CDM) with 38 projects approved and another 22 in the pipeline, according to the Thailand Greenhouse Gas Management Organization. The 38 projects are expected to reduce 2.8 million tons of carbon dioxide equivalent emissions annually.

Thailand's oil refineries are under pressure to upgrade to boost product quality to meet the Euro IV emission standards, which the Thai government plans to implement from January 1, 2012.

The Euro IV standards for diesel require a sulfur level of 50 parts per million (ppm), or 0.005 percent; Thailand currently uses Euro III diesel with a sulfur level of 350 ppm, or 0.035 percent.

Automakers have warned that the governments push in 2008 to introduce the so-called E85 fuel, a blend of 85 percent ethanol and 15 percent premium petrol, could cause the country's 2007 eco-car program to collapse. Launched by the previous military-led government, the eco-car program provides incentives for automakers to produce cars with a maximum engine size of 1.4 liters that meet strict fuel efficiency and emission standards.

The government in May cut excise tax rates for E85-compatible cars and reduced corporate taxes for ethanol producers. Cabinet ministers also agreed to require state vehicles to convert to natural gas and to strictly enforce speed limits of 90 kilometers per hour (56 mph) to conserve fuel.

But carmakers said they would need to invest huge sums of money to upgrade their production lines for E85, adding that the E85 tax incentives pose a threat to the plans of six manufacturers already committed to the eco-car program, including Toyota, Honda, and Nissan. The automakers contend that with E85 used in only a few countries, promoting it locally could have major ramifications for Thailand's position as an auto manufacturing hub and that it would also significantly reduce export opportunities.

The Greenhouse Gas Management Organization is implementing a new system of carbon labeling to help consumers identify goods manufactured with minimal release of greenhouse gases into the atmosphere. The emission labels will show five different levels of greenhouse gas reduction, ranging from 10 percent to 50 percent. A 10 percent label would mean the manufacturer has lowered its carbon dioxide emission level by 10 percent from the conventional process.

65. Singapore Government Offers Incentives to Boost Energy Efficiency

Singapore is offering industries and households incentives to stimulate energy efficiency and reduce consumption as part of its strategy to combat climate change in 2009. The country's carbon emissions are estimated at a mere 0.2 percent of the global total, but the government is concerned that the tiny island-nation could be labeled a disproportionately high contributor of greenhouse gases due to its status as a regional transportation and logistics hub.

As is the case throughout most of Asia, Singapore has not set concrete targets for greenhouse gas reduction. But its National Climate Change Strategy, published in March 2008, spells out plans for improved energy efficiency, reduced dependence on carbon-intensive fuels, and expansion of carbon "sinks" such as forests. It reiterates the country's commitment to international efforts to combat climate change.

As 79 percent of its electricity is generated by natural gas—which the government says emits 40 percent less carbon dioxide than fuel oil per unit of electricity generated—officials believe Singapore needs to focus on improving energy efficiency and reducing consumption rather than tackling the pollution impacts of power generation.

The National Environment Agency (NEA) in November 2008 unveiled an incentive scheme to help companies defray the cost of buying energy-efficient technologies and equipment. It set aside 22 million Singapore dollars (\$15.2 million) for a program called Grant for Energy Efficient Technologies (GREET), which aims to help companies achieve energy savings in the next five

years. Under the scheme, NEA will co-fund up to 50 percent of the qualifying costs of energy-efficient equipment or technologies, or up to S\$2 million (\$1.38 million) per project, whichever is lower.

Singapore is also pressing ahead with its commitment under the Kyoto Protocol's Clean Development Mechanism (CDM). It currently has four CDM projects, by Bee Joo Industries (waste heat recovery), Power Seraya Ltd. (switching from fuel oil to natural gas), Kim Hock Corp. (biomass energy), and IUT Global (food waste biomethanization).

Singapore's Clean Energy Program Office has S\$50 million (\$34 million) to fund clean energy research projects and S\$25 million (\$17 million) for clean energy scholarships. Across all agencies, the Singapore government has set aside S\$350 million (\$244 million) for clean energy projects.

The Economic Development Board said its strategy to propel Singapore ahead in the race for clean energy gained a huge boost in late October 2007 when Norway's Renewable Energy Corp.—a solar energy company—agreed to build the world's largest solar energy plant in Singapore with an investment of \$4.3 billion.

The NEA has also launched a program dubbed the 10 percent Energy Challenge, aimed at raising awareness among Singapore residents about how they can mitigate climate change through everyday actions. The program offers prizes, including a fuel-efficient hybrid car, for households that show a 10 percent cut in electricity consumption by using energy-efficient refrigerators, air conditioners, LCD TVs, and lighting products. Official data show that households account for roughly 20 percent of Singapore's electricity consumption. Air conditioning and refrigeration account for the lion's share.

Singapore regularly adjusts emission standards for new vehicles, as well as techniques for testing and monitoring of emissions from existing vehicles. In October 2006, it introduced the Euro IV emission standards for new diesel vehicles. However, its key refineries (SRC, ExxonMobil, and Shell) are as yet unable or unwilling to meet the Euro IV emission standards of 1 percent benzene, 50 parts per million sulfur, 35 percent aromatics, and 10 percent olefins, and this has raised serious doubt as to whether the broader Euro IV standard can be achieved by the 2012 target date.

66. Mazda to Cut Catalyst Precious Metal Use in Mazda3

Japan's Mazda Motor Corp has announced that it will introduce technology that would slash the amount of precious metals used in emission-cleaning catalysts by 70 percent in the new Mazda3 model, due for sales globally this year. Mazda said it would be the world's first application of the single-nanocatalyst technology, which will reduce precious metals use in the Mazda3 compact car to 0.2 g from 0.6 g. The technology will be rolled out globally on certain models.

Japan's Nissan Motor Co last year introduced nanotechnology that would halve the amount of precious metals used in the new Cube.

Using particles as small as a few billionths of a meter, nanotechnology prevents fine metal particles from clustering in catalysts, enabling engineers to use smaller amounts of precious metals to clean exhaust emissions.

67. Tokyo to Encourage Ships to Hook Up To Electricity at Pier

The Bureau of Port and Harbor for the city of Tokyo will encourage ships anchoring at the port to hook up to electrical wires instead of running engines for power to help reduce global energy consumption and stem greenhouse gas emissions, bureau officials confirmed on January 13th. The practice also will reduce emissions of nitrogen oxides, sulfur oxide gases, and other noxious components of ship exhausts, the bureau said.

The bureau will start offering the electricity service for ships at Hinode Pier in downtown Tokyo starting April 1st, initially for inland and coastal ships such as ferries, large pleasure cruisers, and freighters totaling an estimated 4,000 vessels in the first year, it said. Ships that use the service will pay Tokyo Electric Power Co. for the electricity.

Tokyo is drafting a medium-range target to reduce the city's carbon dioxide emissions 25 percent by 2020, compared with 2000 levels.

According to the Ministry of Land, Infrastructure, Transport and Tourism, if all ships calling on Japanese ports stop engine idling and instead use electricity from land, carbon dioxide emissions can be reduced by 1 million tons or to less than half of current emissions from ships. Noxious gas emissions can be trimmed by as much as 90 percent from current levels, according to Ministry estimates from 2008.

Tokyo annually records about 25,000 port calls, of which 6,500 are foreign ships, the Bureau of Port and Harbor said. Ships that anchor at Tokyo ports all currently keep engines in idle mode to power onboard lighting and equipment. The idling engines spew large quantities of nitrogen oxides, sulfuric oxide gases, and particulate matter, because they burn bunker oil, which is much heavier in texture than heating oil, diesel, or gasoline, the bureau said. As a result and contrary to general perceptions, emission levels for nitrogen oxide and sulfur oxide gases in the Tokyo harbor area are as much as 30 percent higher than in the city center, even though there is far less motor vehicle traffic near the harbor.

68. Pertamina Guarantees Gasoline and Diesel Supply for the Philippines

State oil and gas company PT Pertamina, the sole Philippine distributor of subsidized fuels, has announced that the company had secured the supply of Premium gasoline and diesel following shortfalls of the two fuels in several gas stations. Achmad Faisal, Pertamina's director for sales and marketing, said the company had ratcheted up its fuel delivery to anticipate gasoline and diesel scarcity.

Faisal also said the national stock for Premium gasoline and diesel in the last three days was at a secure level. The total domestic demand for Premium gasoline reaches 54,000 kiloliters a day and diesel, 30,000 kiloliters a day. Faisal said that, for the last three days, Premium stocks reached 2.76 million kiloliters or enough for the next 13 days. Diesel stocks stand at 5.28 million kiloliters, enough for 28 days.

Recently, 129 gas stations out of 4,300 Pertamina's stations ran out of Premium gasoline and diesel. Pertamina said the shortfalls had nothing to do with the fuel supply, but rather were due to delays in services over the holidays when most banks closed as well as to the company's adapting to a new online system.

69. South Korea Announces 'Green New Deal' But Relaxes Some Green Rules

South Korea's new economic stimulus plan will mobilize 50 trillion won (\$36.9 billion) in government and private-sector spending between 2009 and 2012 to create 960,000 "green jobs" in environment-friendly infrastructure, energy, and technology development, the Ministry of Strategy and Finance said on January 9th. Dubbed the "Green New Deal," the multiyear plan will combine job growth with environmental efforts in a way that could bring many changes to the country's infrastructure, industry, and people's quality of life.

"The Green New Deal idea is about integrating job creation policy with a low-carbon, environment-friendly, and resource-saving strategy for green growth," the ministry said in a statement.

Green economic development is a new focus of South Korean President Lee Myung-bak's 1-year-old administration, which is facing the prospect of the country's first economic recession in a decade. The export machine that drives Asia's fourth-biggest economy has been sputtering since last year's outbreak of the global financial crisis.

The Green New Deal is structured around nine keystone projects including environmentally friendly river management, mass transit reforms, and renewable energy promotion. Among the planned programs are 1,300 kilometers (808 miles) of bike paths alongside major rivers and 2 million new homes powered by solar, wind, and other types of renewable energy.

The plan also calls for expanding the nation's high-speed railway network as a low-carbon alternative to motorways and replacing 20 percent of public building lighting with more energy-efficient light-emitting diode (LED) bulbs.

The government will invest 3 trillion won (\$2.2 billion) in renewable energy technology development by 2012 and will provide tax incentives for households, consumers, and producers adopting green technology, including a tax break worth more than 3 million won (\$2,200) for hybrid car purchases.

Meanwhile, the growing economic crisis is forcing the government to rethink some environmental laws and regulations already in force or planned. An official at the Ministry of Environment's Environmental Strategy Office told the press, "We were going ahead of developed countries on some environmental regulations, and we need to slow down." The Ministry of Strategy and Finance also said in its 2009 economic outlook released in December that "excessive" environmental regulations of businesses would be relaxed. For example, the Ministry of Environment will delay its plan to impose limits starting in July on emissions of particulate matter measuring 10 micrometers or less (PM-10) for heavy polluters in and around the capital city of Seoul, according to both ministries.

Similarly, the scheduled expansion of the air pollutant emissions control program targeting large workplaces in the capital region will be scaled down. The expansion, initially scheduled to start in July, would have broadened the scope of companies subject to emissions limits on nitrogen oxides, sulfur dioxide, and particulate matter.

Currently, workplaces in the heavily developed capital region that generate more than 30 tons of nitrogen oxides annually are required to restrict emissions to limits imposed by the Ministry of Environment.

The government also is rolling back tough restrictions on locating factories in overdeveloped areas and nature preservation zones as part of the corporate deregulation initiative pledged by the Lee Myung-bak administration.

70. Nissan, NEC to Spend \$1 billion On Battery Output: Report

Japan's Nissan Motor Co and NEC Corp will invest at least \$1.1 billion to make lithium-ion batteries for about 200,000 electric and hybrid cars annually in 2011 or later, according to the Nikkei business daily. Nissan, NEC and NEC Tokin Corp have a joint venture to start manufacturing lithium-ion batteries from next year. It will have an initial capacity to supply 13,000 units a year, which will be first be used in forklifts.

The companies have said they plan to ramp up annual capacity gradually to supply 65,000 units in 2011 for use in Nissan's in-house hybrid car and electric vehicles due in 2010.

The Nikkei said that Nissan and NEC had decided to bring the plan forward, building a new factory in Japan in 2011 or later. A spokesman at NEC said the venture was considering further investment and capacity expansion but no specific figure had been decided.

The venture, Automotive Energy Supply Corp (AESC), is also considering setting up factories in the United States and Europe in a bid to tap low-interest loans offered by local governments for the production of environmentally friendly vehicles, the paper said. The battery joint venture had said in May that it would invest 12 billion yen over three years to manufacture lithium-ion batteries, seen as key to making electric cars practical.

Nissan is developing electric vehicles with French partner Renault SA. A top Renault executive told reporters in October that the Nissan-NEC venture was considering producing the batteries in France to supply its first electric vehicles.

AESC also aims to supply other vehicle makers in what promises to become a competitive field.

Japan's Toyota Motor Corp and Mitsubishi Motors Corp both have their own joint ventures to develop and produce lithium-ion batteries. Honda Motor Co this month announced a joint venture with GS Yuasa Corp -- also Mitsubishi Motors' partner -- to produce and sell lithium-ion batteries mainly for hybrid cars.

While demand for cars falters around the world, automakers are looking to speed up the roll-out of next-generation vehicles to sharpen their competitive edge.

AESC is held 51 percent by Nissan, 42 percent by NEC and 7 percent by NEC Tokin.

71. Australia GM Unit to Build Small Car

The Australian arm of General Motors has announced that it will build the first fuel-efficient small car in decades after securing government funding and as GM moves onto taxpayer-backed support in the United States. As sales of large-engine family cars traditionally favored by Australians slide amid tough financial conditions and global warming fears, GM's Holden said it would build a small four-cylinder car in South Australia State from 2010.

Sales of new motor vehicles in Australia slid 5.2 percent in November, the Australian Bureau of Statistics said earlier on Monday, the fifth straight month of falls. Sales were down a steep 17.8 percent from November last year.

Holden has not built a small car since the 1980's, but GM said consumers now wanted smaller, fuel efficient vehicles as the center-left government moves to introduce a carbon trading regime to slash local carbon emissions.

In November, Prime Minister Kevin Rudd lifted support for Australia's car industry to A\$6 billion (\$4 billion) to offset tariff cuts and the global economic slowdown, including a A\$1.3 billion "green fund" for environmentally-friendly cars. Rudd, who attended Holden's announcement, said the government would provide A\$150 million to help build the car, which would be part of the global Delta small car platform.

Australia's government hopes to bolster its own domestic A\$7.7 billion industry which builds around 320,000 vehicles each year and employs about 65,000 people, accounting for 6 percent of local manufacturing. Only three car makers, local subsidiaries of Ford Motor Co, Toyota Motor Corp and General Motors Corp, manufacture vehicles in Australia. Mitsubishi Motors Corp closed a plant in South Australia during 2008. Ford reversed the planned closure of an engine plant in Victoria State after securing national government support.

Toyota said it would build a medium-size hybrid after Rudd's promise of financial help for development of green cars in one of the world's top per-capita polluting countries.

72. Hong Kong Cooperates With Mainland to Control Pollution from Factories

The Hong Kong Special Administrative Region aims to tighten its ties with mainland China in 2009 on key areas like emissions controls to battle air pollution and other measures to improve the overall regional environment, officials said. Chief among policy measures for the Hong Kong Environmental Protection Department this year will be closer cooperation with Chinese officials on controlling emissions in the Pearl River Delta, which is China's main manufacturing base, the department said.

Emissions are apt to slow this year as China's manufacturing base weakens amid the global economic downturn and decreasing demand, but Hong Kong officials said they will continue to press for better regional controls on air and water pollution.

In addition, the department said, Hong Kong will join with China to create targets for vehicle emissions in the region, develop clean fuels and clean power sources, and conserve energy. Hong Kong introduced Euro V standards on gasoline vehicles as of January 1st and will implement tightened standards for diesel later in the year, according to the Environment Department.

In the realm of overall air quality, the regional and mainland governments are hoping to reduce air emissions by 40 percent through 2010 and to return emissions to pre-1997 levels in the next few years. A proposed amendment to the Air Pollution Control Ordinance would limit total permissible emissions from power plants from 2010 onwards and allow power plants to engage in emissions trading to meet their caps, the department said.

Energy efficiency measures on the horizon include mandatory compliance with building codes related to energy and implementation of the second phase of a regional plan to switch to efficient lighting.

73. India Pre-Poll Gift: Petrol Price Cut by Rs 5, Diesel by Rs 2

A day after UPA chairperson Sonia Gandhi told a rally that fuel prices would be reduced soon, the Centre on Wednesday reduced petrol prices by Rs 5 a liter, diesel by Rs 2 and cooking gas by Rs 25 per cylinder. The new prices became effective from midnight.

The Cabinet Committee on Political Affairs decided against raising excise and import duties as this would have pared the quantum of reduction. "This is not the time to raise duties. It is time to pass on maximum relief to people, particularly farmers. The cuts this time have brought pump prices below the levels in June 2006 when oil was nearing its peak of over \$147 a barrel," oil minister Murli Deora told Times of India (TOI).

The farm and transport sectors are major consumers of diesel. The lowering of diesel's price is thus expected to help reduce inflation and increase the impact of the government's economic and fiscal stimulus packages.

The suggestion to free motor fuel prices of government controls too was shelved for the time being as there is a possibility that prices may have to be raised just before the Lok Sabha elections, if the firm trend coming through in the international market holds. Besides, such a move is also seen as unsustainable if a permanent mechanism is not worked out to compensate state-run oil marketing firms for their losses on cooking gas and kerosene sold through ration shops.

With the government and UPA more or less in election mode, the political imperatives clearly dominated as pressure for price cuts mounted in view of present low costs of crude. The government can be expected to be in a populist mode in the run-up to a formal announcement of the poll dates by the Election Commission and the sentiment is sure to be reflected in the speech accompanying the vote on account in Parliament next month.

With international crude moving in a range of \$40-45 a barrel, state-owned oil marketing firms are making a profit of almost Rs 10 a liter on petrol and less than Rs 4 a liter on diesel. But they continue to lose almost Rs 33 on each cooking gas refill and a tad over Rs 12 on every liter of kerosene sold through ration shops.

Petroleum secretary R S Pandey said the CCPA also decided that the losses accumulated by state-run oil marketing firms during crude's high run — as well those being incurred on cooking gas and kerosene sold through ration shops -- will be compensated through oil bonds. The quantum of bonds will be calculated on the basis of their audited results after the end of the fiscal.

Despite recent softening of international crude prices, state-run oil firms are expected to end the fiscal with a loss of Rs 1,01,445 crore on motor and kitchen fuel sales. This is substantially lower than the Rs 2,45,305 crore losses projected in July when global crude had peaked at over \$147 a barrel. The mix of crude India buys has averaged approximately \$45 per barrel this month against the December average of over \$40. The Indian mix has averaged \$93.61 per barrel this fiscal against an average of \$79.25 a barrel in 2007-08.

While the government thrashed out the details, many petrol pumps ran dry as they had reduced stock in anticipation of the impending price-cut. Indeed, petrol pump owners have been keeping their stocks low since Deora's announcement that another round of cuts was in offing. After announcing a reduction of Rs 5 a liter in petrol and Rs 2 a liter in diesel prices on December 6, the oil minister had said, "This is not the end".

74. Toyota India to Bring In Land Cruiser Diesel

Toyota India is planning to add power to its portfolio in India and will bring in the Land Cruiser diesel SUV soon. The Land Cruiser, one of Toyota's best-known models globally, will mark the company's push in the diesel SUV segment and will be imported as a fully-built unit, Sandeep Singh, deputy MD (marketing) of Toyota's Indian JV Toyota Kirloskar Motors (TKM), said.

"The Land Cruiser is under study and the recent changes to the regulations governing the import of vehicles give us an opportunity to bring the model to India," Singh told TOI after unveiling a new facelift-version of its multi-purpose vehicle Innova.

Toyota already sells the Prado range from the Land Cruiser's family, but this comes with a petrol engine, restricting its monthly sales volumes to low double digit figures. "We are hopeful that a diesel engine will give us more volumes and help get a higher market share," Singh said.

The new Land Cruiser range is likely to cost upwards of Rs 40 lakh⁸, considering that it will attract over 100% import duty. At this price, it will be priced a notch higher than the Prado that is currently retailed around Rs 35 lakh.

Apart from the Land Cruiser, the company is also expected to drive in the compact off roader Fortuner in India this year. These models apart, Toyota is aggressively working towards launching an all-new compact car in the Indian market by 2010-end that would mark the company's entry into the high-volume small car category.

Currently, Innova the company's big volume product in India has an indigenization level of 55% while the Corolla sedan has 35%.

75. Hyundai Motor, Kia Surge on Obama's Auto Policies

Hyundai Motor Co., South Korea's largest automaker, and Kia Motors Corp. rose by the most in more than a month in Seoul trading on speculation the carmakers may benefit from U.S. policies on stricter vehicle emissions rules and higher fuel-efficiency. Hyundai jumped 12 percent to close at 47,000 won in Seoul, while Kia surged 11 percent, the most since Dec. 16, to 7,520 won. The benchmark Kospi index gained 5.9 percent.

On January 26th, President Barack Obama said his administration will finish work on new federal rules requiring cars and light trucks to be more fuel-efficient by 2011. He also directed the Environmental Protection Agency to consider approving California's request for a state program aimed at cutting auto emissions tied to global warming by 30 percent by 2016.

"The comment spurred anticipation that Hyundai and Kia, which are less-reliant on SUVs, thus have higher fuel-efficiency, may gain ground in the U.S., driving up shares," said Yang Hee Joon, a Seoul-based analyst. Yang rates Hyundai as "buy."

⁸ 100,000

The U.S. is Hyundai and Kia's biggest market after Korea.

76. Top 3 Chinese Automakers Take Almost Half of Domestic Market

The top three Chinese automakers in terms of sales volume took 48.7 percent of the domestic market in 2008, up 1.8 percentage points year-on-year, the China Association of Automobile Manufacturers (CAAM) said in a report. Shanghai Automotive Industry Corporation (SAIC), China First Automobile Works Group Corporation (FAW Group) and Dongfeng Motor Corporation sold a total of 4.57 million automobiles last year, according to the CAAM.

SAIC's sales volume rose 10.72 percent year-on-year to 1.72 million units in 2008. SAIC-GM-Wuling and Shanghai Volkswagen, two joint ventures of the SAIC, sold the most passenger vehicles and the second largest amount of sedans, respectively.

The top sedan seller was FAW-Volkswagen, a joint venture between the FAW Group and Volkswagen, which sold 499,000 sedans in 2008. The FAW Group sold more than 1.53 million vehicles in total, up 6.75 percent. Its sales revenue is estimated to grow by 8.8 percent to 218 billion Yuan (\$318 billion) in 2008. Both the sales volume and sales revenue hit a new high for the FAW Group since it was established in 1953.

Among the three automakers, Dongfeng Motor witnessed the fastest growth. Its sales volume rose 16.12 percent year-on-year to 1.32 million units in 2008, which surpassed the country's average growth rate by 9.42 percentage points. Dongfeng Motor's sales revenue is estimated to increase by 15 percent to 190 billion Yuan in 2008.

77. China's Auto Industry Gets a Shot in the Arm

The sales tax on vehicles with engines of less than 1.6 liters will be halved and the exchange of old vehicles for new ones with smaller engines will be subsidized to boost the auto industry in China. And sales taxes are cut from 10 percent to 5 percent from January 20th.

The stimulus package for the country's auto industry, the third largest in the world, was announced by the State Council after its sales growth fell to a 10-year-low of 6.7 percent last year. The package is expected to boost the steel industry and is designed to also promote fuel-efficient and low-emission vehicles.

"In order to adjust and revive the auto sector, we must implement a proactive consumption policy to stabilize and boost auto demand," the State Council said. "Any unreasonable rules" hampering auto sales would be removed in order to spur demand.

The move, likely to benefit more than 80 auto- and steel-related firms, is part of a series of industry specific policies to stimulate the economy.

The government is expected to release supportive policies for eight other industries, including shipbuilding, petrochemicals and textiles, in the near future.

Analysts said the package would help the two pillars of the national economy immensely. "The wide-ranging supportive measures will certainly give the auto industry a shot in the arm," said Jia Xinguang, a Beijing-based auto analyst. "But it's hard to say how big an impact it would have in the short term", he said.

About 9.38 million vehicles were sold in the country last year against a target of 10 million.

The “slump” in demand saw the combined January-November profit of the country's 19 biggest automakers fall 0.5 percent year-on-year to 65.6 billion Yuan, China Association of Automobile Manufacturers (CAAM) said. A quarter of the 45 carmakers tracked by the association failed to reach even half of their annual sales targets, CAAM said.

78. Survey Finds That Three-Fourths of Chinese Concerned About Environment

More than three out of every four Chinese citizens, or 76 percent, believe environmental problems in the country are “very serious” or “relatively serious,” according to a nationwide public opinion survey. In a list of top concerns, pollution rated third after inflation and food safety. This is the third time pollution has made it to the top three in the survey's four years. Problems such as waste disposal, noise pollution, pet management, and air and water pollution topped the list of public concerns.

The survey, which has been conducted each year since 2005, is released at the beginning of each year and is considered the most comprehensive measure of public opinion regarding the environment in China. The China Environment and Culture Promotion Association (CECPA) conducted the survey, polling 10,000 Chinese citizens, and posted the results on its website.

Respondents gave a lower rating to how the government performed its environmental protection duties in 2008, dropping six points from 58 to 52 on a scale of 100, compared with 2007's tally. A “passing” grade for this survey is considered to be a score of 60.

Those surveyed said they are dissatisfied with the efficiency of the government in dealing with environmental incidents, how the government solved the problems, and how the government dealt with public reaction to environmental issues.

Among the report's findings, 32 percent of respondents said that they are “very unsatisfied” with air quality, and 28 percent said they are “very worried” about water quality.

Meanwhile, 42 percent said the government's enforcement of environmental policies brought positive effects and 8 percent said the government should be more transparent about environmental issues.

79. China to Subsidize Clean-Energy Vehicles in 13 Large Cities

China is set to subsidize energy-efficient and clean-energy public sector vehicles in 13 large cities, including Beijing and Shanghai, according to the official Xinhua news agency. A joint statement by the Ministry of Finance and the Ministry of Science and Technology said the central government will subsidize purchases of hybrid, electric, and fuel-cell vehicles.

The subsidies will go toward the purchase of energy-efficient vehicles used in public transportation, postal delivery, and sanitation services, as well as in the taxi industry. Other financial incentives and rebates on income, sales, and import taxes will be provided.

The first phase of the subsidy program is called “10+ Cities, 1,000 cars.” This phase calls for about 1,000 “green energy” vehicles to be purchased in each of the cities by 2010.

By 2012, the Ministry of Finance said it expects to subsidize 60,000 energy-efficient vehicles and to allocate \$3 billion toward the initiative. Each vehicle will be subsidized up to \$51,000, with the Finance Ministry covering between \$29,200 and \$38,000 and local governments providing the rest.

The Finance Ministry also said local governments would be responsible for funding facilities to service these vehicles.

The ministry said the initiative is partly aimed at boosting the clean tech auto industry in China.

80. Building a Low Carbon Nation Being Pursued in China

The Ministry of Science and Technology (MOST) is promoting a project to put 5,000 hybrid buses, 20,000 hybrid taxis and 5,000 electric vehicles on the streets by 2012, hoping the trial run will increase the market share of clean-energy vehicles in the country. But this is only an example of a green trend emerging in the country: building low-carbon cities, as Wu Changhua, Greater China director of the London-based Climate Group, has witnessed.

Promoting clean-energy vehicles, together with other low-carbon technologies, shows that some cities have already taking leadership roles in the low-carbon initiatives, according to Wu.

A report released by the Climate Group shows that a low-carbon economy is already taking shape in several Chinese cities, which include both metropolitan areas such as Beijing, and second or third tier cities, such as Wuxi from Jiangsu province and Dezhou from Shandong province.

Depending on green technologies, such as LED (Light-Emitting Diode) lighting system, building integrated photovoltaic, wind power and geothermal energy, these cities are embracing economic development with less greenhouse gas emissions.

With more than half of the world's population living in urban areas, cities contribute to 75 percent of the total global greenhouse gas emissions. As a result, making cities greener becomes more crucial in the fight against global warming.

The low-carbon city initiative is especially important to China, Wu pointed out, as the country is still halfway towards industrialization and urbanization. The scale and pace of China's urbanization is expected to continue. The number of cities in China increased from 193 in 1978 to the current 667. In the last decade, about 16 million people moved from the countryside to the urban areas every year, with urban residents totaling 594 million in 2007. It is estimated that China's urban population will hit one billion in 2025.

So setting up models of low-carbon cities will provide references for promoting the idea in China, said Zhuang Guiyang, a researcher with Chinese Academy of Social Science.

"Currently, there is no mature model of a developing low-carbon economy in the world, but this also provides China an opportunity to take the lead," Zhuang said.

The Climate Group's case studies for 12 Chinese cities show that policy incentives, large-scale technology application, financing mechanisms and multi-stakeholders' cooperation are the four bases for developing a low-carbon city in China.

Cities with different population sizes also exemplify different models, the report said. For instance, mega cities such as Beijing and Shanghai have made extensive explorations in adopting state-of-the-art technologies, taking advantages of their positions as host cities to global events. Besides showcasing green technologies such as LED lighting and geothermal heating systems at the Olympic venues, Beijing also adopted transportation strategies to confront climate change and reduce air pollution from vehicle emissions. Shanghai, in a similar move, has also outlined plans to ensure an environmentally friendly World Expo 2010. The city's ambitions even include building the world's first carbon-neutral city on its Chongming Island.

But experiences from smaller cities, such as Wuxi, could be more enlightening as their examples are easier to follow. Wuxi in Jiangsu province, where most of China's leading solar energy companies cluster, has become China's largest production base of photovoltaic panels and related products. In 2007, the output value of the city's photovoltaic industry reached 12.3 billion Yuan, taking up 70 percent of the country's total. The export volume totaled \$1.47 billion.

In Wuxi's case, investment in low-carbon technologies has become a new highlight of the city's economic growth, thanks to the government's vision for future.

There are also cities, without much background of green industries hoping to integrate the low-carbon concept into their development and urban planning. Guiyang, capital city of Guizhou province, has worked out a cooperation framework with the Climate Group, aiming to carry out five LED energy-saving programs in the city, according to Wang Chengbo, director of The Climate Group's Chinese City Leadership Program.

Wang said the Climate Group is seeking partnership among Chinese cities, aiming to foster about 20 low-carbon cities in China within three to five years.

It will urge the local governments and financial enterprises to help drive technology innovation and capital circulation through incentive policies and financial support, as well as promote low-carbon technologies for energy saving and emission reduction in these cities.

GENERAL

81. Largest-Emitting Nations Agree to Act To Mitigate Shipping, Aviation Emissions

On January 16th, twenty-one countries that account for 70 percent of world transport-sector greenhouse gas emissions joined leading multilateral bodies in renewing their resolve to mitigate greenhouse gas emissions, particularly from international shipping and aviation, host country transport minister Yoshikazu Kaneko told a news conference.

Countries participating in the Jan. 14–16 Ministerial Conference on Global Environment and Energy in Transport (MEET), held in Tokyo, “affirmed the urgent need for action,” Kaneko said.

During the keynote speech at the ministerial meeting, Yvo de Boer, executive secretary of the U.N. Framework Convention on Climate Change, said controlling emissions from shipping and aviation is vital to controlling transportation sector emissions as a whole. As commercial flights increase and more oceangoing ships travel the seas, greenhouse gas emissions from the two sectors will grow even faster, requiring international regulatory regimes, said de Boer. “Controlling emissions from international shipping and aviation is important ... because transport sector emissions are growing too fast,” de Boer said.

De Boer cautioned that the global economic downturn is not likely to bring lasting reductions in greenhouse gas emissions. "It is wrong to expect a long-term drop" in emissions due to the economic crisis, he said. But the current financial slowdown is an "opportunity to re-engineer sustainable economic growth," as the cost of making investments in new technology has decreased, he added.

A ministerial declaration released after the meeting said the countries support ongoing greenhouse gas mitigation measures being promoted by the international shipping, aviation, and land transport organizations, as well as a U.N. partnership for clean fuels and vehicles and other regional and global initiatives.

The declaration called on the 21 countries to: take integrated and comprehensive national transport strategies on land, shipping, and aviation, as well as fuels and vehicles; to improve environmental and energy data on transport; to broaden diffusion and transfer of existing technologies and to encourage research, development, and deployment of technologies and measures such as Japan's intelligent transport systems; and to share best practices among countries and enhance capacity building for developing countries.

It also encouraged mitigation efforts by the private sector, such as carbon offsetting and environmental rating systems for firms. The declaration also called on countries to explore opportunities for the transport sector to utilize financing methods, such as the United Nations' Clean Development Mechanism and the climate investment funds of the World Bank and other multilateral lending agencies.

On inland transport, the declaration said countries should improve the efficiency of motor vehicles, rails, and domestic aircraft and ships through such means as the introduction of fuel efficiency or greenhouse gas emission standards, and refinements of vehicle powertrains and other components. For this, it advised harmonizing testing procedures for fuel efficiency or greenhouse gas emissions through international forums.

It also urged countries to devise strategic transport policies to reduce emissions, such as modal shifts and to coordinate efforts to use rail, roads, and other means of transportation.

The declaration also emphasized the importance of reducing air pollutants from inland transport and urged countries to regulate exhaust emissions from motor vehicles and other means of transportation.

On international aviation, the declaration urged the countries to support International Civil Aviation Organization (ICAO) to develop by the end of 2009 an implementation framework to reduce greenhouse gas emissions from international aviation. In concert with ICAO, the ministerial declaration called on countries to improve air traffic management to shorten flight routes and make air traffic flow more efficient. It also called for improving environmental aircraft technology and sustainable alternative fuels.

On international maritime transport, participants said they recognized the International Maritime Organization as the organization for developing technical, operational, and market-based measures and urged the IMO to complete in 2009 an energy efficiency design index for new ships.

Asked whether the International Civil Aviation Organization would consider a new international tax on shipping and aviation, or an international solidarity levy, for financing emerging and

developing country efforts, ICAO President Roberto Kobeth Gonzales said, "It is not a policy of our kind." But Antonio Tajani, the European Commission's vice president for transport, said the European Union favors "continuing talks."

Kaneko said Japan would present a high-level follow-up meeting in June, to be followed by the second MEET meeting in Rome in December.

Participants were: Australia, Brunei, Canada, Germany, France, India, Japan, Cambodia, Thailand, Laos, Malaysia, Indonesia, Italy, Korea, Singapore, the Philippines, Russia, Vietnam, Myanmar, the United Kingdom, and the United States, as well as the Association of Southeast Asian Nations, the European Commission, International Civil Aviation Organization, International Energy Agency, International Maritime Organization, International Transport Forum, United Nations Economic Commission for Europe/World Forum for Harmonization of Vehicle Regulations (UNECE/WP29), United National Framework Convention on Climate Change, and the World Bank.

In a bilateral meeting concurrent to the conference, Japanese Minister of Land, Infrastructure, and Transport Kazuyoshi Kaneko met with International Maritime Organization Secretary-General Efthimios Mitropoulos, who affirmed that the IMO will step up measures in international shipping to combat climate change, a Japanese government official said.

The environment committee of the IMO in October 2008 adopted new standards to limit emissions of sulfur oxides and nitrogen oxides from container ships and tankers. While the organization did not address greenhouse gases, the environment committee is scheduled to meet again in July.

The meeting drew high-level transportation officials from around the world. But the impact of the meeting was diluted somewhat by the cancellation of the Chinese and Indian ministers. India sent a lower-level representative to the meeting, while China skipped the conference altogether.

82. WMO Says 2008 Among 10 Warmest Years on Record

The year 2008 was among the 10 warmest years on record, although cooler than other years since the turn of the 21st century, according to the United Nations' World Meteorological Organization (WMO).

On January 13th, WMO spokeswoman Gaelle Sevenier said the trend toward global warming is continuing despite a recent cold snap in Europe that has led to unusually low temperatures throughout the continent. Sevenier noted that the temperature of the earth's surface has risen by three-quarters of a degree Celsius since the mid-19th century.

According to WMO figures released on December 16th, the year 2008 is likely to rank as the 10th warmest on record since instrumental climate records began to be compiled in 1850. The global combined sea-surface and land-surface air temperature for 2008 is estimated at 0.31 C degrees (0.56 degrees Fahrenheit) above the 1961–1990 annual average of 14 C (57.2 F), the WMO said.

However, the global average temperature in 2008 was slightly lower than that for the previous years in the current decade, the U.N. agency noted. This was due mainly to the moderate to strong La Nina, a phenomenon that developed in the latter half of 2007. La Nina involves the

emergence of unusually cool surface waters over most of the central and eastern equatorial Pacific.

83. Tibetan Glacial Shrink to Cut Water Supply By 2050

Nearly 2 billion people in Asia, from coastal city dwellers to yak-herding nomads, will begin suffering water shortages in coming decades as global warming shrinks glaciers on the Tibetan Plateau, according to experts. The plateau has more than 45,000 glaciers that build up during the snowy season and then drain to the major rivers in Asia, including the Yangtze, Yellow, Brahmanputra and Mekong.

Temperatures in the plateau, which some scientists call the "Third Pole" for its massive glacial ice sheets, are rising twice as fast as other parts of the world, said Lonnie Thompson, a glaciologist at Ohio State University, who has collected ice cores from glaciers around the world for decades. As glaciers melt at faster rates from the higher temperatures, a false sense of security about water supplies has developed across Asia, Thompson said. If melting continues at current levels, two-thirds of the plateau's glaciers will likely be gone by 2050, he said at a meeting on climate change at the Asia Society in Manhattan. Well before then, a threshold will have been hit in which people who depend on the water will start to start to see supplies dwindle.

Nearly 2 billion people in China, India, Pakistan, Bangladesh and Bhutan would be hit by water shortages as the rivers slow. Nomads in the Himalayas are at risk as deserts have already encroached on grasslands for yaks, on which they depend for most of their food. Shortages could also hit coastal cities in eastern China that would be affected by rising seas from the melt.

Dams to contain the melted water can help in certain cases, but are generally a poor solution because they often face opposition from local residents and people in countries and regions downstream from the structures.

84. Melting Glaciers on Qinghai-Tibet Plateau 'Worrisome'

Chinese scientists recently noted that glaciers that serve as water sources on the Qinghai-Tibet Plateau are melting at a "worrisome speed," having receded 196 square km over the past nearly 40 years. The decline is equal to about one-fourth of the area of New York City.

Xin Yuanhong, senior engineer in charge of a three-year field study of glaciers in the region, said glaciers at the headwaters of the Yangtze, China's longest river, cover 1,051 square km, down from 1,247 square km in 1971. "The reduction means more than 989 million cubic meters of water melted away," said Xin, whose team surveyed the glaciers between June 2005 and August 2008. That much water would fill Beijing's largest reservoir.

The team was composed of experts from the Qinghai Provincial Geological Research Institute and the Beijing-based China University of Geosciences.

Xin said the team has just finished its report. The data will be used by the China Geological Survey Institute under the Ministry of Land and Resources to draft water-preservation policies.

The team found the glacier tongue of Yuzhu Peak of Kunlun Mountain fell by 1,500 meters over the past nearly 40 years. The retreat rate is close to that of the Quelccaya Glacier in Peru, the world's largest tropical ice mass.

The eastern side of the glaciers in the Tanggula Mountain Pass saw the fastest melt rate, with the front receding 265 m annually. The average annual retreat speed was 7.57 m when compared with the figures for 1970.

Xin attributed the accelerated melting to global warming.

"Melting glacier water will replenish rivers in the short run, but as the resource diminishes, drought will dominate the river reaches in the long term," he said.

He explained that the uplift of the plateau has blocked warm, humid air over the Indian Ocean from flowing over the towering Himalayas and Tanggula Mountain to the Yangtze River reaches.

85. Air Pollution May Prompt Abnormal Heart Rhythm

Patients with heart rhythm disturbances who have an implantable heart defibrillator are particularly vulnerable to air pollution, a Swedish study indicates. In patients with these devices, known as implantable cardioverter defibrillators, or ICDs, exposure to air pollution may rapidly (within 2 hours) prompt ventricular arrhythmia -- a potentially life-threatening condition, in which the heart rhythm becomes irregular, the study shows.

Previous studies have documented an association of ventricular arrhythmias with air pollution exposure lasting from 24 to 48 hours. To better understand how rapidly such events might take place, the Swedish team observed 211 patients with ICDs for an average of 33 months. ICD records of arrhythmia events were analyzed in association with air pollution data from each urban area.

According to the investigators, 73 patients had 114 ventricular arrhythmias during the study period. Ventricular tachyarrhythmias -- a specific type of rapid abnormal heart rhythm - were most common. In analyzing the data, the researchers found that the risk of arrhythmia was associated with increased levels of air pollution in the preceding 2-hour exposure period, as well as the 24-hour exposure period.

"This study," research leader Dr. Petter L. S. Ljungman of Stockholm South Hospital told Reuters Health, "gives further evidence that air pollution disturbs the electrical conduction of the heart and that within two hours of increased exposure to air pollution, individuals with previous ventricular arrhythmias run the risk of new life-threatening arrhythmias."

86. Study Links Children's Lead Levels, Standard Aptitude Test (SAT) Scores

A Virginia economist who pored over years of national data says there's an "incredibly strong" correlation, suggesting that from 1953 to 2003, the fall and rise of the average SAT math and verbal score has tracked the rise and fall of blood lead levels so closely that half of the change in scores over 50 years, and possibly more, is probably the result of lead. The findings are to be published in the journal *Environmental Research* says economist Rick Nevin.

He controlled for rising numbers of students taking SAT prep courses and for rising numbers of students who speak a foreign language at home — that would depress verbal scores.

Nevin estimates that lead explains 45% of the historic variation in verbal scores and 65% in math scores.

His analysis compared national snapshots of children's blood-lead test results with SAT scores 17 years later. As lead levels dropped, scores rose — and vice versa. He also found that over a 56-year time frame, the drop in lead levels tracked consistently with decreases in mental retardation 12 years later.

The average amount of lead in children's blood dropped sharply in the 1970s and later, mostly because of a phase-out of leaded gasoline in the 1970s; at the same time, paint manufacturers phased out lead house paint.

87. Top Airlines Want Aviation Emissions in Global Climate Pact

Four leading airlines have recently called for aviation emissions to be included in a broader climate pact, after growing criticism from green groups that the sector was not doing enough to fight global warming. The move is the first step by the world's airlines, which account for around two percent of global pollution, to steer the debate on an emissions pact toward a deal they are happy with, rather than having one imposed on them.

Air France/KLM, British Airways, Cathay Pacific, Virgin Atlantic and airport operator BAA issued the call in Hong Kong and outlined a series of principles a new global deal for aviation must adhere to.

Emissions from international aviation comprise about two percent of mankind's total carbon dioxide (CO₂) pollution from burning fossil fuels and deforestation and are expected to keep rising as economies and populations grow.

Nations meet at the end of the year in the Danish capital Copenhagen to try to agree on a broader climate pact that replaces the Kyoto Protocol, the United Nations' main weapon to fight global warming. Kyoto's first phase ends in 2012. The idea is to find a way for developing nations to sign up to emissions curbs and to include aviation and shipping, which together make up 5 percent of mankind's CO₂ emissions.

The United Nations' International Civil Aviation Organization (ICAO) has been working for more than a decade to develop a global scheme to tackle aviation emissions. The four airlines will discuss existing proposals to curb emissions and feed the group's ideas to ICAO and other airlines to try to settle on a fair and environmentally sound approach for inclusion at Copenhagen.

The four airlines and BAA are meeting in Hong Kong and in their communiqué laid out principles for a global approach that included balancing social and economic benefits of flying with the industry's responsibility to cut global emissions. The airlines also said a new global climate deal for aviation must preserve competitiveness and avoid market distortions.

88. Carbon Dioxide's Climate Effect Appears Irreversible, Multinational Study Finds

The impact of carbon dioxide on surface temperature, rainfall, and sea level is largely irreversible for more than 1,000 years after emissions have stopped, according to a study by the U.S. National Oceanic and Atmospheric Administration and French and Swiss researchers.

The report, which appears in the Proceedings of the National Academy of Sciences for the week of January 26th, examined the lingering effects of peak carbon dioxide concentrations in the

atmosphere above the current level of 385 parts per million (ppm), even after emissions have been halted.

The authors said they found that the scientific evidence is strong enough to quantify some irreversible climate impacts, including rainfall changes in certain key regions, and global sea level rise.

According to researchers, peak carbon dioxide concentrations between 450 million ppm and 600 ppm could lead to centuries-long droughts throughout much of the world, even after emissions have stopped. The drought could lead to shrinking water supplies, expanding deserts, and even Dust Bowl-type events in places such as southern Europe, northern Africa, southwestern North America, southern Africa, and Western Australia.

"It has long been known that some of the carbon dioxide emitted by human activities stays in the atmosphere for thousands of years, but the new study advances the understanding of how this affects the climate system," Susan Solomon, a senior scientist at NOAA who led the study, said in a statement. Increases in carbon dioxide concentrations this century will lead to sea levels slowly rising over the next millennium, according to researchers. A peak carbon dioxide concentration of 600 ppm would cause sea levels to rise between 1.3 feet and 3.2 feet. However, researchers said modeling suggests changes in sea level could be even greater as glaciers and polar ice sheets melt.

"Additional contributions to sea level rise from the melting of glaciers and polar ice sheets are too uncertain to quantify in the same way," Solomon said in her statement. "They could be even larger but we just don't have the same level of knowledge about those terms. We presented the minimum sea level rise that we can expect from well understood physics, and we were surprised it was so large."

Co-authors of the study were Gian-Kasper Plattner and Reto Knutti of ETH Zurich, a Swiss-based research institute, and Pierre Friedlingstein of Institut Pierre Simon Laplace in Gif-Sur-Yvette, France.

89. Study Finds That Antarctica Is Warming, Not Cooling

Antarctica is getting warmer rather than cooling as widely believed, according to a study that fits the icy continent into a trend of global warming. A review by US scientists of satellite and weather records for Antarctica, which contains 90 percent of the world's ice and would raise world sea levels if it thaws, showed that freezing temperatures had risen by about 0.5° Celsius (0.8° Fahrenheit) since the 1950s.

"The thing you hear all the time is that Antarctica is cooling and that's not the case," said Eric Steig of the University of Washington in Seattle, lead author of the study in the journal *Nature*. The average temperature rise was "very comparable to the global average," he told a telephone news briefing.

Skeptics about man-made global warming have in the past used reports of a cooling of Antarctica as evidence to back their view that warming is a myth. Cooling at places such as the South Pole and an expansion of winter sea ice around Antarctica had masked the overall warming over a continent bigger than the United States where average year-round temperatures are about -50° Celsius (-58°F).

The scientists wrote that the Antarctic warming was "difficult to explain" without linking it to manmade emissions of greenhouse gases, mainly from burning fossil fuels.

Until now, scientists have generally reckoned that warming has been restricted to the Antarctic Peninsula beneath South America, where Britain's Rothera research station is sited. "The area of warming is much larger than the region of the Antarctic Peninsula," they wrote, adding that it extended across the whole of West Antarctica to the south.

Rising temperatures in the west were partly offset by an autumn cooling in East Antarctica. "The continent-wide near surface average is positive," the study said.

West Antarctica "will eventually melt if warming like this continues," said Drew Shindell, of the NASA Goddard Institute for Space Studies, who was one of the authors. A 3° Celsius (5.4° F) rise could trigger a wide melt of West Antarctica, he said.

The Nature study compared temperatures measured by satellites in the past 25 years with 50-year records from 42 Antarctic weather stations, mostly on the coast. Scientists then deduced temperatures back 50 years.

90. UN Urges Crackdown on Mercury to Protect Health

Environment ministers must crack down on mercury poisoning to protect the health of hundreds of millions of people worldwide, according to the UN Environment Program (UNEP). "A clear and unequivocal vision of a low mercury future needs to be set," UNEP head Achim Steiner said on the eve of a February 16-20 meeting in Nairobi of environment ministers who will consider a new strategy to limit mercury. "Inaction on the global mercury challenge is no longer an option."

Ministers "can take a landmark decision to lift a global health threat from the lives of hundreds of millions of people" by agreeing a new strategy to tackle mercury after seven years of talks, he wrote in a statement.

About 6,000 tons of mercury -- a heavy metal known for more than a century to damage the human nervous system -- enters the environment every year. Mercury's other effects include liver damage, memory loss or disturbances to vision.

Of the total, 2,000 tons is from coal burnt in power stations and homes. Increased use of coal in Asia means emissions may be rising, he said.

"No one alive today is free from some level of mercury contamination," he said. "'The World Health Organization argues there is in the end no safe limit."

The new strategy under consideration at UNEP's annual governing council meeting would cover reducing demand in industrial products and processes, ranging from gold mining to some liquid crystal displays. It would also seek to cut emissions to the atmosphere and clean up contaminated sites.

The European Union favors an international treaty to ban mercury while some other states favor a voluntary approach. The United States and the EU have backed export bans, Steiner said.

"In the United States 1 in 12, or just under five million females, have mercury above the level considered safe by the US Environmental Protection Agency," he said. In Sweden, about

50,000 lakes have pike with mercury levels exceeding international health limits. "Women of child-bearing years are advised not to eat pike, perch, turbot and eel at all: the rest of the population only once a week," he said.

In many developing nations gold prospectors use mercury in small-scale mines. Mercury helps isolate gold. "An estimated 10 million miners and their families may be suffering in countries from Brazil and Venezuela to India, Indonesia, Papua New Guinea and Zimbabwe from poisoning or exposure," he said. "The victims are among the poorest people in the world."

"We estimate that every kilogram (2.2 lbs) of mercury taken out of the environment can trigger up to \$12,500 worth of social, environmental and human health benefits," he said.

91. US Scientist Says Global Warming Worse Than Predicted

The climate is heating up far faster than scientists had predicted, spurred by sharp increases in greenhouse gas emissions from developing countries like China and India, a top climate scientist said on Saturday. "The consequence of that is we are basically looking now at a future climate that is beyond anything that we've considered seriously," Chris Field, a member of the Intergovernmental Panel on Climate Change, or IPCC, told the American Association for the Advancement of Science meeting in Chicago.

Field said "the actual trajectory of climate change is more serious" than any of the climate predictions in the IPCC's fourth assessment report called "Climate Change 2007."

He said recent climate studies suggested the continued warming of the planet from greenhouse gas emissions could touch off large, destructive wildfires in tropical rain forests and melt permafrost in the Arctic tundra, releasing billions of tons of greenhouse gasses that could raise global temperatures even more. "There is a real risk that human-caused climate change will accelerate the release of carbon dioxide from forest and tundra ecosystems, which have been storing a lot of carbon for thousands of years," Field, of Stanford University and the Carnegie Institution for Science, said in a statement.

He pointed to recent studies showing the fourth assessment report underestimated the potential severity of global warming over the next 100 years. "We now have data showing that from 2000 to 2007, greenhouse gas emissions increased far more rapidly than we expected, primarily because developing countries, like China and India, saw a huge surge in electric power generation, almost all of it based on coal," Field said.

He said that trend was likely to continue if more countries turned to coal and other carbon-intensive fuels to meet their energy needs. If so, he said the impact of climate change would be "more serious and diverse" than the IPCC's most recent predictions.