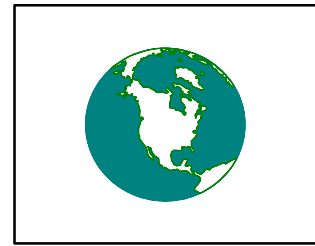


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CAR LINES

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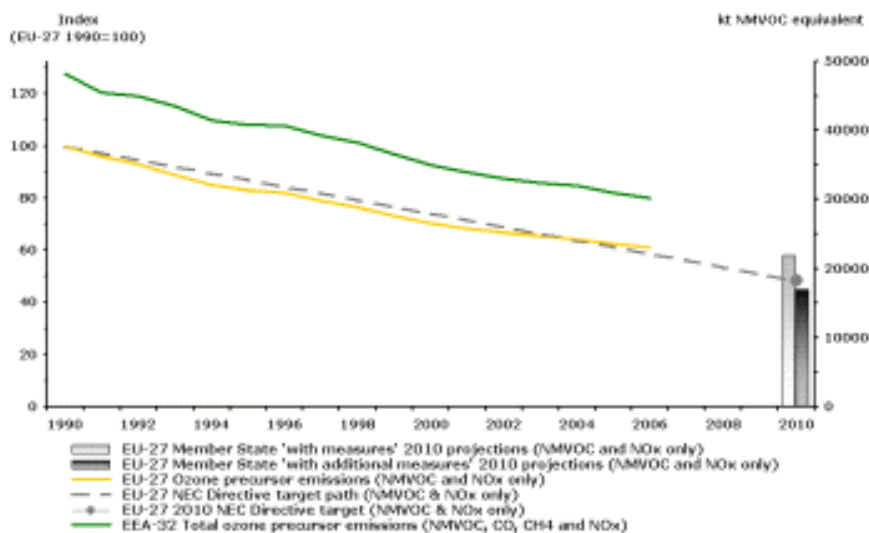
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EUROPE

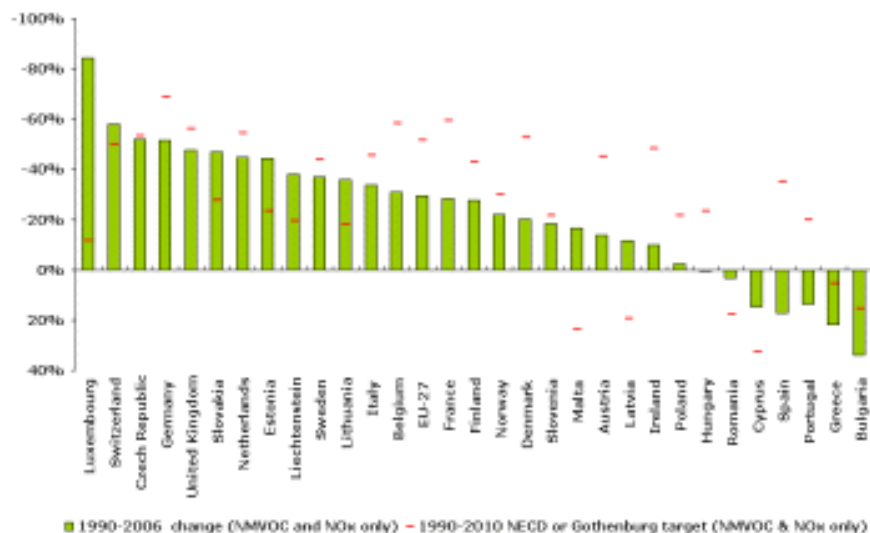
1. EU Making Progress in Reducing Ozone Precursor Emissions, PM10

a. Ozone



Aggregated emissions of tropospheric (ground-level) ozone precursors have reduced by 37% across the EEA-32 region between 1990 and 2006 (Figure 1). Emissions of these pollutants are weighted using a factor that reflects their specific ozone formation potential prior to aggregation. Within most countries reductions have occurred for the aggregated emissions of the two ozone precursors for

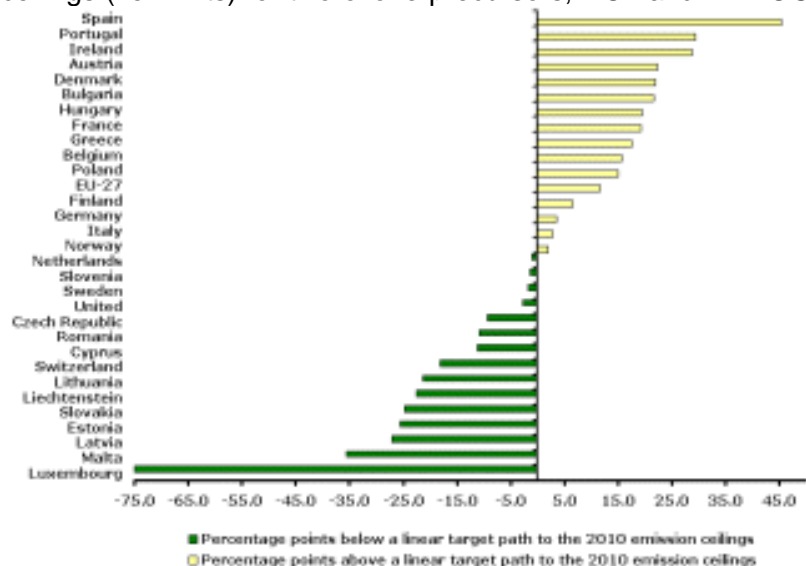
which emission limits exist under the NEC Directive and UNECE Gothenburg protocol (NO_x and NMVOC) (Figure 2). The largest reductions have occurred in Luxembourg (-84%), Switzerland (-58%) and the Czech Republic (-52%), but the emissions of these two pollutants have increased in 7 countries (Bulgaria, Greece, Portugal, Spain, Cyprus, Romania and Hungary).



Emissions of NO_x (51 % of the total aggregated emissions) and NMVOC (36 %) are the most important pollutants that contributed to the formation of tropospheric ozone in 2006. Carbon monoxide and methane contributed 13% and 1%, respectively. However emissions of both these pollutants have been significantly reduced since 1990 - NO_x has contributed

38% and NMVOC 40% of the total observed reduction of precursor emissions. This reduction of emissions is mainly due to the introduction of three way catalytic converters for cars and increased penetration of diesel-fuelled vehicles. The introduction of other European legislative measures has also contributed to the reduction, such as the implementation of the Solvent Emissions Directive in industrial processes.

The National Emission Ceilings Directive (NECD) sets for each of the EU-27 Member States ceilings (i.e. limits) for two ozone precursors, NO_x and NMVOC that must be met by 2010. The



reported data shows that as of 2006, slightly more than half of the 27 Member States are not on track towards meeting their combined target for the two ozone precursor pollutants (Figure 3). Similarly, the EU-27 as a whole is also not on track to achieve its aggregated ceiling for these pollutants. On an individual pollutant basis, other EEA analysis indicates that many Member States anticipate that, without

implementing additional measures to reduce emissions, they will miss one or any of their respective 2010 NECD ceilings. (See Story below)

Several of the non-EU countries also have 2010 emissions ceilings defined under the Gothenburg protocol of the UNECE Convention on Long-range Transboundary Air Pollution. Of these countries, Norway alone has reported emissions that lie above a linear target path to its aggregated NO_x and NMVOC ceiling for 2010 - in contrast both Liechtenstein and Switzerland appear on track to meet their respective aggregated Gothenburg ceilings.

The aggregated emissions of ground-level ozone precursor pollutants (nitrogen oxides (NO_x), non-methane volatile organic compounds (NMVOCs), carbon monoxide (CO) and methane (CH₄)) have decreased by 37% across the EEA-32 region between 1990 and 2006.

b. PM10

Emissions of primary particulate matter (PM10) and secondary particulate precursors have been reduced by 44% across the EEA-32 region between 1990 and 2006. Emissions of these pollutants are weighted using a factor that reflects their specific particulate matter formation potential prior to aggregation. Within most individual countries, emissions of primary and secondary PM10 have decreased significantly since 1990. The largest reductions have been reported by Luxembourg (-78%), the Czech Republic (-76%) and Slovakia (-68%). In contrast emissions have increased in four countries since 1990 - Cyprus (8%), Turkey (4%), Greece (1%) and Austria (0.4%).

Emissions of primary PM10 particulate matter make only a small contribution to total particulate matter formation - 13 % of the EEA-32 emissions in 2006. Collectively, emissions of the secondary particulate precursor pollutants NO_x (52%), SO₂ (23%) and NH₃ (12%) were the most important pollutants contributing to particulate formation in the EEA-32 in 2006.

Emissions of both primary PM10 and the secondary precursor pollutants have all decreased since 1990. Between 1990 and 2006, emissions of primary PM10 have declined by 28%. However, emission reductions for the secondary particulate matter precursors account for the vast majority of the total reduction of particulate matter during this period - reductions of SO₂ emissions account for 60 % of the overall reduction in particulate matter formation, with NO_x accounting for a further 30%.

The reductions in total emissions of particulate matter between 1990 and 2006 have been mainly due to the introduction or improvement of abatement measures across the energy, road transport, and industry sectors coupled with other developments in industrial sectors such as fuel switching from high-sulfur containing fuels to low-sulfur fuels. Emissions of primary PM10 and secondary PM10 precursors are expected to decrease in the future as vehicle technologies are further improved and stationary fuel combustion emissions are controlled through abatement or use of low sulfur fuels such as natural gas. Despite this, it is expected that within many of the urban areas across the EU, PM10 concentrations will still be well above the EU limit values for PM10. Substantial further reductions in emissions will therefore be needed if the air quality limit value set in the EU's Air Quality Directive is to be reached.

2. EU To Exceed Air Pollutant Limit Due To Growth in Road Transport

Despite significant emission reductions in recent years, only 11 EU Member States expect to remain within their emission limits for all four air pollutants set by the EU National Emission Ceilings Directive (NEC Directive). The nitrogen oxides ceiling remains the most difficult to comply with in part due to demand for road transport growing faster than anticipated.

The NEC Directive sets pollutant-specific and legally-binding emission ceilings for each Member State to meet by 2010. It requires the countries to report annually information concerning emissions and projections for the four air pollutants: SO₂, NO_x, NMVOC and NH₃. These pollutants are deposited in soils and waters and damage ecosystems by acidification and eutrophication. They also contribute to the formation of ozone and particulate matter, which are harmful to human health as well as to ecosystems and vegetation.

Annex I of the NEC Directive defines both country-based ceilings and aggregated emission ceilings for the EU-27 (which are the sums of the individual Member State ceilings in that Annex). Annex II also defines SO₂, NO_x and NMVOC ceilings for the EU-27 as a whole. These ceilings are stricter than those in Annex I and are designed with the aim of attaining by 2010 the interim environmental objectives set out in the directive (i.e. reduction of acidification, health- and vegetation-related ground-level ozone exposure by 2010 compared with the 1990 situation).

The NEC Directive status report by the European Environment Agency presents country-specific and EU-wide information for the four pollutants covered by the directive: sulfur dioxide (SO₂), nitrogen oxides (NO_x), non-methane volatile organic compounds (NMVOCs) and ammonia (NH₃).

Even taking into account NO_x control measures already in place within the Member States, the NO_x emissions for the EU-27 as a whole are still projected to be 9 % above the aggregated Member State limits (known as the Annex I ceiling) and 20 % above the stricter ceiling for the European Community as a whole (the Annex II ceiling) set for 2010. Some Member States including the Netherlands, Sweden and Germany expect to emit only slightly more NO_x than their ceilings. Others, such as Ireland, Austria and Spain, are projected to miss substantially their targets by as much as up to 50 %.

This is partly due to higher-than-expected growth in road transport that has occurred since the ceilings were set. Moreover, the estimated gains from policy measures, which were in discussion at the time, have proven less effective than originally anticipated (e.g. the effectiveness of certain vehicle emission controls, especially NO_x controls on diesel vehicles under actual driving).

Such factors have led several Member States to change their projections in the last few years and announce that they now expect to miss their NO_x targets. However, Belgium and Germany have reported plans to implement additional measures which may allow them to comply with their 2010 emissions ceilings for NO_x. The other Member States which are not on track will also need to develop and present such plans.

For the other three pollutants (SO₂, NMVOCs, NH₃), most EU Member States are expected to reduce their emissions beyond their commitments. As a result, the EU as a whole is expected to register substantial reductions. In the case of NMVOCs, EU-27 emissions are projected to be 9 % below the Annex I ceiling, but 6 % above the stricter Annex II ceiling.

The SO₂ projections fare even better, being 31 % below Annex I and 27 % below Annex II ceilings. With 19 EU Member States already below their ceilings, the EU-27's NH₃ emissions are also projected to 'overachieve', being 7 % below the aggregate ceiling.

Overview of 'With Measures Projections' As Reported By the EU-27 In 2007

(A '√' indicates that the Member State anticipates meeting or exceeding its respective emission ceiling, while 'x' indicates that a ceiling will not be met without introduction of future measures to reduce emissions)

Member State	NO _x	NMVOC	SO ₂	NH ₃
Austria	x	√	√	√
Belgium	x	√	√	√
Bulgaria	√	√	√	√
Cyprus	√	√	√	√
Czech Republic	√	√	√	√
Denmark	x	x	√	√
Estonia	√	√	√	√
Finland	√	√	√	√
France	x	x	√	√
Germany	x	√	√	x
Greece	√	√	√	√
Hungary	x	√	√	√
Ireland	x	√	√	√
Italy	x	√	√	√
Latvia	√	√	√	√
Lithuania	√	√	√	√

Luxembourg ⁽¹⁾	-	-	-	-
Malta	√	√	√	√
Netherlands	x	√	x	√
Poland	√	x	√	√
Portugal	√	x	√	√
Romania	√	√	√	√
Slovakia	√	√	√	√
Slovenia	x	√	√	√
Spain	x	x	√	x
Sweden	x	√	√	√
United Kingdom	x	√	√	√

⁽¹⁾ Luxembourg has not provided NEC Directive projections.

3. EU Agrees to EURO VI to Cut Pollution from Trucks

Emissions from new European trucks and buses will have to be cut by two thirds by 2014, after the European Parliament voted in favor of new emissions curbs. The Euro VI emissions limits aim to cut particles to 66 percent below the existing limits, which took effect in October, with an 80 percent cut to nitrogen oxides.

MEPs and government negotiators assembled the compromise deal in early November. The new Euro VI regulation will have direct effect and will not require transposition into national law by the 27 EU states.

The agreement backs all the European commission's proposed new limit values for pollution from heavy goods vehicles. These include capping emission of nitrogen oxides at 400 milligrams per kilowatt hour (mg/kWh) and particulate matter at 10 mg/kWh. All new vehicles of existing models will have to demonstrate compliance with the limits from 1 January 2014 to obtain market approval. This is nine months earlier than proposed by the European commission. New models will have to meet the standards from 1 January 2013, three months earlier than the commission proposed.

German Socialist rapporteur Matthias Groote called the deal "a good compromise" but said he would have preferred a stricter limit on particulate emissions. Mr. Groote originally proposed a 5mg/kWh cap, but this was rejected by the parliament's environment committee.

The Euro VI standards bring the EU closer to US emission standards.

The text says member states may introduce financial incentives to accelerate the introduction of vehicles meeting the new requirements.

The Commission is asked to specify - if appropriate - in addition to the limit value for total Oxides of Nitrogen (NOx) a specific limit value for Nitrogen Dioxide (NO2).

The Commission is also asked to adopt the associated technical regulations by the 1 April 2010, after which manufacturers will have time to make the necessary technical changes to the vehicles.

The compromise backs the Commission's proposal to include measures relating to access to repair information in the regulation, so as to ensure effective competition on the market in repair and maintenance services. Similar measures already exist for the relevant legislation on passenger cars (Euro 5). The compromise foresees an adaptation of those provisions to the particularities of heavy goods vehicles.

The report was adopted with 610 votes in favor, 11 against and 22 abstentions.

4. EU Finalizes Programs to Fight Climate Change

The European Union has finalized plans for reducing global warming emissions, seeking to lead the way toward a broad alliance including China and the United States. The Parliament approved a cut in carbon dioxide emissions to 20 percent below 1990 levels by 2020. The deal takes on a greater importance coming just before Barack Obama assumes the U.S. presidency, amid hopes in Europe he will cooperate more on tackling climate change than incumbent George W. Bush.

World leaders will meet in Copenhagen next December to try to agree a global deal.

A myriad of concessions to reduce the costs for industry helped pin down a deal, although this fueled criticism from environmental groups. Chancellor Angela Merkel and Prime Minister Silvio Berlusconi had fought successfully for industries like German steel, chemicals and cement and Italian glass and ceramics, as well as their powerful auto sectors.

Lawmakers approved measures to cut CO₂ emissions from new cars by 18 percent by 2015, after intense lobbying by the industry won it a three year reprieve. Green group politicians branded the rules as a sell-out to industry, while industry group ACEA repeated calls for billions of Euros in EU support to help manufacturers meet the targets. The deal between the Parliament and the EU Council also modified the levels of fines that would be applied to noncompliant manufacturers. Whereas the Commission had proposed starting fines of €20 (\$25.40) per car per g/km above the limit, rising to €95 (\$120.80) in 2015, the Parliament and Council agreed on a sliding scale starting at €5 per car for the first gram of carbon dioxide above the limit, rising to €15 for the second gram, €25 for the third gram, and €95 for each additional excess gram beyond that. The European Parliament has also written a new clause into the draft legislation, setting a longer-term target of 95 g/km to be achieved by 2020. This means the legislation has now become a different animal from the one envisaged by the Commission, with a "more flexible system at the beginning" more in tune with manufacturers' production cycles; But the 95 g/km target is not a firm, mandatory commitment as it is subject to review after 2012.

The biggest threat to a deal was the opposition of nine former communist nations, which feared the deal would ramp up costs for their highly polluting coal-fired power sectors. To buy their support, the EU has offered a partial exemption and agreed to give them 12 percent of revenues from the EU's emissions trading scheme (ETS), which makes industry buy permits to pollute.

Environmentalists were angered over the dilution of the EU's ambition, most of them criticizing the high levels of carbon offsets, which allow member states to pay for most of their emissions cuts in developing nations rather than at home.

Six texts on the package, already agreed by the 27 European Union member states, were passed by a large majority of the MEPs present. The so-called "20-20-20" climate package will oblige EU nations to cut carbon dioxide emissions by 20 percent by 2020 from 1990 levels, make 20 percent energy savings and bring the use of renewable energy sources up to 20 percent of the total.

The parliamentary approval came five days after EU heads of state and government worked out a compromise deal on the package at a summit in Brussels. Within the overall EU targets, each EU nation and industry sector has its own obligations under the package.

The six texts adopted by the parliament constituted the main planks of the overall package -- renewable energy, emissions trading, carbon dioxide capture and storage, efforts by member states, overall reduction of CO₂ emissions and reducing car emissions. All six went through with a large majority, with between 559 and 670 European deputies voting in favor out of the total of 785.

Each EU member state will have a binding national reduction target every year from 2013 to 2020. The targets adopted for the whole period and the 2005 baseline match the European commission's original proposal, though the commission had not proposed that the annual targets should be binding.

Governments and MEPs have introduced more flexibility into the commission's proposal: member states will be able to transfer up to five per cent of their emission allocation for any one year towards the previous or following year. They could transfer more than five per cent in the years 2013 and 2014 in the event of "extreme metrological conditions".

Governments will be able to transfer up to five per cent of their emission allocation to other member states in a form of government-to-government carbon trading.

The purchase of international carbon credits to offset any exceedances of the annual caps is limited to an amount equal to three per cent of national emissions in 2005. The compromise text introduces new flexibility however: member states can transfer any unused part of this annual allowance to the following year and to each other.

Twelve countries felt to face particularly tough emission reduction targets may raise the limit by a further one percentage point annually, but the credits must come from projects in least-developed countries (LDCs) and small-island developing states. Environmentalists say these provisions mean at least two-thirds of the EU's reduction effort will take place in the developing world.

MEPs managed to introduce tougher compliance sanctions than in the original commission proposal, but not the fines that rapporteur Satu Hassi had wanted. At the end of each year the amount of excess emissions will be multiplied by a factor of 1.08 and deducted from its cap for the following year. This equates to a penalty factor of 1.5 over a five-year period, tougher than Kyoto's 1.3 factor.

In the event of a new international climate treaty, the commission will table fresh legislation updating the effort-sharing law to enable an emission cut of at least 30 per cent by 2020. The balance of cuts between the ETS and non-ETS sectors may change, as may the distribution of non-ETS cuts between member states. If no international agreement has been approved by December 2010, the commission will be asked to propose measures to reduce forestry-related emissions. Shipping should also be subject to EU measures by 2013 if there is no agreement to reduce this sector's emissions through the International maritime organization (IMO) or the UN.

The text urges the European commission to propose by December 2012 new measures to accelerate energy efficiency improvements. EU energy commissioner Andris Piebalgs told MEPs the effort-sharing targets were in effect energy efficiency targets.

Governments also endorsed a European commission economic recovery plan and a series of priority actions in which climate and energy measures feature strongly. They backed an increase of €30bn in European investment bank funding for renewables and clean transport, and the creation of a financing mechanism called the "Marguerite fund" to boost investment in energy, climate change and infrastructure for 2020.

5. Details of the Emissions Trading Scheme Emerging

The European parliament has approved rules for the third phase of the EU ETS, endorsing the EU leaders' "final compromise" reached on 12 December. The key points in the finalized EU ETS directive include:

- a. The number of emission allowances will be capped so as to deliver a 21 per cent cut in industrial emissions during the whole period 2013 to 2020 compared with 2005. The annual EU ETS emissions cap will fall linearly by 1.74 per cent each year. This factor will be reviewed by 2025.
- b. During the trading period EU allowances will increasingly have to be auctioned rather than being distributed free-of-charge.
- c. The power sector will have to buy 100 per cent of allowances from 2013. However Poland and some other eastern states have won concessions enabling certain power stations to get up to 70 per cent of allowances for free in 2013, declining to zero in 2020. Eligible plants will be those poorly integrated into the European electricity grid or those that individually provide more than 30 per cent of national electricity in countries with relatively low GDP.
- d. Outside the power sector, all participants will have to buy at least 20 per cent of allowances from 2013, rising to a minimum 70 per cent in 2020 (rather than 100 per cent as proposed by the Commission, "with a view to reaching" 100 per cent by 2027).
- e. Industrial sectors and sub-sectors considered at significant risk of carbon leakage based on criteria agreed by EU leaders will be eligible to receive up to 100 per cent of allowances free from 2013 until an international climate agreement is concluded, when the situation will have to be reviewed.
- f. Free allowances will be allocated on the basis of best-in-class technology benchmarks. The commission has estimated that more than 90 per cent of manufacturing emissions would qualify. Sectors exposed to carbon leakage are to be identified by end December 2009 by the commission, six months earlier than it first proposed.

- g. Eighty eight per cent of allowances to be auctioned each year will be distributed to member states according to their EU ETS sector's emissions in 2005 or the average of 2005-7, whichever is higher.
- h. Ten per cent will be distributed to poorer member states for "solidarity and growth", as proposed by the commission. Two per cent will be given to countries whose greenhouse gas emissions in 2005 were at least 20 per cent below their Kyoto base year emissions, i.e. ex-Communist countries.
- i. Half of all auctioning revenues should be used to finance climate mitigation and adaptation measures in Europe and the developing world, but without a binding commitment. This is a greater proportion than the commission proposed, but less than the parliament demanded.
- j. Half of EU ETS participants' emission reduction effort from 2008-20 may be covered by international carbon credits. There are no binding quality criteria for clean development mechanism (CDM) credits but buyers must report on their quality.
- k. In the event that the EU commits to a 30 per cent emission cut from 1990 to 2020 in the context of a new international climate agreement, half of the extra effort required by EU ETS installations may be covered by international credits, as the commission proposed.
- l. Up to 300m allowances in a new entrants reserve will be available until the end of 2015 to fund demonstration projects for commercial carbon capture and storage and of innovative renewable energy technologies. Plants fitted with CCS will be regarded as not emitting any greenhouse gases.
- m. The scope of the EU ETS will be expanded to bring in new sectors and gases as proposed by the commission.
- n. More smaller industrial installations will be excluded from the EU ETS under the compromise text than as per the commission's proposal - the threshold for exclusion has been raised from 10,000 tons CO2 emissions per year to 25,000.
- o. The commission must propose including shipping in the scheme from 2013 if there is no international climate agreement by the end of 2011.
- p. Allowances will be allocated centrally by the European commission, rather than by member states through national allocation plans (Naps).

6. Germany Aims to Have 1 Million Electric Cars on Roads by 2020

One million electric-powered vehicles will be on German roads by 2020, Germany's Secretary of Transport, Building, and Urban Affairs Wolfgang Tiefensee said November 25th at the National Strategy Conference on Electric Mobility Technology in Berlin. The government also hopes to increase the number of electric-powered vehicles, including plug-in hybrids, on German roads to at least 5 million by 2030.

The German Cabinet is currently working on a national plan for the introduction of electric vehicle technology in cooperation with four federal ministries: the Ministry of Transport, Building, and Urban Affairs; the Ministry for the Environment, Nature Conservation, and Nuclear Safety; the Ministry of Education and Research; and the Ministry of Economics and Technology.

While auto companies will be the main drivers in the development of new technology, Environment Ministry spokesman Tobias Duenow said the government will provide subsidies to help spur new development.

The initiative is part of Germany's Energy and Climate Plan.

Transportation Secretary Tiefensee said development of electric mobility technology will contribute to climate protection, will allow Germany to become less dependent on oil, and will create jobs in the new technology sector. "We want to clear the myth that climate protection and economic growth are contradictory," Tiefensee said.

Secretary of the Environment Sigmar Gabriel said electric vehicles "in combination with renewable energies allow for a modern, environmentally friendly, and resource-saving mobility." But one challenge to Germany's plan to introduce more electric vehicles is the development of renewable energies and battery technology as well as the infrastructure to support the electric vehicles.

In spring 2009, energy company Vattenfall Europe AG and car manufacturer BMW will launch a pilot project using Mini E vehicles, the all-electric version of BMW's Mini Cooper. The pilot project will include 50 Mini E vehicles in Berlin and 50 in London to find out how electric vehicles integrate in the cities' transport network and what type of infrastructure is needed to support the vehicles. The Mini E will also be tested in New York and Los Angeles.

7. Information Technology Plan To Cut Transport's Emissions

The European commission has launched a plan to increase use of information and communication technologies (ICTs) to help further reduce carbon emissions from the road transport sector. The objective is to harmonize intelligent transport systems (ITSs) across the EU, ensuring interoperability. Examples of ITSs include on-board navigation systems and electronic road charging systems. An earlier EU directive adopted in 2004 aims at harmonizing road charging systems.

Included in the new plan is draft legislation setting up an EU-wide framework for deploying ITS technologies. The development of these technologies has been "uncoordinated and fragmented", the commission says. A common approach is needed to "avoid the emergence of a patchwork of ITS applications and services".

Increased ITS use could reduce congestion costs by up to ten per cent and "substantially" reduce carbon emissions from the road sector, according to the commission. A proposal to charge trucks for certain environmental costs, such as congestion, is being debated by EU lawmakers.

8. Danes Fast-Track 'Historic' Transport Plan

The Danish government has announced a "green traffic initiative" featuring infrastructure investments and transport measures costing Dkr150bn (€20bn) over the next decade. About two-thirds of the total will be spent on "renovating, improving and developing the railway network" with the aim of converting motorists to public transport, climate and energy minister Connie Hedegaard said in a statement. High emissions charges, road pricing, and financial incentives for fuel-efficiency are among a raft of additional measures.

In all, 90 billion kroner has been allotted to the plan - money that will come from taxpayers, Great Belt Bridge tolls and from the sale of state-owned ferry service Scandlines. Two of the funding sources originally proposed - sale of North Sea oil and privatizing national rail service DSB - were dropped in the plan's final draft. Another 60 billion kroner, allotted to planned

construction of the Fehmarn Bridge between Denmark to Germany and to an extension of Copenhagen's Metro rail system, is also part of the infrastructure plan.

One of the key elements of the plan is the introduction of high-speed trains between major cities starting in 2018, which the government hopes will encourage up to 20 percent of motorists to switch to public transport.

9. Denmark Joins Shipping Industry to Develop Emissions-Reduction Technology

On November 11th, the Danish government announced a new partnership with industry and the Danish Shipowners' Association to develop technical solutions to meet new shipping emissions standards for sulfur dioxide and nitrogen oxides recently approved by the International Maritime Organization. Denmark's Environment Ministry said the government will partner with shipping companies and private enterprises to develop new fuels and engine types, nitrogen oxide catalyzers, filters, and ventilators. The public/private partnership agreement will be evaluated in mid-2009 with a view toward adopting further initiatives.

The move follows the approval on October 10th by the IMO's Environment Committee of standards to limit harmful emissions of sulfur oxides and nitrogen oxides from container ships and tankers. The IMO standards, agreed to after strong lobbying from Denmark, subjects world shipping to a staggered timetable starting January 1st, 2012, when permitted sulfur content in ships' fuel will drop from 4.5 percent to 3.5 percent. More restrictive limits will apply to so-called Sulfur Emission Control Areas, which include the Baltic and North Sea, effective Jan. 1, 2015. The IMO also agreed to progressive reductions in nitrogen oxide emissions from marine engines, with the new standards phased in over three stages.

The agreement has prompted criticism from bodies such as the European Community Shipowners' Association, which claimed that the cost of complying with the new limits may drive sea freight onto land.

As part of the public/private partnership, the Environment Ministry said it will provide grants for research on new emissions-saving technologies. But questions remain about the proprietary rights over any potential technological breakthroughs that come as a result of the public-private partnership and how such technology will be shared.

10. EU Seeks To Improve Green Freight Funding Scheme

Europe's road network suffers from ever-increasing congestion, increasing the time lost by road-users and worsening environmental pollution. Long-distance freight, particularly international freight traffic between Member States and between the EU and third countries, is a major contributor to this congestion. Europe's road system has borne the brunt of increasing freight traffic mainly because of the failure of alternative modes – rail and shipping – to keep pace with rising demand and to contribute to an integrated transport solution.

What Europe really needs – and is working towards – is a sustainable transport system that shifts freight off the roads onto more environmentally friendly transport modes.

The Marco Polo program, an initiative of the European Union, was launched in 2003. Today, the second edition of the program which covers the period from 2006 to 2013 is underway. It aims to shift or avoid a substantial part of the expected increase in international freight traffic,

estimated at 20 billion ton-kilometers per year, from Europe's roads onto short-sea shipping, rail and inland waterway transport.

Indisputably, trucks are often the preferred means of transporting freight for first and final legs of deliveries. But they are costly – both in economic and environmental terms – over long distances. Within the context of the Commission's 2001 White Paper on transport and its 2006 mid-term review, the Marco Polo program seeks to reduce road congestion by shifting or avoiding the yearly increases in international freight traffic from roads onto short-sea shipping, rail and inland waterway transport.

The funding program is inefficient and losing interest among the sectors concerned, the European commission said as it unveiled plans to improve the scheme. Only part of the scheme's modal shift objective was achieved during the first funding phase and fewer firms wanted to participate this year, the commission says. It proposes to increase funding, simplify existing rules and reduce administrative burden to attract more companies, especially in the inland waterway sector.

11. Quick EU Deal on Truck Charging Revision Unlikely

Reaching agreement on European commission proposals to revise EU road charging rules for trucks under the "Eurovignette" directive will be a difficult task, a representative of the incoming Czech presidency of the EU said. Deputy transport minister Daniela Kovalčíková told a hearing at the European parliament that her country would prioritize the proposals when it takes over the chairmanship of EU government business from January.

Member states' views on the plans currently differ greatly from those of the MEP leading the assembly's debate on the issue, Belgian Socialist Saïd El Khadraoui, Ms Kovalčíková said. Differences also persist among member states, she added.

Ms Kovalčíková said most member states opposed Mr. El Khadraoui's support for three key proposals: making trucks pay for congestion costs, making them pay for CO2 emissions, and requiring member states to earmark toll revenues for the transport sector. Mr. Khadraoui has also come under fire from many MEPs for the first two of these.

Fourteen member states "refuse" to include congestion charging for trucks in the draft directive, Ms Kovalčíková said. They say congestion is mainly caused by private cars. She proposes a two-step approach with trucks initially paying only for air and noise pollution, with congestion charges added later.

Most member states do not believe the Eurovignette directive is the right place to introduce charges for CO2 emissions, Ms Kovalčíková said. They also object on political grounds to a requirement to earmark revenues from road charging for the transport sector. In practice, revenues from road tolls are already re-invested in transport, examples of existing road charging systems presented at the hearing suggested.

EU Ministers did agree a separate, non-legislative resolution responding to the wider package of European commission green transport measures under which the Eurovignette revision was proposed. In this they say introducing the polluter-pays principle in the transport sector should be "gradual, fair and efficient". They also back plans to cut NOx emissions from aviation.

12. Green Group Backs Vehicle Permit Hike

A leading environmental group, WWF Scotland, has pledged its support to city council proposals that could see large vehicles paying more for parking permits. They said the introduction of the scheme would encourage residents to buy smaller and more environmentally friendly cars.

Dr Dan Barlow, head of policy at the organization, said: "Climate change is the biggest threat we face and to avoid the worst impacts of it we need to make sure that average temperature rise stays well below 2C." If Scotland is to play its full and equal part in tackling climate change and help prevent global temperatures from exceeding 2°C it must reduce its greenhouse gas emissions by at least 80 per cent by 2050.

The council is currently consulting with the public over its proposals. The local authority says about 66 per cent of current permit holders would pay less under the plan, 20 per cent would pay more, with 14 per cent unchanged.

13. German Court Backs Wider Commuter Tax Relief

Germany's constitutional court has ruled that restrictions on a tax break for German commuters' travel expenses are unconstitutional, despite concerns from the country's environment agency. The court ruled that a law passed in 2007 restricting the tax deduction to daily distances above twenty kilometers was in breach of the constitution because its purpose was to plug state budget deficits. The deduction applies to almost all forms of transport, irrespective of journey costs.

The environment agency opposes any tax deduction, arguing that this threatens biodiversity and pushes up greenhouse emissions.

14. EU Finance Ministers Back Fresh Green Car Funds

European finance ministers have approved a near-doubling of loans from the European investment bank (EIB) to the car industry for the development of greener cars, and extra funds for energy, climate and infrastructure projects for the period from 2009 to 2010. The EIB will provide an additional €2bn annually to "clean transport" projects over the next two years, finance ministers agreed in Brussels. The vast bulk of this will go to the car industry.

The new funds constitute €4bn of the €5bn package for the car industry announced by European commission president José Manuel Barroso in the context of a wider European economic recovery plan, the EIB explained.

For over a decade the EIB has already provided carmakers and their suppliers with on average €2bn a year in loans to research and develop greener vehicles. The new funding comes on top of this. The car industry had asked for €40bn in new funds.

EU finance ministers also approved an additional €4bn annually in EIB loans for "energy, climate change and infrastructure" projects for 2009-10. This represents an increase of about one-third on existing funding.

*Meanwhile, the European parliament's budget committee has dropped a proposal to provide funds dedicated to climate change in the EU budget for 2009. It still proposes €20m should be

set aside, but with the money to follow in later years. MEPs are due to approve the 2009 budget at their next plenary session in mid-December.

15. European Commission Names New Environment Chief

The European commission's environment department will get a new boss from January. The German Karl-Friedrich Falkenberg will take over as head of the environment directorate-general from Jos Delbeke, who held the role temporarily after the previous incumbent, Mogens Peter Carl, left to become a special advisor to the French presidency earlier this year. Like Mr. Carl, the incoming director-general has a long history of working on trade issues and had previously served as deputy director-general in the commission's trade department.

The commission also announced that it would create a separate directorate-general to deal with energy policy by 1 November next year. Energy is currently dealt with by the same department as transport issues. A task force will make proposals on the new department's scope and structure by 1 May. A commission spokesman said there were now no plans for a separate directorate-general for climate, contrary to suggestions earlier this year.

16. Czech Republic Puts Green Tax on Second-Hand Cars

Second-hand car buyers that purchase older, more polluting vehicles in the Czech Republic will have to pay a new environmental levy from January, the environment ministry has announced. A fee of between CZK3,000 and CZK10,000 (€116-€386) will be payable on vehicles that do not meet at least Euro 3 class emission standards. The revenue will fund used car disposal.

The ministry said road traffic was the biggest contributor to air pollution in the Czech Republic, especially for particulate matter.

17. Warsaw Approves Mid-Term Environmental Policy

Poland will spend €16.5bn for environmental purposes over the four years to 2012, according to a new environment policy program approved by the Polish government. The document says Poland will face "difficult tasks concerning protection of the atmosphere and counteracting the climate change" and that complying with EU air quality standards will be a "challenge". During the period, Poland will focus on water and waste management and on completing the list of Natura 2000 sites by 2010.

18. Austria Challenged Over Vehicle Pollution Actions

Austria is under pressure from the EU to tone down national policies aimed at cutting road transport pollution. The European court of justice has ruled that emission standards for second-hand cars are illegal, and the European commission is to launch court action against Vienna over a ban on transporting some goods on a key motorway.

The court recently condemned an Austrian requirement for all imported second-hand cars to meet emission standards stricter than those in force when the vehicles were originally registered. Judges said the fact that second-hand vehicles already in Austria did not have to meet the standards made the measure illegal.

This week the commission announced court action over an Austrian ban in place since May on heavy goods vehicles on the A12 motorway through the Inn valley, an important transit corridor.

The move came after wider bilateral talks on transport curbs failed. The commission said the measure was disproportionate and that Austria had not exhausted other options to control traffic. Austria and the EU have a long history of conflict over the Alpine country's attempts to control pollution from goods transport.

19. Europe Agrees On Low-Carbon Fuel Target, Other Fuels Requirements

MEPs and governments have agreed on the text of a revised EU fuel quality directive. The new law will require fuel suppliers to cut life-cycle greenhouse gas emissions from road fuels by six per cent over the decade from 2010 to 2020 (intermediate targets: 2% by 31 December 2014 and 4% by 31 December 2017). The cuts will come from production efficiency improvements and switches to cleaner fuels such as biofuels. Biofuels sustainability criteria will be added to the new law once they have been agreed in separate negotiations on a new renewable energy directive.

With this the EU has sent a clear signal that its market is not opened to carbon intensive marginal oils, such as tar sands or coal-to-liquid.

Efforts to coordinate the two laws had delayed progress on the fuel quality proposal, which was tabled by the European commission in January last year. A first reading agreement finally emerged after three months of talks between the European parliament and the council of ministers.

MEP Dorette Corbey, the Dutch Socialist who has led negotiations for the parliament in the fuel quality talks said she was "satisfied" with the compromise text and that it would provide "a good stimulus for the large-scale development of electric cars".

The deal requires fuel suppliers –oil companies – to cut road fuel life-cycle greenhouse gas emissions by six per cent from 2010 to 2020. The commission had proposed a mandatory 10 per cent cut. In 2012 the commission will assess the feasibility of making oil companies reduce emissions by a further two percentage points by requiring them to invest in venting and flaring reduction projects in developing countries, for example through the Kyoto protocol's clean development mechanism (CDM). Another 2% reduction should come from electric vehicles or Carbon Capture and Storage (CCS).

Also the target in 2014 can be subject to a review, taking into account consistency between this target and the 10% transport target in the Renewable Energy Directive (this has to be the case due to uncertainties with biofuels GHG savings following an eventual inclusion of Indirect Land Use Change).

Fuel suppliers will also be obliged to annually report on their GHG intensity of their fuels and energy supplied in road transport (as the scope of Directive was extended to include electricity in road transport). It is also important to note that the baseline for reductions will be defined in 2011.

The agreement also introduces for the first time a limit on the petrol additive MMT, an organometallic compound, agreeing on the following text.

1. The Commission shall conduct an assessment of the risks for health and the environment from the use of metallic additives in fuel and, for this purpose, develop a

test methodology. It shall report its conclusions to the European Parliament and to the Council by 31 December 2012.

2. Pending the development of the test methodology referred to in paragraph 1, the presence of the metallic additive methylcyclopentadienyl manganese tricarbonyl (MMT) in fuel shall be limited to 6 mg Mn per liter from 1 January 2011. Subject to paragraph 3, the limit shall be 2 mg from 1 January 2014.
3. The limit of MMT in fuel shall be revised on the basis of the results of the assessment carried out using the test methodology referred to in paragraph 1 and may be reduced to zero if the risk assessment justifies this. Such a measure, designed to amend non-essential elements of this Directive by supplementing it shall be adopted in accordance with the regulatory procedure with scrutiny referred to in Article 11(3).
4. Member States shall ensure that a label on the content of metallic additives in a fuel is displayed at any point where a fuel with metallic additives is made available to consumers.
5. The label shall contain the following text: "Contains metallic additives".
6. The label shall be attached to the same place where the information indicating the type of fuel is displayed, in a clearly visible position. The label shall be of a size and font that it is clearly visible and easily legible.

But EU lawmakers rejected the commission's proposal to relax the maximum vapor pressure limit for bioethanol blends from 60 to 68 kilopascals (kPa) to make it easier for fuel producers to produce blends with higher biofuels content. But member states will be able to apply national waivers from the limit, subject to approval by the commission. Member States with low ambient summer temperatures (Denmark, Estonia, Finland, Ireland, Latvia, Lithuania, Sweden and the United Kingdom) may permit the placing on the market during the summer period of petrol with a maximum vapor pressure of 70 kPa. Other Member States may apply ethanol waiver of 60 kPa + max 8 kPa. However, for both derogations Member States have to apply to the Commission that will evaluate socioeconomic problems avoided and the environmental and health consequences of higher vapor pressure, in particular the impact on compliance with air quality legislation.

Other elements of the agreement include:

- Diesel for non-road machinery will be 10ppm sulfur from 1/1/2011
- Maximum ethanol content in petrol increased to 10%
- Maximum PAH content in diesel lowered to 8%

20. Nine EU States Apply For Air Quality Derogation

Nine EU states have applied to delay compliance with EU air quality limits on particulate matter from 2005 until mid-2011. Governments had until the end of October to request derogations under the revised Cafe air quality law. Requests have been submitted to the European commission by the Netherlands, Denmark, Spain, Belgium, France, Greece, Hungary, Poland and the Slovak Republic. The commission expects "several" more submissions to arrive after the deadline.

21. German Government Criticized By UBA over Car Tax U-Turn

The head of Germany's environment agency (UBA) has criticized a government decision last month to exempt all new cars from the vehicle registration tax until mid-2009, and to exempt cleaner Euro 5 and 6 class cars until mid-2010.

The policy modifies the government's earlier plan to base the level of vehicle tax solely on emissions, rather than engine capacity. UBA president Andreas Troge told the Handelsblatt newspaper that the new policy was a "backward step in environmental policy". Ending the tax-free status of company cars would help the environment more, he said.

22. Porsche Cayenne to Be Fitted With Diesel Engine

The Executive Board at Porsche AG, Stuttgart, has given the go-ahead: from February 2009, the sports car manufacturer will offer a Cayenne with a diesel engine and thus extend its range of drives for the sporty all-terrain vehicle. This decision was taken in response to changed legal regulations especially in European markets, resulting in tax incentives for vehicles with diesel engines. Furthermore, Porsche's stake in the Volkswagen Group, the world's largest manufacturer of modern diesel engines for passenger cars, has opened up new opportunities to utilize diesel technology.

Porsche will equip the Cayenne with a three-liter V6 turbo diesel engine with 240 hp (176 kW) supplied by Audi AG, a subsidiary of the VW Group. The average consumption of the Cayenne Diesel is 9.3 liters per 100 kilometers, with CO₂ at 244 grams per kilometer.

In response to customer demand, the new Cayenne model will initially be offered in Europe. Preparations for market introduction in other countries are underway.

The Porsche Executive Board is confident that it will maintain the long term market success of the Cayenne series with the low-consumption V6 turbo diesel. In the last financial year 2007/08, 45,478 units of this series (which currently incorporates five different models) were sold - more than ever before in a financial year.

The sports car manufacturer is also working on another Cayenne variant with hybrid drive that will consume less than nine liters of fuel per 100 kilometers and will be launched onto the market at the end of the decade.

The new Cayenne with diesel drive will be available from dealers from February 2009 onwards. Equipped with the Tiptronic-S automatic gearbox as standard, the Euro base price will be EUR 47,250. In Germany, the Cayenne with diesel engine including 19 percent VAT and country-specific equipment costs EUR 56,436.

23. EU Proposes Loans to Automakers to Meet Environmental Regulations

On October 29th, the European Commission said it would back low-cost loans for automakers as part of a strategy to help them absorb the costs of complying with environmental regulations during the current economic and financial crisis. The idea was put forward after a conference on EU automotive policy, with European Commission Vice President and Industry Commissioner Gunter Verheugen telling reporters that up to €40 billion (\$51.8 billion) in "soft loans" could come from the European Investment Bank (EIB). Automakers need special measures because they face a number of potentially expensive regulatory requirements, in particular legislation to

reduce vehicle carbon dioxide emissions to an average of 130 grams per kilometer by 2012, Verheugen said.

The EU Commission has no power to require the EIB to make the loans, but a number of EU member states, who are the bank's shareholders, "clearly gave us the impression that their governments are flexible" on the issue, Verheugen said. He said the Czech Republic, Spain, France, Germany, Italy, and the United Kingdom have offered their support for the proposal.

Verheugen said automakers have the "capacity to innovate," but that investment in research presently is being held up because of difficulties obtaining financing for loans. "It is not a question of hand-outs, it's a question of the EIB making available a low-interest credit program," he said.

Speaking at the same news conference, Christian Streiff, President of the European Automobile Manufacturers' Association, said environmental obligations are being imposed at a time when vehicle sales have fallen to their lowest point for a decade, which "endangers fleet renewal with a negative impact on the environment."

The EU action comes as U.S. automakers are seeking to tap into \$25 billion in federal loan guarantees designed to help the companies retool their plants to build more fuel-efficient vehicles. The U.S. companies also are trying to secure direct assistance through the \$700 billion bailout package approved recently by the U.S. Congress primarily to assist financial institutions caught in the global credit squeeze.

Verheugen said the proposed EU loans would be accompanied by the setting up of a task force to promote more fuel-efficient and environmentally friendly cars. Verheugen gave few details on the proposed task force, simply saying it would have a "balanced composition" including industry, public officials, labor representatives, and environment groups, and that it could take members from "CARS 21," an existing group convened by the Commission to work on automotive policy. In a related statement, the Commission said the task force's role would be to make nonbinding recommendations about how "technical, regulatory, and economic hurdles" that block the development of "green" vehicles can be overcome.

24. Switzerland Details Plans for New Car Label Pegged to Environmental Tax Breaks

On October 28th, Switzerland outlined details of its plan to introduce a new environment label that will serve as the basis for a proposed federal tax incentive in favor of "clean" vehicles. The Swiss Federal Office of Environment said it plans to put forward in the first half of 2009 a legislative proposal for the creation of the label, which will give consumers an indication of how different car models compare in terms of energy efficiency and emissions of pollutants. The label should be ready for use by January 1st, 2010, the federal office said.

The proposed label is a modification of an earlier energy label for passenger vehicles that the Swiss government proposed in 2007. That label divided vehicles into seven categories (A to G) depending on their energy efficiency. The new label will include a bar graph rating passenger vehicles according to their impact on the environment (energy efficiency plus emission of atmospheric pollutants, noise pollution, etc.), ranging from zero (the most environmentally-friendly) to 300 (the most polluting). Information also will be included on carbon emissions, based on the number of grams of carbon emitted per kilometer.

A proposal currently before the Swiss Parliament would allow buyers of vehicles with low impact ratings to claim a rebate on the purchase cost. The rebate would be financed through an increase on Switzerland's federal automobile tax, from 4 percent to 8 percent.

25. Portugal Sees Mass Use of Electric Cars In 2011

Portugal will build 1,300 charging stations for electric cars by the end of 2011 as part of a deal with Renault and Nissan to promote zero-emission vehicles, the government and the auto makers have announced. As part of the agreement with France's Renault and its Japanese partner Nissan, Portugal will also decree that one-fifth of all its public fleet vehicle purchases be zero-emission starting in 2011.

Renault-Nissan will start deliveries of its electric cars to Portugal in early 2011, making Portugal the first European country to be supplied with electric vehicles from the alliance. In 2012, Nissan and Renault will mass-market electric vehicles globally.

Prime Minister Jose Socrates said Portugal would offer tax incentives to make electric cars more attractive to buyers. The state will provide an income tax benefit for private buyers of about 800 Euros (\$1,000) and also tax incentives for companies that convert to electric-powered vehicles. These benefits will start in late 2010 and will last at least five years. Additional measures, such as reduced parking rates, preferential access and financing subsidies are being studied.

Carlos Tavares, executive vice president of Nissan Motor Co, said the design of the electric car was concluded in September. He said the car would be able to run 160 km on one charge, "sufficient for most people's daily needs". "It is too early to announce a price, but we can say that taking into account the total cost of buying, maintaining and running the electric car, the cost will be the same or lower compared to a conventional car." Renault-Nissan is preparing a range of cars fitting different market segments. He said the electric car project remained attractive despite the recent steep fall in oil prices.

The alliance has announced similar electric car partnerships with Kanagawa Prefecture in Japan, the US states of Tennessee and Oregon, Sonoma County in northern California, as well as with French utility company EDF.

26. IEA Say EU Global Warming Limit May Not Be Possible

A European Union target to limit warming of the planet to no more than 2 degrees Celsius may not be technically achievable, the International Energy Agency said in a new report. "Even leaving aside any debate about the political feasibility ... it is uncertain whether the scale of the transformation envisaged is even technically achievable, as the scenario assumes broad development of technologies that have not yet been proven," said the IEA's World Energy Outlook.

The implication is that the world may have to accept higher warming limits than targeted at present, for example by the EU since 1996, and prepare for effects which scientists say will include more droughts, floods and rising seas. A United Nations climate panel said last year that above 3 degrees "hundreds of millions of people (would be) exposed to increased water stress (shortages)."

Stronger action to fight climate change involves rapidly escalating costs, for example to deploy expensive, untested technologies such as carbon scrubbers and even to leave stranded assets -- where high-carbon coal plants, for example, have to be closed prematurely. "It will be necessary to face up to the reality of the cost of early capital retirement if radical measures are to be taken ... to deliver deep cuts in emissions," the IEA said in its report, published on November 12th.

The IEA analyzed two scenarios to limit warming to 2 degrees and 3 degrees, and estimated that these would cost about \$180 and \$90 per ton of carbon dioxide emissions respectively. The present EU carbon price is about 18 Euros (US\$23.20), and accounts for about one fifth of European consumer electricity prices.

The EU Council of Ministers stated in 1996 that it "believes that global average temperatures should not exceed 2 degrees above pre-industrial level."

NORTH AMERICA

27. Obama Focuses On Alternative Energy, Environment

Insisting on the need to develop new forms of energy, U.S. President-elect Barack Obama chose as his energy secretary a Nobel physics laureate who is a major promoter of alternative fuels. Obama named Steven Chu, the winner of the 1997 Nobel Prize in physics who was an early advocate for finding scientific solutions to climate change, to head the Energy Department.

Chu will work closely with former Environmental Protection Agency head Carol Browner, whom Obama named to a new post that will coordinate White House policy on energy and climate change.

"In the 21st century, we know that the future of our economy and national security is inextricably linked with one challenge: energy," Obama told a news conference. "All of us know the problems that are rooted in our addiction to foreign oil. It constrains our economy, shifts wealth to hostile regimes and leaves us dependent on unstable regions."

"To control our own destiny, America must develop new forms of energy and new ways of using it. And this is not a challenge for government alone -- it's a challenge for all of us."

Obama also named Lisa Jackson, former head of the New Jersey Department of Environmental Protection, to run the Environmental Protection Agency. He named Nancy Sutley, a deputy mayor of Los Angeles, to head the White House Council on Environmental Quality.

To round out his energy and environment team, Obama named Colorado Democratic Sen. Ken Salazar, a former environmental lawyer, as secretary of the interior. The Department of the Interior leases public lands for oil and gas drilling.

Obama's energy and environmental team will play a major role in his quest to revive the U.S. economy by boosting renewable energy use and creating millions of "green" jobs that will ease America's reliance to foreign oil. The president-elect, who takes office on January 20, pointed out that other U.S. presidents over the past three decades had pledged to make America less dependent on foreign energy supplies. "This time has to be different. This time we cannot fail, nor can we be lulled into complacency simply because the price at the pump has for now gone down from \$4 a gallon," he said.

Obama's energy and environment team will also be charged with developing policies to reduce carbon emissions blamed for global warming.

He said his nomination of Chu should send a signal his administration will "value science." "We will make decisions based on the facts, and we understand that facts demand bold action," Obama added. The Bush administration has had a rocky relationship with the scientific community and was at times accused by critics of ignoring scientific evidence in its efforts to make political points on issues such as global warming.

Obama has set a goal of making public buildings more efficient, modernizing the electricity grid and reducing greenhouse gas emissions while preserving national resources.

28. Obama Picks Climate Specialist as Science Adviser

President-elect Barack Obama underscored on Saturday his intent to push initiatives on climate change by naming John Holdren, an energy and climate specialist, as the new White House science adviser. Holdren is a Harvard University physicist who has focused on the causes and consequences of climate change and advocated policies aimed at sustainable development. He has also done extensive research on the dangers of nuclear weapons.

Obama pledged to put a priority on encouraging scientific breakthroughs in areas such as alternative energy solutions and finding cures to diseases, as he announced the pick of Holdren and other top science advisers in the Democratic weekly radio and video address.

"Today, more than ever before, science holds the key to our survival as a planet and our security and prosperity as a nation," Obama said. "It's time we once again put science at the top of our agenda and worked to restore America's place as the world leader in science and technology."

"From landing on the moon, to sequencing the human genome, to inventing the Internet, America has been the first to cross that new frontier," Obama said.

Obama said that government has played an important role in encouraging those breakthroughs and could do so in the future.

The Bush administration has had a rocky relationship with the scientific community and was at times accused by critics of ignoring scientific evidence in its efforts to make political points on issues such as global warming.

Holdren, who teaches at Harvard's Kennedy School of Government, will head the White House Office of Science and Technology Policy. He is a former president of the American Association for the Advancement of Science.

In addition to the pick of Holdren, Obama also announced that marine ecologist Jane Lubchenco of Oregon State University would be his nominee for head of the National Oceanic and Atmospheric Administration.

Obama also named two people to work with Holdren to lead the President's Council of Advisors on Science and Technology, also known as PCAST. One of them, Eric Lander, is founding

director of the Broad Institute, a collaboration of the Massachusetts Institute of Technology and Harvard University that focuses mapping the human genome. The other is Harold Varmus, a former director of the National Institutes of Health who won a Nobel Prize for his studies on cancer and genetics. For the past nine years, Varmus has served as president and chief executive officer of the Memorial Sloan-Kettering Cancer Center in New York.

29. U.S. Government Lab, 14 Firms Team Up On Lithium Battery

Aiming to mass-produce a lithium battery for vehicles, 14 U.S. companies with expertise in batteries and advanced materials have formed an alliance with a government laboratory. The alliance, which includes battery industry giants such as 3M Co and Johnson Controls-Saft, intends to secure \$1 billion to \$2 billion in U.S. government funding over the next five years to build a manufacturing facility with an "open foundry" for the participants to pursue the goal of perfecting lithium-ion batteries for cars.

The best-selling hybrid vehicles such as Toyota Motor Corp's Prius use a nickel metal hydride battery. Lithium batteries are widely considered to be the next technological leap forward for electric-powered vehicles.

The National Alliance for Advanced Transportation Battery Cell Manufacture was modeled after SEMATECH, the successful public-private venture created in the late 1980s to restore U.S. prominence in computer semiconductor technology.

Besides Johnson Controls-Saft Advanced Power Solutions, a joint venture of Johnson Controls Inc and France's Saft Groupe SA, and 3M Co, the founding members of the battery alliance are ActaCell, All Cell Technologies, Altair Nanotechnologies Inc, Eagle Picher Industries Inc, EnerSys, Envia Systems, FMC Corp, MicroSun Technologies, Mobius Power, SiLyte, Superior Graphite, and Townsend Advanced Energy.

In addition to an advisory role for Argonne, U.S. truck and auto makers will be asked to join the alliance's advisory board.

30. California Passes Rules for Cleaner Diesel Trucks

California became the first state in the country to force big diesel trucks to clean up their exhaust. About a million vehicles, from big rigs to school buses, are affected by the new rules, which will begin taking effect in 2011 and do not require further ratification.

Some vehicles will have to start retrofitting engines in 2011 and some older trucks will be forced into retirement starting in 2012. By 2023, all trucks must meet 2010 new engine emission standards.

The rules regulate smog-causing oxides of nitrogen and toxic particulate matter. The California Air Resources Board estimated the regulations would cost about \$5.5 billion. It put the health benefits of cleaner air at \$48 billion to \$69 billion over the next couple of decades.

The move by California, the leading US state on climate change, complements a detailed strategy to cut carbon emissions that the board passed as part of its sweeping plan to cut carbon emissions to 1990 levels by 2020. While the federal government has no such rules for trucks or carbon, President-elect Barack Obama has said that climate change will be a priority when he takes office in January.

Individual truckers and companies told the board that the new rules requiring retrofitting of recently purchased trucks and the replacing of older vehicles would prove too financially onerous during a global economic slowdown.

Board members recognized that the buckling US economy could change the impact of the regulation, requiring changes. But Chairman Mary Nichols said before two unanimous votes ratifying the changes that history showed such rules were not economically onerous.

"While this one is big and expensive and is being adopted in difficult times, we've never adopted a rule that I'm aware of that didn't have severe opposition," she said. "The reality has been that the cost of compliance has turned out to have been less than we estimated."

The last-minute revisions to the California air board's diesel-truck emission regulation are drawing criticism from environmentalists, who argue the changes may give truckers too much compliance flexibility, delay pollution reductions for some trucks and possibly jeopardize the board's ability to meet state and federal air quality standards. Environmentalists say they will scrutinize new regulatory language the board will release in the coming months as part of a "15-day" rule-change process.

CARB staff revised the rule to add the following changes:

- The rule now provides an additional year for small fleets to comply; the first compliance deadline was moved from Jan. 1, 2013, to Jan. 1, 2014, an CARB spokeswoman said. Small fleets refer to those with three or fewer trucks, the spokeswoman said.
- For every vehicle retired, fleets that are downsizing can delay cleanup of another vehicle in the fleet by one year.
- CARB must report back to the board in 2009 on the state of the economy and its impact on the trucking industry and emissions.
- Staff will also evaluate the impact of delaying the compliance deadline for installing filters on trucks in rural areas, instead of requiring them to be phased in from 2010-2014, the CARB spokeswoman said. The compliance date may be pushed back to 2021, she said.

31. More Than 100 Million Americans Still Breathe Sooty Air

More than 100 million people living in 46 metro areas are breathing air that has gotten too full of soot on some days, and now those cities have to clean up their air, according to the Environmental Protection Agency. The EPA added 15 cities to the dirty air list, mostly in states not usually thought of as pollution-prone, such as Alaska, Utah, Idaho and Wisconsin. That's probably because of the prevalence of wood stoves in western and northern regions.

The EPA notified elected officials in 211 counties in 25 states that their air violated newly tightened daily standards for fine particles of pollution from diesel-burning trucks, power plants, wood-burning stoves and other sources. Those particles, often called soot, can cause breathing and heart problems.

Regions that have air that is too high in particles must come up with plans by 2012 on how to clean it and then do it by 2014. When old power plants and factories in these areas expand or do major refurbishing, they have to show EPA that it would not further pollute the air. It could also mean controls on vehicle emissions and regions having to take pollution into effect when they build new roads.

Fifty-four counties that didn't violate soot standards in 2004 — the last time EPA put out such a list — now do. They include areas around Fairbanks and Juneau, Alaska; Nogales, Ariz.; Pinehurst, Idaho; Davenport and Muscatine, Iowa; Klamath and Oakridge, Ore.; Provo and Salt Lake City, Utah; Seattle, Wash.; Green Bay, Madison, and Milwaukee, Wis., and the Logan, Utah, area that also includes part of Franklin County, Idaho.

The air is getting cleaner, but the daily soot standards were made nearly 50 percent tougher in 2006. Since 2006, EPA has had two sets of soot standards and this list only looks at one of them. There are daily air quality standards and long-term yearly standards. The Bush Administration tightened the daily standard, but not the long-term one, despite EPA's science advisers' recommendation to do so.

The EPA came out with a new list based on the tightened daily standards, but doesn't plan to take another look at cities violating the longer-term standards. That list was last completed in 2004 and 95 million people lived in cities considered too full of soot. Because of that, at least five regions, including Houston, that did violate the yearly soot standards, don't have to do anything about it and residents are not told there's a problem.

32. Colo. Lawmakers Crack Down On Ozone Pollution

The Colorado Legislature will consider proposals to tighten pollution controls on vehicles and the oil and gas industry to bring the state into compliance with federal clean-air standards. Federal officials say ozone levels are too high in a nine-county region along the Front Range, including the Denver area and parts of Weld and Larimer counties.

The Colorado Air Quality Control Commission approved tighter rules after two days of hearings. The Legislature must give final approval.

The state must submit an ozone-reduction plan by July 1.

Regulators say pollution from oil and gas production has increased with expanded drilling in northern Colorado, while emissions from other sources have declined. Recent high ozone levels in western Wyoming are blamed on increased gas drilling there.

The state tightened standards on the oil and gas industry in late 2006 to meet federal ozone standards. Companies along the Front Range had to cut vapor emissions by 75 percent from tanks that capture liquids from oil and gas production. Regulators also imposed the first statewide controls on oil and gas tanks that emit 20 tons of pollution or more a year and on new, large internal combustion engines.

The tougher rules didn't save Colorado from being declared out of compliance after high ozone readings in summer 2007. Late last year, the Environmental Protection Agency officially found the Denver area in violation of federal standards.

The new rules require oil and gas companies on the Front Range to reduce tank emissions system-wide by 81 percent starting May 1, 85 percent by May 2010 and 90 percent by May 2011.

Mandatory vehicle emissions tests will be expanded to include the urban areas of Larimer and Weld Counties. The state has also asked the EPA to require cleaner-burning gasoline be sold in those counties.

33. Cummins Westport Announces Order for 260 Natural Gas Engines

Cummins Westport Inc., a leading provider of high-performance, alternative fuel engines for the global market, has announced that North American Bus Industries, Inc. (NABI) has ordered 260 compressed natural gas (CNG) engines for CompoBus buses.

The NABI CompoBus is a 45-foot vehicle made from a lightweight composite material that weighs roughly the same as the company's traditional 40-foot bus, enabling it to provide a lower operating cost per passenger mile as compared to buses with traditional steel structures.

The ISL G meets 2010 emission standards of 0.2 g/bhp-hr (grams per brake horsepower hour) NOx (nitrogen oxide) and 0.01 g/bhp-hr PM (particulate matter). Based on the Cummins ISL, the ISL G leverages Cummins' cooled Exhaust Gas Recirculation (EGR) with stoichiometric combustion allowing for the use of a three way catalyst, which is in common use in passenger cars. In addition to delivering ultra-low emissions, the ISL G, with ratings from 250 to 320 horsepower, delivers increased thermal efficiency and over 30% higher low-speed torque compared with today's CWI "Plus" engines.

34. Exxon Mobil to Pay \$6.1 Million Penalty for Clean Air Violation

Exxon Mobil Corp. has agreed to pay \$6.1 million in civil penalties for allegedly not fully complying with a 2005 federal agreement. Under that 2005 deal, Exxon agreed to spend \$571 million on pollution-control equipment at seven refineries, pay a \$7.7 million civil penalty and spend \$6.7 million on other environmental community projects.

But the Justice Department and Environmental Protection Agency alleged Wednesday that Exxon failed to monitor and control the sulfur content in certain fuel gas streams burned in refinery furnaces at four of the refineries in question. The sulfur content ended up exceeding EPA limits.

The agencies said the latest fine was part of a broader initiative to cut air pollution from refineries. They noted that more than 86% have been required to install controls to reduce emissions.

35. LA Port Making Progress in Reducing Pollution

Harbor-generated pollution dropped noticeably in 2007, according to an analysis performed by the Port of Los Angeles. Even more significant reductions in emissions from vessels, trains, trucks and cargo-handling equipment will occur over the next few years as measures contained in the Los Angeles-Long Clean Air Action Plan are implemented, the port stated in a press release.

Sulfur oxide emissions, which are generated primarily by vessels, declined 34 percent compared to 2006. Nitrogen oxide emissions fell 9 percent and diesel particulate matter emissions decreased 20 percent compared to 2006 levels. Also, greenhouse gas emissions were down 8 percent to 11 percent.

All modes of transportation are contributing to the decrease in pollution. Vessel operators are burning low-sulfur fuel in the harbor area and are reducing vessel speed as they approach berth. Motor carriers are replacing old, polluting trucks with new, low-emission vehicles. The pace of retiring older trucks will increase under the clean-trucks program, and within five years all trucks calling at marine terminals will have to meet or exceed federal Environmental Protection Agency standards for 2007 model trucks.

Railroads are replacing old locomotives with new, cleaner-running units. Marine terminal operators are running much of their cargo-handling equipment on alternative fuels.

The port's 2007 Inventory of Air Emissions logs the first signs of progress for the Clean Air Action Program, which was adopted by the ports of Los Angeles and Long Beach in November 2006. Officials hope the program will lead to a 50 percent reduction in all port-related emissions by 2012.

36. LA Port to Begin Expansion of China Shipping Box Terminal

Next summer, the Port of Los Angeles is scheduled to begin a \$106-million expansion of the China Shipping Container Line terminal, eight years after submitting the original environmental impact report. The harbor commission has approved the final EIR, with plans to advertise for bids in the spring and begin construction in August.

Although it is one of the smaller facilities in the nation's largest container port, the China Shipping terminal is possibly the most famous. The 75-acre first phase of the terminal opened in 2004 after lengthy litigation and settlement of a costly lawsuit brought on by environmentalists.

The port's acceptance of strict environmental standards and a \$50-million mitigation settlement for Phase One of the facility set the standard for marine terminal construction in Los Angeles-Long Beach harbor. In fact, environmental requirements have been further increased since then.

Under the latest EIR, all vessels will have to operate from shore-side electrical power. Vessel operators will have to burn low-sulfur fuel within 40 miles of the harbor and reduce vessel speed in order to cut down on emissions. Low-emission rail locomotives, yard equipment and drayage trucks will also be required.

37. Bush Christmas Present: EPA Head Bans Regulating Global Warming Gases

The Bush administration is trying to make sure in its final days that federal air pollution regulations will not be used to control the gases blamed for global warming. In a December 18th memorandum, outgoing Environmental Protection Agency Administrator Stephen Johnson set an agency-wide policy prohibiting controls on carbon dioxide emissions from being included in air pollution permits for coal-fired power plants and other facilities.

The decision could give the agency a legal basis for issuing permits that increase global warming pollution until the incoming Obama administration can change it, a process that might require a lengthy rulemaking process.

"The current concerns over global climate change should not drive EPA into adopting an unworkable policy of requiring emissions controls," Johnson writes. And while the administrator acknowledged public interest in the issue, he writes that "administrative agencies are authorized

to issue interpretations of this nature that clarify their regulations without completing a public comment process."

The White House has repeatedly said that the Clean Air Act should not be used to regulate carbon dioxide or other greenhouse gases even though an April 2007 Supreme Court decision determined that the EPA could do so under the law. The memo from Johnson was an attempt to clarify the agency's position after an appeals board in November rejected a federal permit for a Utah power plant putting the fate of scores of coal-burning power plants and other industrial facilities in limbo.

The Environmental Appeals Board (EAB) in its ruling said EPA Region VIII, where the plant is located, must either conduct a best available control technology (BACT) review to determine possible CO2 emission controls for the permit, or provide a detailed legal reason as to why a CO2 BACT was not required. Johnson in his memo is attempting to provide that legal justification by saying monitoring does not constitute regulation. The memo says EPA abides by its stance -- raised in the Deseret case and a number of other permit challenges -- that prevention of significant deterioration (PSD) permits and new source review (NSR) permits need only include limits on pollutants "subject to regulation," which does not include CO2. The memo allows Region VIII to bypass a CO2 BACT analysis and issue the permit without GHG limits.

"What you have is a midnight declaration that is designed by edict to rewrite EPA's regulations to say categorically carbon dioxide can never be considered in permitting a new coal plant," said Vickie Patton, an attorney with the Environmental Defense Fund.

Johnson rejects environmentalists' claims that existing CO2 monitoring and reporting requirements mean that CO2 is regulated under the Clean Air Act, saying that these are merely "information gathering" rules and it would not be "sound policy" to trigger mandatory limits from such rules. "As of the date of this memorandum, EPA will interpret this definition of 'regulated NSR pollutant' to exclude pollutants for which EPA regulations only require monitoring or reporting but to include each pollutant subject to either a provision in the Clean Air Act or regulation adopted by EPA under the Clean Air Act that requires actual control of emissions of that pollutant," Johnson says in the memo.

The memo notes that the EAB ruled that the agency had not established an interpretation of what qualifies as a "regulated NSR pollutant" prior to the Deseret case. In response, Johnson says the agency is now setting a "definitive interpretation" that the term does not include CO2.

The memo is also intended to address the board's recommendation that EPA take nationwide action to address whether CO2 is indeed currently regulated under the air act. Johnson writes, "This memorandum is intended to accomplish that purpose, thus relieving individual EPA regional offices of the burden of resolving an issue which affects the entire national permitting program."

John Walke of the Natural Resources Defense Council criticized the memo as an attempt "to tie the hands" of the Obama administration, but added that, "The ultimate consolation, however, is that today's EPA offense is so ham-handed, so divorced from the law, that it can and should be reversed by the Obama administration with the stroke of a pen."

38. North American Faces Diesel Dilemma According To CSM Worldwide

Not so many years ago, the future for light-duty diesel powered vehicles in North America looked bright. Diesel fuel enjoyed two big advantages over gasoline: it delivered more energy per gallon, and was less expensive. Plus, diesel technology had made great strides in rivaling or exceeding gasoline engines in smoothness, performance and drivability. In Europe, diesel soared to a 50 percent market share.

It sounded like a winner for North America too, especially with tougher CAFE standards on the way. Several OEMs paraded advanced European diesel technology as an easy and cost-effective solution to the U.S. fuel-economy challenges everybody knew were coming. But as 2008 winds down, there are few diesel options in U.S. showrooms or in the product pipeline and the few available are from European OEMs. What happened?

Several factors changed the picture - some anticipated, some not. The tough new U.S. Tier II, Bin 5 emissions regulations proved to be difficult and expensive to meet. Complex emissions aftertreatment equipment added another \$1,500 to the \$1,000 extra cost of designing and producing a diesel engine.

At the same time, new U.S. requirements for ultra-low-sulfur diesel fuel drove up refinery costs and pump prices, reversing diesel's traditional price advantage. So far this year, retail diesel prices have been averaging around 60 cents per gallon more than gasoline. In addition, global diesel fuel demand has risen substantially and refinery capacity is strained, keeping prices up and supplies tight. All these factors have conspired to stretch out the projected "payback" period for the higher initial cost of a diesel-powered vehicle.

It does not appear that the diesel-to-gas price imbalance will change in the near term. The ratio of gasoline to diesel fuel refined from a barrel of oil can't be varied by more than 5 percent. Europe burns more diesel fuel than gasoline, but it's the reverse in the United States. As a result, the U.S. imports excess gasoline from Europe and exports diesel fuel to Europe. In addition, there is significant new global competition for fuel from other transportation sectors, such as rail, shipping, aviation, highway trucks and on/offroad equipment as economies expand in emerging countries.

Another major factor working against diesel in the United States is existing investments in the manufacturing infrastructure. An analysis by CSM two years ago showed that it would take 12 new diesel engine plants - at an estimated cost of \$500 million per plant, or \$6 billion total - to supply a 20 percent market penetration for diesel in North America. Considering the current financial situation of the North American automakers, an investment of this magnitude is not likely.

Furthermore, advances in gasoline engine technology may soon cost diesel its efficiency advantage. Direct injection/downsized/ turbocharged engines and HCCI, a compression ignition gasoline technology, promise near diesel efficiency for substantially lower cost.

Although diesel works well as a solution for compliance with current CAFE regulations, legislation that will not favor diesel could be on the horizon soon. Support is mounting for a Low Carbon Fuels Standard (LCS), which would establish a carbon cap on fuel or a minimum blending mandate (e.g., E1, E5, E10 for ethanol-gasoline blends; B5, B10, etc. for biodiesel). An LCS standard, if adopted, would drive biofuels industry development. Other legislative actions to achieve fuel economy could include engine power regulation similar to engine displacement taxes common in other parts of the world.

As conditions stand in the United States, the overwhelming challenge in the auto industry is meeting CAFE fuel economy requirements that phase in from 2012 to 2020, and industry strategy does not appear to include a significant role for diesel.

Near-term targets (now to 2012) likely will be met with incremental improvements, such as ISS (idle stop systems), micro-hybrids, new dual-clutch (DCT) and 6- to 8-speed transmissions, technology that reduces parasitic losses (such as electric power steering), electrical load and battery management, and aerodynamics improvements.

Longer term, 2012 to 2020, more sophisticated and expensive technologies will be necessary to stay on the fuel-economy pace. These will include direct injection gasoline systems, turbocharging and downsizing, hybridization and further electrification of the vehicle (plug-in hybrids and pure electric vehicles), combined with other improvements, such as drag loss reductions (brakes, etc.).

39. Falling Diesel Demand May Deal Second Blow To US Refiners

U.S. refiners, already reeling from weak domestic gasoline demand, may be dealt a second blow as European economies falter, cutting demand for diesel fuel.

Diesel has been a lone bright spot for refiners this year as gasoline demand has declined, reducing U.S. refiners' profits. Two of the largest U.S. refiners, Valero Energy Corp. (VLO) and Tesoro Corp. (TSO), announced this week that they have cut back production at units across their systems. Some of these cuts have reduced gasoline production, and both companies have said they will focus on producing diesel fuel.

In recent months, above-average demand for diesel in the U.S. and abroad has provided refiners with a venue for temporary respite, protecting them from the gloomy conditions in the gasoline market. But profits that diesel has provided may be in decline. Demand is expected to contract in Europe, a key market for U.S. exports. Asian refiners are likely to compete to fulfill the remaining European demand, as their region's own diesel demand slows, and new producers come online. The result of these changes will likely be a build-up in U.S. diesel inventories as fuel that would have been exported remains in the domestic market. The Energy Information Administration recently reported that U.S. stockpiles of diesel and other distillate fuels had risen 2.93 million barrels in a week.

Europe is an attractive diesel market for U.S. refiners because it offers a premium of about \$5 per barrel above the U.S., and about \$10 per barrel above the Asia market. For the past seven years, European diesel demand has grown about 4% to 5% a year. In the past few months, diesel fuel exports from the U.S. East Coast to Europe have surged to try to meet the continent's significant diesel demand.

Two large diesel consumers, Italy and France, both saw waning demand in October, the most recent month for which data is available. The European diesel market has a much larger retail segment than the U.S. does. As the recession affects Europe, it seems likely that diesel demand will slip. Even as that market gets squeezed, large Asian refineries may be trying to meet European distillate demand, competing with U.S. exporters.

In Asia - particularly in China - demand has fallen. As a result, refineries that are made for domestic use may try to cater to the European market. Additionally, a large new refinery in

India, owned by Reliance Industries Ltd. is expected to produce commercial volumes early in 2009, and to export diesel to Europe.

40. Exxon investing \$500 million for Low Sulfur Fuel

About half of a more than \$1 billion global investment in cleaner-burning diesel fuel by Exxon Mobil Corp. will take place at its Baton Rouge refinery. The \$500 million investment will enable Exxon Mobil to boost its daily diesel output in Baton Rouge by about 15 percent to 140,000 barrels a day. The Baton Rouge refinery's current output for all fuels is 503,000 barrels per day, making it the second-largest refinery in the United States after Exxon Mobil's Baytown, Texas, site.

Other upgrades to produce ultra-low sulfur diesel are being made in Baytown (where the refining capacity is 567,000 barrels a day) and Antwerp, Belgium (now 305,000 barrels a day).

The capital expenditures are directed less at producing more diesel and more at reducing pollutants. The U.S. Environmental Protection Agency already requires the on-road use of ultra-low sulfur diesel. That mandate is moving to off-road uses, such as farm and construction equipment and train locomotives, where conventional diesel with 500 parts per million sulfur will move to 15 parts per million. Exxon Mobil's new Baton Rouge project targets the off-road diesel market. Site preparation has begun on the new diesel refining unit, one of 40 at the sprawling north Baton Rouge complex; the project should be completed by second-quarter 2010 in time to meet EPA mandates for the cleaner-burning off-road diesel that year.

41. ALA Preparing As Nitrogen Dioxide NAAQS Up Next

According to the American Lung Association, in what could be the last major clean air policy decision of the Bush Administration, EPA is scheduled to publish its Advanced Notice of Proposed Rulemaking (ANPR) on the primary nitrogen dioxide NAAQS in the Federal Register on January 16, 2009. The ANPR could be signed as early as January 9, 2009.

The notice will solicit public comments on a range of policy options for revising the standard. The current annual average standard was set in 1971 and has not been updated since then. New clinical and epidemiology studies show respiratory problems with short term exposures. A stringent new short-term standard is needed to protect the health of people with asthma. At the same time, EPA should not abandon the annual average standard.

In a final Risk and Exposure Assessment (REA) released last month, EPA staff recommended a range of max hourly concentration of 50-100 ppb, or possibly 50-200 ppb. The REA also suggested dropping the annual average standard. CASAC supported a range of 50-100 ppb; firmly recommended that the upper end of range not exceed 100 ppb; and supported retention of the current annual average standard.

EPA's analysis of air quality monitoring data indicated that of the options analyzed, only a 1-hour standard of 50 ppb would result in additional public health protection. Also, a quantitative risk assessment for Atlanta showed that 50 ppb was the only level that reduced emergency room visits in that city.

The current annual standard for NO₂ is not violated anywhere. The highest concentrations of NO₂ are found on roadways and near roadways. The current monitoring network does not

measure these roadway and near roadway concentrations. A new standard would have to be coupled with a change in monitor siting to have any effect.

42. EPA Abruptly Decides Not To Increase Air Pollution

In an abrupt move, the Bush administration's Environmental Protection Agency has announced it was dropping its push for two proposed regulatory changes that would have had a disastrous effect on air quality. The big losers are pollution-belching power plants.

One rule change would have increased the amount of air pollution near national parks by allowing coal-fired power plants and refineries in those areas to spread their average allowable emissions over a one-year period, rather than over three-hour and 24-hour time frames, under the current standards. The existing rule, which had been supported by most of the EPA's regional administrators and by the National Park Service, is more environmentally friendly because it prohibits plants from emitting large volumes of pollution over short periods of time.

The other rule change would have relaxed requirements for the implementation of pollution-control measures at power plants, which environmentalists said would have led to more smog and acid rain.

EPA spokesman Jonathan Shrader told the national media the agency still supports the two proposals but decided against implementing them to abide by a Bush administration directive discouraging last-minute regulatory changes before the Obama administration takes over next month.

43. U.S. Satellite Data Confirm Effect of Beijing Olympics Pollution Controls

New satellite data revealed that air pollution controls during the Beijing Olympic Games did have a positive impact, leading to sharp decline in certain pollutants, according to U.S. scientists. During the two months when air pollution restrictions were in place, levels of nitrogen dioxide in Beijing's air plunged nearly 50 percent, Jacquelyn Witte, an atmospheric scientist from The National Aeronautics and Space Administration (NASA), told the fall meeting of the American Geophysical Union held in San Francisco.

Their analysis of data from NASA's Aura and Terra satellites also showed levels of carbon monoxide in Beijing's air fell about 20 percent during the period, Witte reported.

Witte and colleagues hoped that ultimately, they can use satellite data to evaluate and refine local and regional models to predict how pollution levels respond to changes in emissions. Such models are important for understanding the integrated Earth system and aiding policymakers considering ways to reduce pollution. Though their models are far from perfect, the procedures demonstrated in sorting out what's happening over Beijing during the Olympics offer the capability to detect emission changes and improve models the world over, the scientists said.

44. Hansen to Obama: Support a Carbon Tax

Eminent climatologist James Hansen has urged U.S. President-elect Barack Obama to support a carbon tax. Hansen, director of the NASA Goddard Institute of Space Studies, is one of the leading voices for a carbon tax to address climate change, rather than backing the more widely used cap-and-trade approach. In his plan, Hansen recommends levying a rising tax on fossil

fuels and redistributing 100 percent of the proceeds to taxpayers - a "tax and dividend" approach.

Obama has preferred a cap-and-trade policy - an economy-wide limit on greenhouse gas emissions that will be lowered over time and that allows polluters to trade emission permits on a carbon market. His most recent climate change speech, delivered last month at a summit hosted by California Governor Arnold Schwarzenegger, further emphasized his support for cap-and-trade. "We will establish strong annual targets that set us on a course to reduce emissions to their 1990 levels by 2020 and reduce them an additional 80 percent by 2050," Obama said.

Yet Hansen and other carbon tax supporters insist that the debate between the two policies is far from complete. "Politically, [cap-and-trade] will be convenient, but it will not solve the problem," Hansen said at a Capitol Hill briefing. "We do need a communicator. Obama has the ability and opportunity to do it."

Hansen was the first climate scientist to state publicly that greenhouse gas emissions were causing climate change, at a hearing before the U.S. Senate 20 years ago. He has since become a leading voice on the severity of climate change, urging world leaders to discontinue support for coal and to accelerate the transition to carbon-neutral energy sources.

Carbon taxes raise the price of carbon-intensive fuels and thereby encourage low-carbon lifestyles. Tax advocates say the approach could be implemented instantly and that it would avoid the interference of interest groups.

Emissions among the industrialized countries that ratified the Kyoto Protocol - a treaty that embraces the cap-and-trade approach - have risen since 2000. Analysts cite several reasons for the rise, including the fact that Western European energy utilities effectively lobbied for free pollution permits as part of the European Emission Trading Scheme (ETS).

Also, one of the tools developed under Kyoto to manage the pollution offsetting process - the Clean Development Mechanism (CDM) - has lacked effective oversight. The United Nations acknowledged last month that the firm that validated nearly half the world's CDM projects lacked proper qualifications.

Another concern is that cap-and-trade mechanisms have led to volatile prices. Whereas carbon taxes contribute some certainty to energy prices - a \$100 tax on a ton of carbon emissions would raise coal prices an estimated 14.6 percent, for instance - the ETS carbon price fluctuates on average 17 percent each month.

World leaders have promised to address the cap-and-trade flaws during the current climate negotiations. The policy is still preferred by some environmental groups such as the Environmental Defense Fund and the Pew Center on Global Climate Change.

Cap-and-trade advantages include that its emissions cap provides a more certain level of greenhouse gas reductions, if the policy is written without major flaws and the program runs smoothly. Environmentalists are lobbying for an emissions cap lower than what was allowed as part of the ETS.

In addition, a carbon tax is not free of potential scandal. Depending on the policy, billions of dollars would be dispensed to energy efficiency and renewable energy firms, or taxpayers' pockets, creating potential opportunities for fraud. Also, Friends of the Earth, an environmental

group that advocates carbon taxes, notes that polluters have become skilled at finding tax loopholes over the years.

Carbon taxes are currently in place, with frequent exemptions, in Scandinavia, the United Kingdom, British Columbia, and select U.S. cities. The taxes are generally politically unpopular - national plans in New Zealand and Canada failed to win residents' support. According to a global BBC poll in 2007, about half of the 22,000 people surveyed were in favor of increased fossil fuel taxes, and 44 percent opposed the proposal.

45. British Columbia Supports California's Vehicle Emissions Standard

The British Columbia government has filed a legal brief with the District of Columbia Circuit of the United States Court of Appeals supporting California's challenge of the Environmental Protection Agency's denial of a waiver to implement the state's proposed standards for vehicle greenhouse gas emissions, provincial Environment Minister Barry Penner announced on November 25th. British Columbia supports the new California Greenhouse Gas Emissions Standard for Vehicles, and the provincial government introduced legislation in April 2008 to adopt the California standards, which would reduce greenhouse gas emissions more than would the proposed U.S. federal fuel economy standards, Penner said in a statement.

"Higher standards are an important part of British Columbia's goal to reduce greenhouse gas emissions by 33 percent [from 2007 levels] by 2020 through lower emissions from new vehicles, while providing choice and savings for consumers," he said.

Support for the challenge of the EPA's denial of the waiver is part of the province's strong working relationship with California, he said. "In addition to partnering on the California emission standards and the Western Climate Initiative, we've also signed a memorandum of understanding to find solutions to protect Pacific Ocean species from pollution," he said.

Penner noted that 17 U.S. states have adopted or are adopting the California model for vehicle greenhouse gas emissions, and six other states are actively considering doing so. Nine of 10 Canadian provinces and all three territories have committed to adopting the California standards, and Quebec is making final revisions to draft regulations to adopt them, he said.

46. Volkswagen Diesel Car Wins "Green Car of the Year"

A clean-burning diesel sedan, Volkswagen AG's Jetta TDI, won the "Green Car of the Year" award at the Los Angeles auto show, the first time a diesel-powered car has taken the industry's top environmental honor.

Diesel has been making inroads into the US market as a here-and-now option to make engines run more economically and pollute less. The use of diesel for passenger cars had long been stalled in the United States because of unacceptably high tailpipe emissions, but advanced technology has allowed so-called clean diesel vehicles to filter out more pollutants and for the first time meet pollution laws in all 50 states.

Diesel engines have also suffered an image problem in the US market due to an association with the versions sold in the 1970s. The technology has been largely limited to trucks in the United States, even though it is a perennial top seller among passenger cars in Europe.

Volkswagen's US chief, Stefan Jacoby, said diesels have emerged as an alternative to hybrids such as Toyota Motor Corp's popular Prius. "It's a breakthrough in this country," Jacoby said. "I don't want to say it's better than other technologies, but it's a real alternative to hybrids. It brings fuel consumption down, it's environmentally friendly, and -- this is a difference with a Prius -- this is really fun to drive."

Volkswagen's five-passenger Jetta TDI, which boasts a fuel efficiency of 41 miles per gallon, starts at \$21,990, compared with \$17,340 for a traditional Jetta.

The Jetta TDI beat out finalists including BMW's 335d diesel sport sedan, Ford Motor Co's Fusion Hybrid passenger sedan, General Motors Corp's crossover Saturn Vue 2 Mode Hybrid, and the smart fortwo mini car.

Diesel fuel, however, costs almost \$1 more per gallon than gasoline in many parts of the United States.

So far the Jetta TDI, which went on sale in August, has sold out, said Jacoby. "The Jetta TDI and Sportswagen don't see recession," he said. Jacoby said diesels could represent up to 30 percent of sales for Volkswagen models like the Jetta, on which diesel is an option. That would mean a sales target of 30,000 to 35,000 Jetta TDI per year in the United States.

The panel of judges that awarded the "Green Car of the Year" prize included famed car designer Carroll Shelby, late-night talk show host Jay Leno and representatives from environmental groups the Sierra Club and the Natural Resources Defense Council, among others.

47. EPA Raises '09 US Renewable Motor Fuel Requirement

The Environmental Protection Agency has increased the amount of renewable motor fuels, mostly ethanol, required to be sold in the United States next year. The higher standard is required by a law that boosts the use of renewable fuels steadily each year to 36 billion gallons by 2022 to help make gasoline burn cleaner, stretch available US motor fuel supplies and reduce petroleum imports.

Renewable fuels will have to make up 10.21 percent, or 11.1 billion gallons, of the 138.5 billion gallons of gasoline expected to be consumed in the United States during 2009, the EPA said. That's up from 7.76 percent, or 9 billion gallons, in renewable fuel this year.

More of the increase in future supplies is supposed to come from cellulosic ethanol that will be made from wood chips, switch grass and other agricultural and forest waste. Most US ethanol is now made from corn.

The 11.1 billion gallons in renewable fuels required next year will include about 500 million gallons of biodiesel and renewable diesel, the EPA said.

Alaska is the only state not subject to the US renewable fuel standard.

A separate report from the Federal Trade Commission concluded that the US ethanol market is competitive and not controlled by a few big producers. As of September, there were 160 US firms that produced ethanol, 57 firms more than last year. The largest ethanol producer's share

of capacity continues to fall each year as new firms enter the market and existing firms add capacity, the FTC said.

The largest US producer accounts for about 11 percent of domestic ethanol capacity, down from 16 percent in 2007, 21 percent in 2006, 26 percent in 2005 and 41 percent in 2000, the agency said. "The report concludes that the level of concentration in ethanol production would not justify a presumption that a single firm, or a small group of firms, could wield sufficient market power to set or coordinate price or output levels, the FTC said.

48. US Gasoline Closer To \$2, Cheapest Since March 2005

The average US retail price for gasoline is closing in on \$2 a gallon after falling another 15 cents over the last week to the lowest level since March 2005, according to the US Energy Department. The national price for regular unleaded gasoline fell for the ninth week in a row, sinking to \$2.07 a gallon, down \$1.03 from a year ago, the department's Energy Information Administration said in its weekly survey of service stations. Seventeen states have gasoline prices that average under \$2 a gallon, according to the AAA travel club.

Falling gasoline prices are putting extra money in the pockets of consumers, but there is also concern some drivers may return to their gas-guzzling vehicles.

The chairman of the Senate Energy Committee said the new Congress probably will not approve legislation to raise the federal tax on gasoline. Democratic Sen. Jeff Bingaman said he was aware of arguments that a high "variable tax" should be put on US gasoline to prevent falling pump prices from encouraging Americans to drive more while making alternative fuels less attractive. Such a tax hike "would be very tough to pass," Bingaman said. "I don't think something like that has much prospect of being enacted in my honest opinion." Americans pay an 18.4-cent federal tax on each gallon of gasoline they buy, plus an extra 29 cents on average in combined state and local taxes.

In the EIA's weekly survey, gasoline was the most expensive on the West Coast at \$2.36 per gallon, down 18 cents. Los Angeles had the highest city price at \$2.42, down 21 cents. The Midwest had the lowest regional price at \$1.94 a gallon, down 13 cents. Houston had the lowest city pump price, down 15 cents to \$1.84.

The EIA also reported gasoline prices were down 16 cents at \$2.36 in San Francisco, down 18 cents at \$2.29 in Miami, down 14 cents at \$2.24 in Seattle, down 18 cents at \$2.20 in New York City, down 21 cents at \$2.20 in Chicago, down 19 cents at \$2.04 in Boston and down 17 cents at \$1.97 in Denver.

Separately, the average price paid for diesel fuel fell 13.5 cents to \$2.81 a gallon, the lowest since June 2007, and 60 cents less than a year ago, the EIA said. The New England states again had the most expensive diesel at \$3.15 a gallon, down 12 cents. The Gulf Coast had the cheapest diesel at \$2.75, down 15 cents.

49. Study Finds That California Dirty Air Kills More Than Car Crashes

Lowering air pollution in Southern California and the San Joaquin Valley would save more lives annually than ending all motor vehicle fatalities in the two regions, according to a new study. The study, which examined the costs of air pollution in two areas with the worst levels in the country, also said meeting federal ozone and fine particulate standards could save \$28 billion

annually in health care costs, school absences, missed work and lost income potential from premature deaths.

The price tag amounts to \$1,600 annually per person in the San Joaquin Valley and \$1,250 in the South Coast Air Basin.

Researchers at California State University-Fullerton sought to assess the potential economic benefits that could be achieved by reducing air pollution to levels within federal standards.

To illustrate its point, the study noted that the California Highway Patrol recorded 2,521 vehicular deaths in the San Joaquin Valley and South Coast Air Basin in 2006, compared to 3,812 deaths attributed to respiratory illness caused by particulate pollution.

Studies have indicated a relationship between ozone and particulate pollution and asthma and other respiratory problems, including chronic bronchitis. They also have connected particulate pollution with an increase in cardiovascular problems.

Jane Hall, lead author of the study at Cal State Fullerton, and colleague Victor Brajer analyzed ozone and fine particulate concentrations across the two basins in 5-by-5 kilometer grids from 2005 through 2007. The researchers applied those numbers to the health affects they are known to cause, and then assigned peer-reviewed economic values to each illness or death that could result.

The findings were released as the California Air Resources Board considers new regulations to reduce diesel truck emissions, a move that could cost 170,000 business owners \$5.5 billion. According to a board staff report, the savings in health care costs would be \$68 billion by 2020 if the regulations are adopted.

The Cal State Fullerton study says that particulate pollution levels must fall by 50 percent in both regions for health and economic benefits to occur, something they acknowledged would be "very difficult to achieve." If pollution levels were to improve to federal standards, the study says residents of the two air basins would suffer 3,860 fewer premature deaths, 3,780 fewer nonfatal heart attacks and would miss 470,000 fewer days of work annually. School children would miss more than 1.2 million fewer days of school, a savings of \$112 million in caregiver costs. There also would be more than 2 million fewer cases of upper respiratory problems.

50. Waxman Win over Dingell Elevates Energy, Climate Change Issues

US Rep. Henry Waxman from California has won the chairmanship of a key congressional energy committee and promised to work closely with President-elect Barack Obama to promote alternative energy, ease global warming and expand healthcare. Waxman took control of the US House of Representatives Energy and Commerce Committee from Rep. John Dingell of Michigan, a long time friend of the US auto industry.

The action was taken on a vote of 137-122 at a closed-door meeting of House Democrats. Waxman will take the gavel when the 111th Congress convenes on January 6th, two weeks before Obama is sworn in as the 44th president.

Waxman, known as a skilled legislator, said the new committee leadership would help "to get important issues passed in healthcare, environmental protection, in energy policy." Many of Obama's plans will be funneled through the Energy and Commerce Committee, whose vast

jurisdiction includes consumer protection, regulation of energy resources, global warming, conservation, health and auto emissions.

Waxman's immediate priorities will likely be passing legislation to promote alternative energy that would help create the millions of "green" jobs that Obama has called for. He is also expected to seek to clear a bill that would cut US greenhouse gas emissions and prepare America to be part of an international agreement to fight global warming.

Fossil-fuelled vehicles, like those made in Dingell's district, which includes Detroit, are key sources of emissions that contribute to global warming. Dingell, the longest-serving member of the House, fought for decades for breaks for the Big Three automakers. Dingell eventually joined the drive to force the industry to build more efficient cars, and last year helped win passage of legislation to increase fuel economy standards, but not as much as Waxman and others wanted.

Waxman previously sought to block the Environmental Protection Agency from issuing permits for new coal-fired power plants unless those facilities installed the best technology to cut greenhouse gas emissions. Waxman is a big supporter of renewable energy sources such as wind and solar power and is a major critic of Big Oil.

51. San Francisco Plans To Be Electric Car Capital

San Francisco Bay Area cities promised to build the electric car capital of the United States, announcing a new plan to work with start-up Better Place to put battery-powered autos on the road in 2012. Mayors of San Francisco, Silicon Valley capital San Jose, Oakland and other cities in the region said they would offer incentives and standardize infrastructure with Better Place, a start-up that aims to offer electric cars as a service, like a cell phone, at prices similar or below standard cars.

Nissan Motor Co. Ltd and Renault have signed on with other Better Place projects. Better Place is developing networks in Denmark, Israel, and Australia.

Better Place Chief Executive Shai Agassi in an interview said the network to support the cars with charging stations would cost about \$1 billion with a quarter of that needed for a test phase in 2010-2011. "We've got a year-and-a-half to bring the capital in," he said, acknowledging the tough economic environment and arguing that the network would be a good investment.

52. Automakers Detail Electric Car Plans at LA Show

Many of the world's biggest automakers detailed ambitious electric-car plans that promise zero emissions but will demand patience from consumers and subsidies from governments to succeed. Nissan Motor Co, BMW, General Motors Corp and Volkswagen's Audi were among the automakers who promised, at the Los Angeles auto show, to bring electric cars to market in the next few years.

Consumers have been clamoring for greener vehicles amid soaring gasoline prices and increased concerns about global warming. The costly batteries required to power gas-free electric cars, however, are not powerful enough to deliver the long driving range car buyers are accustomed to.

Of the cars unveiled at the show, the first one consumers will be able to drive is the Mini E, an all-electric Mini Cooper that will hit US roads next year. The plug-in car will have a range of 156 miles before it needs recharging. Initially, only 500 Mini E vehicles will be available in two markets -- California and New York -- so the company can gather details on their performance. They will only be available for lease, for \$850 a month. BMW executives said that despite being all-electric, the Mini E would be as peppy and fun to drive as cars with traditional combustion engines.

Nissan and General Motors both have electric vehicles they plan to sell to consumers, beginning in 2010.

Nissan has yet to unveil its all-electric vehicle, but the company projected that about 10 percent of global vehicle sales by 2020 will be electric cars, equivalent to roughly 7 million units in annual sales. But Chief Executive Carlos Ghosn conceded that a lot of uncertainty surrounds that forecast. "Whatever number I give you is going to be wrong," Ghosn said. "The reality is today there are zero electric cars on the market." In order to jump-start demand for the zero-emission vehicles, governments at the national, state and city levels need to help provide incentives and establish infrastructure for electric recharging, Ghosn said.

Under the automaker's new deal with Oregon, Nissan agreed to provide zero-emission electric cars for the state fleet. State agencies and the utility Portland General Electric agreed to work together to create a recharging network and the technology that would allow parked electric cars to send power back to the grid. Such initiatives are considered critical for electric car drivers so they do not have to return home every time their vehicles are low on power.

Similarly, General Motors is working to roll out recharging stations, according to Britta Gross, manager of GM's hydrogen and electrical infrastructure commercialization efforts. GM's Chevrolet Volt plug-in car will have an all-electric range of 40 miles and a backup gasoline tank for longer trips.

Nissan said the initial cruising range for its first generation of electric cars could be 100 miles, but the company will look to boost that to near 200 miles by the second generation of the battery pack. As a result, Nissan said it would lease the batteries to consumers to keep the up-front price of the cars down while giving them an easy way to upgrade. GM, which has said the Volt's price tag could top \$30,000, hasn't decided what it will do with the Volt batteries.

53. Concerns That Detroit's Cash Crisis May Kill the Electric Car

Stung by an association with gas-guzzling SUVs and pushed to the brink of failure by plunging sales, US automakers have been touting efforts to roll out more fuel-efficient small cars, gas-saving technology and gas-free electric vehicles. The star of that marketing show has been the Chevy Volt, a rechargeable car that General Motors Corp is designing to run 40 miles (64 kilometers) on battery power, meaning some commuters would never need to fill up with gas.

But with its cash dwindling and US auto sales crashing to 25-year lows, GM has joined Ford Motor Co and Chrysler LLC in seeking billion in federal handouts or loan guarantees. That has critics concerned that a meltdown for Detroit could delay the rollout of green cars like the Volt. Others see a chance to prod GM and rivals to move faster as a condition of providing funding the industry says it needs to survive.

Because plug-ins like the Volt can be recharged from a cleaner-burning electric grid, proponents see them as the best way in the near term to reduce oil consumption and greenhouse gas emissions from traffic on America's roads. GM has said it is protecting its investment in the Volt ahead of the vehicle's planned 2010 launch even as it scrambles to slash \$15 billion in costs elsewhere.

GM Chief Executive Rick Wagoner showcased the automaker's commitment to return to making a mass-market electric car at the Los Angeles auto show two years ago. That reversal by GM combined with an open approach to the Volt's development won over many of the automaker's harshest critics. GM has built on that good will by featuring the Volt in full-page newspaper and TV advertisements, two years before the vehicle will go on sale in limited numbers.

54. Obama Climate Pledge "Very Positive" Says UN Official

Barack Obama's pledge to work to reduce emissions sharply by 2020 is a "huge signal" of encouragement to countries negotiating a new climate pact, according to the head of the UN Climate Change Secretariat. The US president-elect said the United States would engage vigorously in climate change talks when he is president, and he pledged to work to reduce emissions sharply by 2020, despite the financial crisis.

"I think that will have a very positive influence on the negotiations," Yvo de Boer, who heads the Secretariat, told reporters in Algeria. "He indicated that he intends to show national and international leadership." "I think that that statement will be seen as a huge signal of encouragement to the international community," he said in an interview on the sidelines of an African environment conference.

De Boer said US emissions of greenhouse gases stood at 14 percent above their 1990 levels but it was possible to get volumes down to that target within the deadline. He said: "I think it's feasible. It's a challenge, but it's doable."

The Democratic president-elect, who regularly criticized the Bush administration's attitude toward global warming, said his government would set strong annual targets that set the country on a course to reduce emissions to their 1990 levels by 2020 and cut them by a further 80 percent by 2050.

Poverty in Africa, where nearly three quarters of people rely on agriculture, means it is the part of the world least able to adapt to the severe weather changes forecast to be triggered by global warming, experts say. "We really need to use the Copenhagen opportunity to design a regime that is more Africa-friendly," de Boer said. "African nations have actually been quite modest in the negotiations so far. This meeting in Algeria provides an opportunity for 53 African countries to really develop a collective position and that will give them important negotiating strength in the process," de Boer said.

55. Bush Administration Fights Climate Action to the Bitter End

As the Bush administration prepares to issue its ruling on whether to limit greenhouse gases, it's sending out a message to some of its allies: Tell us how much you don't want us to regulate emissions linked to global warming.

Last week, the White House Office of Intergovernmental Affairs sent an e-mail to mayors reminding them that time was running out if they wanted to comment on the proposal the

administration issued in July, which laid out how the government might curb greenhouse gases under the Clean Air Act. A 2007 Supreme Court decision required the Environmental Protection Agency to issue such a ruling, but the White House made it clear in its e-mail that it does not think that is a good idea.

"At the time, President Bush warned that this was the wrong way to regulate emissions. [House Energy and Commerce Committee] Chairman John D. Dingell called it 'a glorious mess,' "Jeremy J. Broggi, the office's associate director, wrote in the e-mail."And many of you contacted us to let us know how harmful this rule would be to the economies of the cities and counties you serve."

The e-mail notes in bold, underlined text that the comment period for the rulemaking "closes on November 28" and provides a link to a U.S. Chamber of Commerce blog post that warns that a federal cap on greenhouse gases "will operate as a de facto moratorium on major construction and infrastructure projects."

But S. William Becker, executive director for the National Association of Clean Air Agencies, questioned why the administration would actively marshal support for blocking federal action on climate change. "It appears there is no bottom to the administration's pit of disdain for regulating greenhouse gases," Becker reportedly said. "On the eve of the comment deadline on one of the most important environmental issues of our time, the White House is resorting to scare tactics, including rhetoric from the U.S. Chamber of Commerce, to incite opposition among elected county and city officials."

Advocates of regulating greenhouse gas emissions got one piece of good news Tuesday: A federal judge in Rhode Island ruled that General Motors, Chrysler and the Association of International Automobile Manufacturers cannot challenge that state's adoption of California's rule limiting automobile tailpipe emissions to combat global warming.

56. Judge Halts New York Plan to Turn Yellow Cabs Green

New York City's plan to turn its entire fleet of yellow cabs green by 2012 was halted by a federal judge who ruled that regulation of fuel consumption standards falls under federal, not city, authority. The plan, which had been promoted as an environmental model for other large cities, called for every new taxi to have a minimum standard of at least 30 miles per gallon (7 liters/100 km), a target now met by hybrid and clean diesel cars.

US District Judge Paul Crotty found that the Metropolitan Taxicab Board of Trade, an association of taxi owners accounting for about a quarter of the city's 13,000 yellow cabs, had "demonstrated a likelihood of success" in having the new rules thrown out. He granted a preliminary injunction. Implementation of the regulations now would be costly to the taxi industry, Crotty ruled.

The city said it was considering an appeal.

"The decision is not a ruling against hybrids cabs, rather a ruling that archaic Washington regulations are applicable and therefore New York City, and all other cities, are prevented from choosing to create cleaner air and a healthier place to live," Mayor Michael Bloomberg said in a statement.

There are already about 1,400 hybrid taxis in the city, the Taxi and Limousine Commission said.

The original lawsuit, filed in September in Manhattan federal court, also argued that the rules had been rushed out without adequate concern for safety and cost. "While a decision to announce the immediate change to 'clean' taxis might be politically enticing and expedient, it is also irresponsible, dangerous and illegal," the suit said.

Green taxis are a cornerstone of Bloomberg's environmental plan, which aims to curb the city's carbon footprint by 30 percent by 2030. State legislators have defeated another Bloomberg initiative -- a "congestion pricing" plan similar to one in London that would have charged drivers \$8 to enter much of Manhattan.

ASIA-PACIFIC

57. Jakarta Announces Tough Stance on Emissions

Private vehicles in Jakarta must pass an exhaust emissions test and receive a certification sticker next year, or risk the owners getting fined. Budirama Natakusumah, head of the city's Environment Management Board (BPLHD), said the board was making all the necessary preparations to implement a bylaw on air pollution and quality control next year, but added no date had been set for it. The bylaw stipulates owners of vehicles without emissions test stickers will be fined a maximum of Rp 2 million (US\$180). However, Budirama said the law would initially be limited to private vehicle owners.

"In the long run, the bylaw will be applicable to owners of all kinds of vehicles. We implement it step by step," he told The Jakarta Post.

"Currently, we are still coordinating with both the transportation agency and the police to prepare the necessary technical aspects of the bylaw, such as increasing the number of referral emissions test workshops and mechanics." There are currently 238 such workshops, with 568 mechanics.

58. China Cuts Gasoline, Diesel Prices

The retail price of gasoline has been cut by 0.91 Yuan (13 US cents) per liter, and diesel by 1.08 Yuan, according to the country's top economic planner. The reduction in retail prices follows a government announcement that it would cut factory gate prices for gasoline, diesel and jet fuel, and at the same time levy a long-awaited fuel consumption tax from January 1st amid a sharp slump in global oil prices.

The price of gasoline is cut to 5,580 Yuan (\$817) from 6,480 Yuan per ton, and diesel to 4,970 Yuan from 6,070 Yuan per ton. The price of jet fuel is lowered by nearly a third to 5,050 Yuan from 7,450 Yuan per ton.

The fuel consumption tax on gasoline will increase from 0.2 Yuan to 1 Yuan per liter, and on diesel from 0.1 Yuan to 0.8 Yuan per liter.

Starting Jan 1, six categories of tolls for road and waterway maintenance and management will be scrapped. The reform is meant to reflect a price on road use by shifting the financial burden to those who drive more. Since the 1990s, the government has been considering levying an oil consumption tax and abolishing various fees on roads and waterways to bring refined oil product prices in line with international standards.

Before the price cut, fuel prices in the country were based on \$83.5 a barrel of crude. But the price in the international market has fallen drastically in the past few months. The January contract sank as low as \$39.19 a barrel - down sharply from a peak of nearly \$150 in mid-July.

Analysts said the changes are likely to encourage car buying and rejuvenate the auto industry, which has been hit hard by the global financial crisis.

But modestly lower fuel prices are unlikely to do much to boost oil demand, which shrank last month for the first time in almost three years, as the economy takes a bigger-than-expected hit from the global financial crisis.

59. Shanghai Unveils Plans to Protect Environment

In an effort to become an environment-friendly city by the time the 2010 World Expo gets underway, Shanghai has announced plans to invest 80 billion Yuan (\$11.6 billion) in environmental protection projects in the next three years. As part of the new plan - the fourth round of the city's Three-Year Environment Protection Action Plan since 2000 - more than 200 such projects will be carried out, the Shanghai environment protection committee said.

"While maintaining the economic growth, it is also very important to protect the environment, especially in a city as populated as ours," Zhang Quan, director of Shanghai environment protection bureau, said.

The city will eliminate 900 noise-sensitive sites along freeways, urban arteries and railway lines, while increasing 1,500 hectares of public green land to take the total greenery coverage rate up to 38.2 percent. The new plan will promote the establishment of eco-industry parks, eco-agriculture industries, and form a network of comprehensive utilization of wastes. Meanwhile, local authorities would continue to improve the environmental infrastructure, establish an intensive citywide water supply network, and complete work on the sewage collection network.

By 2010, the total volume of passenger transport in public vehicles will go down to 65 percent, further reducing carbon emissions, Zhang said.

"The total volume of SO₂ and COD emission will be controlled at levels of 380,000 tons and 259,000 tons respectively, and the green treatment rate of house refuse will go up to 85 percent in the next two years," he said. Last year, COD and SO₂ emission fell by 3.16 percent and 2.96 percent respectively compared to what it was in 2005.

Shanghai has invested 220 billion Yuan on environment protection since 2000, accounting for more than 3 percent of the city's annual GDP.

60. China to Run 30,000 'Clean' Vehicles By 2012

There will be 30,000 clean-energy vehicles in China by 2012, an official with the Ministry of Science and Technology has announced. The ministry was promoting a project to put 5,000 hybrid buses, 20,000 hybrid taxis and 5,000 electric vehicles on the streets in 10 cities by 2012, said Zhan Zhihong, deputy director-general of the ministry's Department of High and New Technology Development and Industrialization.

Zhang said the project would save 780 million liters of gasoline and diesel oil and avoid the generation of 2.3 million tons of carbon dioxide.

He said the ministry had sent officials to Beijing, Shanghai, Shenzhen, Chongqing and Anhui Province to choose the cities for the vehicles.

The ministry did not specify what companies would make these vehicles but suggested that they would use domestic technology.

During the Beijing Olympics this summer, about 500 hybrid or electric vehicles were used by the organizers for transport service.

61. China Battery Company Launches Plug-In Hybrid Car

Battery maker turned car company BYD Co. has launched China's first homegrown hybrid vehicle for the retail market, seeking an edge over its crisis-stricken international rivals. BYD presented the vehicle, known as the F3DM, in a ceremony in the southern city of Shenzhen, where local officials have pledged to buy some of the cars in support of the project.

The vehicle can run up to 100 kilometers (62 miles) on its electric engine, and when it runs low on power shifts to a back up gasoline engine. Its battery can fully charge in nine hours from a regular electrical outlet, or much faster at BYD's own charging stations, the company said in a statement.

The car will sell for 149,800 Yuan (\$22,000), about the same as many Chinese-made mid-sized cars, it said.

Although the car is just now hitting the market, BYD claims to have leapfrogged larger automakers to be the first company to commercialize plug-in hybrid technology, which allows the batteries of the F3DM to be recharged without any special infrastructure.

General Motors Corp.'s own plug-in electric car, the Chevrolet Volt, is due to roll out in late 2010. Toyota Motor Corp. also is pushing to get a plug-in electric vehicle to market in 2010, while Ford Motor Co., says it is five years away from producing them in significant numbers.

Still, developing a safe plug-in has been a major challenge for automakers, and it was unclear what sort of standards the BYD vehicle had met.

BYD, a private company based in Shenzhen, started out as a maker of rechargeable batteries. Its foray into electric car manufacturing drew broader attention recently when MidAmerican Energy Holdings Co., a unit of Warren Buffett's Berkshire Hathaway Inc., invested in a 9.9 percent stake in the company.

Encouraged by government support for alternative fuel technologies, BYD — whose name stands for "build your dreams" — has pressed ahead with developing electric vehicles, despite weakening sales in China and elsewhere.

The company has said it plans to export the cars to the United States, but its vehicles must first meet stringent U.S. safety standards — a requirement that so far has deterred other, better-known local automakers.

Eager to limit its fast-growing dependence on the crude oil imports needed to fuel its growing legions of autos, and to limit choking emissions, China is pursuing a medley of programs aimed at putting new energy buses and other vehicles on the roads.

Last week, China's Ministry of Science and Technology and the U.S. Department of Energy agreed to collaborate on alternative fuel vehicles, focusing on battery performance, testing and evaluation — areas bound to dovetail well with BYD's own approach.

62. Indian Government Hints At Further Fuel Price Cut

The Union government on Tuesday indicated that if the downward trend in the international crude oil prices continued, the prices of diesel and petrol could be reduced further. "We will watch the movement of crude oil prices to see if further reduction is possible," Home Minister P. Chidambaram told the Rajya Sabha during question hour.

The Petroleum Ministry had earlier this month cut petrol price by Rs.5 a liter and diesel by Rs.2 a liter as crude oil prices dipped from an all-time high of \$147 a barrel in July to under \$45 a barrel. Mr. Chidambaram said the government would look into demands for further reduction in auto fuel prices. Even after the price cut, public sector oil firms were making a profit of Rs.9.98 on sale of every liter of petrol and Rs.1.03 per liter on diesel.

The further softening in global oil prices has seen these profits widen to Rs.11.48 a liter on petrol and Rs.2.92 a liter on diesel.

However, Oil Marketing Companies continue to lose Rs.17.26 a liter on PDS kerosene and Rs. 148.38 for a domestic LPG cylinder. In a separate reply, Petroleum and Natural Gas Minister Murli Deora said the December 6 reduction was only an interim measure. "Further reduction in the prices of petrol and diesel had not been found feasible in view of the continuing under-recoveries on sale of PDS kerosene and domestic LPG."

As India imports over 75 per cent of its crude oil requirement, the international oil prices have a decisive role in the domestic pricing. The basket of crude oil India imports averaged \$79.25 a barrel during 2007-08 and it went up to \$142.04 a barrel on July 3.

Cutting fuel prices will help the government lower the already sliding rate of inflation. Lower inflation will give the Reserve Bank of India (RBI) room to further cut interest rates in a bid to boost the slowing economy. The inflation rate for the week ended November 28 fell to 8 per cent from a record high of almost 13 per cent in August this year.

Sagging economies around the world pulled down average oil prices 9 per cent in the first fortnight of this month, compared with the second fortnight of November. This resulted in state-owned oil refiners like Indian Oil Corporation (IOC) almost wiping out their losses from the reduction in fuel prices earlier this month.

63. Minister Says Indonesia Open to Further Fuel Price Cuts

Indonesia will keep monitoring the price of fuel and would be prepared to consider further cuts in subsidized gasoline prices to support the economy and shield the poor, the finance minister has announced. Taking advantage of drops in global oil prices, Indonesia previously announced 9 and 13 percent reductions in gasoline and diesel prices, respectively. Fuel prices in Indonesia are already among the lowest in Asia, thanks to state subsidies.

Finance Minister Sri Mulyani Indrawati told reporters gasoline prices would remain steady for the remainder of 2008, but the government was not 'closing any option for further gasoline price reductions.'

While the burden of financing cheap fuel for the world's fourth most-populous nation has eased significantly due to the \$100 collapse in crude oil prices since July, domestic prices are still low by global standards, and Indonesia has been more aggressive than China or India in keeping them that way. Indrawati, however, said further price reduction would depend on factors such as the price of crude, currency volatility and the state budget.

The government cut gasoline prices twice this month to 5,000 rupiah (\$0.454) and diesel prices to 4,800 rupiah to help ease inflationary pressures and allow the central bank to join its global peers in cutting interest rates more aggressively.

Indonesia has allocated 57.6 trillion rupiah next year for fuel subsidies, almost half of this year's 126.8 trillion rupiah. Indonesia's budget assumption for the average crude price next year is \$80 per barrel, while U.S. crude futures prices are trading at about \$45 a barrel.

64. NDRC to Cut Air Fuel Surcharge

China's top planning body, the National Development and Reform Commission said it will cut fuel surcharges on domestic flights from Dec 25. This came after the commission lowered the jet fuel price by more than 30 percent.

The charge on flights of more than 800 km will decline to 40 Yuan (\$5.60) from 150 Yuan per ticket, while that for routes shorter than 800 km will fall from 80 Yuan per ticket to 20 Yuan.

The rate will equal the level in the first quarter of 2006, when the surcharges began to float in response to fluctuations in the international jet fuel price.

The reduced surcharges are expected to encourage more people to travel by air, said Li Xiaojin, a professor at the Civil Aviation University of China in Tianjin. "The present fuel surcharges are relatively high compared to the ticket price, putting some people off air travel," he said.

Major Chinese carriers, hit hard by the global economic slowdown, have all offered big discounts in order to lure passengers.

As they do not need approval from the commission or the civil aviation authority to cut fuel surcharges on international and regional flights, several airlines have already reduced the rate. Since Dec 1, China Eastern, Shanghai Airlines and China Southern have cut fuel surcharges on flights from the mainland to Hong Kong from 175 Yuan to 95 Yuan. China Southern and Air China have also reduced the surcharge on flights from Hong Kong to the mainland from 196 Yuan to 108 Yuan this month.

65. Honda's Plans Include Electric Motorcycles and Diesel Cars

In a revised product development plan, Honda says it will concentrate on hybrid and compact vehicles. Honda will start selling the 2009 Insight in Japan this spring with a price targeted under 2,000,000 yen (\$22,325). Honda has previously announced the new Insight will go on sale in the US at a price starting under \$18,500.

Additionally, a new sporty hybrid based on the CR-Z concept will be introduced in 2010, and Honda is considering mid- and large-size models in the hybrid line up.

Honda also will develop a small diesel engine and plans on introducing an electric motorcycle two years from now.

Given the current severe economic situation, Honda recently decided to withdraw from Formula One, to cut temporary staff by 450 in Japan, and to postpone opening a new plant. Honda also discontinued the further development of a V10 supercar, a successor to NSX.

66. Recent Developments in China

a. Shanghai

Shanghai has decided to proceed with adoption of Euro 4 vehicle emissions standards and fuels in October 2009. Mr. Zhang of the EPB emphasized that while he is focused on the World Expo of 2010 he wants the motor vehicle pollution control effort to continue for the long term. Beyond emissions and fuels standards, other key program efforts should include:

- VMT Controls
- Emissions Labels
- Mandatory Scrappage
- Advanced Technology
- Marine Controls

b. Beijing

Li Kunsheng has been promoted to head up his motor vehicle group within the Beijing EPB and he has identified the following priorities for the next year or two:

- Strict implementation of Euro 4 vehicle standards, which went into effect on March 1.
- Initiate work toward adoption of Euro 5 vehicle standards and 10 ppm sulfur in fuels, perhaps going into effect in 2012.
- Reduce in use vehicle emissions, with the following steps:
 - Upgrade the I/M program by adding digital readings during the test and live cameras with the data fed back to the central station in real time,
 - Increase the number of Remote Sensing devices from ~20 to ~40,
 - Utilize the newly opened emissions laboratory to conduct an in use compliance test program, recognizing the Euro 4 vehicles are required to meet standards in use for 100,000 kilometers.
- Force the Scrappage of 400,000 vehicles with yellow stickers:
 - 300,000 light duty (pre Euro)
 - 100,000 diesel trucks (Euro 2 and older)

Vehicles with yellow stickers are currently restricted from use during the normal business day

Approximately 7000 vehicles have been retrofitted with PM filters with active regeneration. Some of the systems are time based and regenerate on a fixed schedule and other sense back pressure to trigger regeneration. About 2000-3000 of the vehicles are licensed in Beijing with the remainder from outside. They include buses, light trucks, tourist buses and about 800-900 heavy trucks, originally meeting Euro 1, 2 or 3 emissions standards. The average retrofit cost is about ~50,000 RMB and achieves about ~85% PM emissions reduction. Each vehicle is also equipped with a GPRS system which monitors temperatures, back pressure and reduction efficiency and there have been very few failures recorded. Overall the program is considered very successful. All the systems emit no visible smoke, meeting less than 10 HSU.

c. Motorcycles

Fuel Economy

Available data indicates that on average motorcycle fuel economy has improved about 10% from 2004 to 2008. The formal standards proposal is expected to be approved by the WTO by the end of the year. If approved, implementation is expected in May to July 2009.

Emissions Standards

It appears that the Chinese proposed standards are the most stringent in the world – Euro 3 standards, plus durability requirements, plus evaporative standards (using the shed test). The durability requirements are:

Size (cc)	Max Speed (km/hr)	Durability (km)
<150		12,000
150	<130	18,000
150	130	30,000

Time Schedule:

July 1, 2008 – New Models (there were no new models introduced)

July 1, 2009 – all models

They are looking at 6 technologies

- One promising is carburetor with a TWC followed by air injection and an Ox Cat,
- Another is Fuel Injection with a TWC

Only one model has been approved so far as meeting the standards but another 5-6 are expected within the next month.

Industry is pushing hard for a one year delay in the standards arguing three main problems:

- Price – FI plus Cat (500 RMB) for a total of 1200 RMB or carburetor (200 RMB) plus cat for a total of 800 RMB.
- Component availability
- Repair Industry Capability

67. China Reportedly Cools Toward Light Duty Diesel Vehicles

As China struggles to choose the best powertrain for future vehicles, an influential minister has gone cold on clean diesel in favor of gasoline hybrids and electric drive trains, according to the Automotive News. "Minister Wan is very much in favor of hybrid technology because he sees it as a bridge to electric cars -- the medium- to long-term solution to vehicle power in China," the newspaper said citing the adviser. He was referring to Wan Gang, China's science and technology minister.

"Diesel is now frowned upon because of issues with China's refining capacity and the need to guarantee fuel for farmers," he was quoted as saying.

China needs alternative energy vehicles to tackle its twin problems of choking pollution and dependence on imported oil. Among competing technologies, clean diesel offers similar improvements in fuel efficiency to electric-hybrid cars, but at lower cost. However, mass use of diesel in cars puts pressure on scarce supplies allocated to farmers, whose contentment is deemed necessary for social stability. And supplying high-quality, pure diesel fuel would require revamping outdated national oil refineries at a cost of hundreds of billions of Yuan, the report said.

The Chinese ministry aims for mass use of electric cars and sees hybrid vehicles as the bridge, it added.

68. China Cuts Key Water, Air Pollutants in First Half of 2008

China cut its emissions of water pollution and acid rain-causing sulfur dioxide in the first half of this year, as Beijing closed dirty power plants and the global economic crisis hit heavy industry, state media said. Chemical Oxygen Demand (COD), a measure of water pollution, dropped by 2.5 percent from the same period last year as new sewage plants came online, while sulfur dioxide emissions were down 4.0 percent, the official Xinhua agency said.

"The dual reduction was achieved through continued pollution control measures, as well as the closure of some outdated plants that consumed too much energy," Environment Minister Zhou Shengxian was quoted saying.

The government shuttered small, dirty power plants with over 8 gigawatts of capacity, the report said. Desulphurization equipment was also added at plants with 40.6 GW of installed capacity, although that increase still represents well under 10 percent of the country's power plant capacity.

China has promised to cut the two key pollution measures by 10 percent between 2006 and 2010. Last year marked the first swing downwards for both of them. But the two targets reached are only very rough indicators of overall environmental health. And emissions of greenhouse gases are set to soar as the government seeks greater prosperity for its people.

The majority of the much-publicized factory closures and traffic controls around Beijing for the Olympic Games only began in July so would not show up in figures for the first half of the year. China is also large enough that even the massive shut down around Beijing for the Games is unlikely to make much of a dent on national pollution levels.

The report did not say if China had met its energy intensity target of cutting the amount of energy used to generate each dollar of national income, but the impact of the world financial crisis on the country's economy may help. Energy guzzling industries like steel, aluminum and cement have been badly hit by the global slowdown and weakening domestic growth, particularly in the construction sector.

However Beijing has lived up to promises of tighter controls despite the gloom, rejecting or postponing projects involving 315 billion Yuan (\$46.14 billion) of investment in the first eight months of the year over environmental concerns, the report said.

69. Pertamina Launches Biodiesel Fuel Sales to Industry

Indonesia's state oil firm, Pertamina, has started selling palm oil-based biodiesel to industry as part of its moves to cut imports of petroleum products and boost the local biofuels industry, the firm's president said. In September, Indonesia issued a ministerial decree making the use of biofuels mandatory with effect from 2009.

Indonesia is the world's biggest producer of palm oil and has been pushing for the use of biofuels to help ensure the survival of its biodiesel industry.

Ari Soemarno, Pertamina's president director, told reporters that the ministerial decree meant the company now had guarantees over biofuels standards and supply. "Pertamina will expand the biofuels market in future," he said.

Pertamina currently sells a blend of 5 percent palm-based biodiesel and 95 percent diesel oil to motorists in Java Island. Soemarno said Pertamina would extend its biodiesel market to stations in Sumatra and parts of Kalimantan and Sulawesi Island in 2009.

Pertamina has been selling biodiesel since 2006, but has varied the blend in its biodiesel fuel in response to volatile palm oil prices and due to the lack of a mandatory policy. Indonesia's combined capacity for biofuels using palm oil as a feedstock is 2 million kilo liters per year, but it is running at 20 percent of capacity, data from the national biofuels development team shows.

With the introduction of the mandatory policy, biodiesel capacity would rise to 5 million kilo liters a year by 2010, the government said recently, although it could also push up the price of palm oil.

SOUTH AMERICA

70. Peruvian Government Facing Difficulties in Efforts to Reduce Air Pollution

The Peruvian government is losing ground on several legislative and legal fronts in its effort to combat air pollution. President Alan Garcia's government has strongly criticized a decision of the congressional Transportation Commission to modify Legislative Decree 843 (September 1996) to allow the continued import of some used cars, as well as the end of mandatory car inspections in Lima, the capital, because of a legal dispute between the municipal government and a private company.

Bill 02740-2008-CR, approved on November 18th by the commission, extends until 2012 the import of older used vehicles, including those coming from Asia on which the steering system

must be switched from right to left. Used car imports through the Tacna Free Trade Zone, in southern Peru, were scheduled to end mid-December.

"We do not support this bill because it will allow us to continue importing junk that is polluting the environment and harming the health of Peruvians," Environment Minister Antonio Brack told reporters after testifying about the bill in Congress.

The administration is supported by the Lima Chamber of Commerce and the Peruvian Automotive Association. The bill is backed by the Peruvian Nationalist Party, the second largest bloc in Peru's fractured Congress, as well as the Tacna government, which claims more than 20,000 jobs would be lost if the prohibition is allowed to take effect on December 18th.

Peru has the oldest and smallest car fleet in South America, with only 49 vehicles per 1,000 people and an average vehicle age of 18 years. It also has the highest number of per capita deaths caused by traffic accidents, at 25 deaths per 10,000 vehicles.

According to the Peruvian Automotive Association, slightly more than 70 percent of traffic accidents in Lima are caused by imported secondhand vehicles. Neighboring Bolivia is the only other country in the region that allows the import of used vehicles with modification of the steering column.

Brack also called on authorities in Lima to restart mandatory vehicle inspections as a way of reducing air contamination. Mandatory inspections were started in October 2007 but lasted only a few months. The city government canceled the contract with Spain's Lidercon in February 2008, setting off a legal battle that continues. In late November the municipal government rescinded several norms regulating the inspection, making it unlikely that they will recommence soon.

The minister said it was urgent to restart the inspection process because "it will help us begin improving air quality in Lima. When people know what is coming out of their car's exhaust, they will be more willing to do something about air pollution."

Apart from setbacks in eliminating old, diesel-burning vehicles, the government also appears headed toward new delays in reducing the amount of sulfur in diesel fuel. Several norms, regulations and laws demand the reduction of sulfur in diesel fuel from current levels of upward to 5,000 parts per million (ppm) to 50 ppm by Jan. 1, 2010. The reduction was specified in Law 28694 (published March 22, 2006), which also called for taxes on fuels to be pegged to the amount of contaminants they contained, with the highest taxes on diesel fuels.

The tax scale was supposed to be implemented starting Jan. 1, 2008, but the government did not comply. It is unlikely to hit the 50 ppm target, given that the reduction is linked to the currently stalled modernization of the country's state-run oil refinery in Talara, on the northern coast. The national oil company, Petroperu, announced plans in 2007 for a \$1.2 billion remodeling of the refinery to increase production to 88,300 barrels per day from the current 62,000. The extra production was to finance efforts to lower the sulfur levels in diesel to comply with the law.

The modernization has been put on hold due to a scandal in the country's hydrocarbon sector that forced the resignation of Petroperu's president and Peru's Energy and Mines minister. Petroperu has been without a president since early October.

While the company has remained silent about the time line for modernization – the announcement of the winning bid had been scheduled for May but was repeatedly postponed – Petroperu indefinitely put off a management and supervision consultancy for the front end engineering design-engineering, procurement and construction (FEED-EPC) work. Only one company submitted a proposal, but it did not comply with the requirements.

The international financial crisis is also a factor in delaying modernization, limiting the ability of the company to raise capital. The plan was to create a consortium of banks that would underwrite the project based on future sale of oil.

Jon Bickel, director of the private Regional Clean Air Program, doubts reaching 50 ppm is feasible in the short term. He said the modernization of the Talara refinery will take at least 16 months, and it is not known when work might get under way.

71. Brazilian Agencies, Petrobras Reach Deal To Increase Low-Sulfur Diesel

An agreement reached on October 31st will lead to the gradual nationwide phase-in of low-sulfur diesel and will require new trucks and buses using this cleaner fuel to comply with more stringent diesel emissions limits by 2012. The accord was signed by the federal prosecutors' office, the federal and Sao Paulo state governments, Brazil's eight bus and truck manufacturers, the National Oil Agency, and state oil company Petrobras, federal prosecutor Ana Cristina Bandeira Lins, who helped negotiate the agreement, announced.

Petrobras currently produces diesel for buses and trucks that has a sulfur content of 2,000 parts per million (ppm), known as S-2000 diesel. But in Brazil's 14 largest cities where air pollution levels are at their highest, Petrobras provides fuel with a sulfur content of 500 ppm (S-500 diesel).

The agreement requires Petrobras by January 2009 to provide buses in Sao Paulo and Rio de Janeiro with low-sulfur S-50 diesel (50 ppm of sulfur). Petrobras must then provide S-50 diesel to buses in seven other major cities and the 20 Sao Paulo satellite cities by January 2010 and by 2011, it must provide S-50 diesel to three more large cities in Sao Paulo state and to the more than one dozen Rio de Janeiro satellite cities. Petrobras also will be required by January 2009 to provide S-1800 diesel for buses in all other parts of Brazil, a limit that will be gradually lowered to S-500 diesel by 2014.

Although diesel is also used in trucks, the agreement primarily covers buses for the first three years. The pact extends to trucks only in three northern cities where it is easier logistically for Petrobras to provide S-50 diesel. Petrobras will have to import S-50 diesel until it can begin commercially producing the low-sulfur fuel in 2010, the federal prosecutor told the press.

By 2012, the agreement will require Petrobras to provide S-50 diesel nationwide for all new buses and trucks and to replace it with S-10 ultra-low-sulfur diesel nationwide by January 2013.

The accord also requires the National Oil Agency, which sets fuel specifications, to provide S-10 specifications by January 2010.

The agreement is linked to a resolution passed Oct. 31 by the National Environmental Council (CONAMA), the same day the accord was signed. That resolution requires more stringent diesel emission limits for new trucks and buses – Euro V Standards - by 2012. As a result, Brazil's eight bus and truck makers—Volkswagen, Ford, Scania, Iveco (Fiat), Mercedes-Benz, Volvo,

Agrale, and Hyundai—must produce by January 2012 new models that can reach CONAMA's 2012 emission limits.

The agreement also allows Petrobras to avoid complying with the 2002 CONAMA resolution that set more stringent diesel emissions standards for 2009 new model trucks and buses, according to Oswaldo Lucon, a technical advisor at the Sao Paulo Environmental Secretariat (SMA). The new emissions limits under the 2002 CONAMA resolution were set to take effect Jan. 1, 2009. But they could only be met if Petrobras was able to provide S-50 diesel nationwide. The National Oil Agency, however, only set S-50 fuel specifications in October 2007, five years after the 2002 CONAMA resolution, Lucon told the press.

“Petrobras used the [National Oil Agency]'s foot-dragging as an excuse to delay producing S-50 by January 2009, mainly because of the high production costs involved,” Lucon said. “This allowed bus and truck makers to argue that if S-50 was not available by 2009, the S-2000 and S-500 diesel that would be used in newly equipped 2009 model trucks and buses would ruin their catalytic converters, an excuse they used to delay turning out those 2009 models, also a costly investment.”

In October 2007, the federal prosecutor's office of Sao Paulo state filed a lawsuit against Petrobras for not making S-50 diesel available nationwide by January 2009 and against the National Oil Agency for its delay in setting fuel specifications. Such deliberate delays, the lawsuit argued, put both Petrobras and the National Oil Agency out of compliance with the 2002 CONAMA resolution. In June of 2008, the same federal prosecutors' office filed a parallel lawsuit against the eight bus and truck makers for failing to produce 2009 models able to reduce diesel emissions to CONAMA standards for 2009.

In September 2008, Federal Judge Carlos Motta ruled that Petrobras must make S-50 diesel available at all filling stations nationwide by January 1st, 2009, in compliance with the CONAMA resolution. Motta also said the National Oil Agency must regulate distribution of the fuel. At the request of the federal prosecutor's office, Motta suspended the decision on November 5th after approving the collective agreement. The prosecutor's office in turn dropped its lawsuit against bus and truck makers.

A recent University of Sao Paulo study concluded that air pollution in the city of Sao Paulo worsens chronic respiratory diseases and contributes to the death of 2,000 people per year, mainly of those with respiratory diseases, Lucon of the SMA said.

At the same time, "MPF" (The Federal Prosecuting Counsel) has initiated a discussion process regarding what punishment should be imposed on Petrobrás, ANP, and ANFAVEA, and compensation measures for failing to carry out EURO IV standards implementation.

GENERAL

72. ICCT Issues New Report on MMT

The ICCT has just released a new report "Methylcyclopentadienyl Manganese Tricarbonyl: A science and policy review."

The report is posted at the top of the page at www.theicct.org and the direct link is: http://theicct.org/documents/MMT_ICCT_2009.pdf.

MMT is a manganese-based fuel additive that has been marketed as a cheap octane booster in developing countries with poor fuel refining capability and high sensitivity to fuel prices. MMT has been largely restricted if not completely eliminated in the United States, Canada, Japan, India, Brazil, New Zealand, Indonesia and nearly all of Europe through a combination of legislation, fuel quality regulation and fuel refiner boycotts. The ICCT recommends that policy makers take appropriate precautionary action to prevent potentially unsafe exposure to ambient manganese and damage to vehicle emissions controls by adopting measures that prevent the use of manganese-based fuel additives.

ICCT's previous report published in 2004 made a significant contribution to the literature by outlining the public health and vehicle emissions impacts of manganese-based fuel additives like MMT. New elements provided in this update to the report include:

- A more thorough review of the science regarding ambient manganese exposure
- A summary of restrictions or bans in countries around the world
- A historical review of policy in the United States and Canada
- A review of alternatives
- An outline of the precautionary principle and its application
- A review of the Toronto study funded by the Afton Chemical Corporation

There have been several recent and important developments regarding MMT:

- The European Parliament has adopted new limits on manganese-based fuel additives to include a cap of 6 mg/L Mn by 2011 and 2 mg/L Mn by 2014. This latter limit will effectively ban the use of MMT since these levels are not sufficiently high to produce a meaningful impact on octane level. It also calls for the commission to carry out a risk assessment. Any increase in these limits must be justified based on scientific proof of no harm. Additionally, all fuels containing manganese must be labeled.
- Elsewhere the city of Beijing put into force a maximum allowable level of 6 mg/L beginning January 2008.
- During 2008, Health Canada released a draft risk assessment for manganese that would reduce allowable ambient concentrations to no more than .05 ug/m³, a level substantially tighter than has previously been in effect and equivalent to the current EPA standard. The agency has not stated a timeline for final adoption of the proposal.
- Meanwhile the California Office of Environmental Health Hazard Assessment (OEHHA) is revising its risk assessment methodology, and its latest proposal would tighten the chronic Reference Exposure Level (REL) by more than 50 percent.
- In November 2008, the Clean Air Initiative for Asian Cities released its Final Report, "A Roadmap For Cleaner Fuels and Vehicles in Asia", in which it concludes that "Prominent health experts have raised serious concerns regarding the potential adverse health effects of metallic additives such as methylcyclopentadienyl manganese tricarbonyl (MMT) and ferrocene, along with their potential adverse effects on vehicle emissions and emission control system components. Therefore, the environmentally responsible approach for Asian countries is to apply the precautionary principle for these metallic additives and to not use them until and unless the scientific health studies show that they are safe."

These and other updates are summarized in the report. If you have comments or questions please contact Ray Minjares at ray@theicct.org or Michael Walsh at mpwalsh@igc.org.

73. Study Finds That Soot Darkens Ice, Stokes Runaway Arctic Melt

Soot is darkening ice in the Arctic and speeding a melt that could make the ocean around the North Pole ice-free in summer well before 2050, according to experts. They said the fight against warming in the Arctic should be re-directed to focus more on cutting the industrial pollution from soot, ozone and methane in Europe, North America and Russia to try to prevent the ice disappearing.

Soot or black carbon darkens the ice and makes it soak up more heat, accelerating a melt compared to reflective snow and ice. Methane comes from sources including oil and gas and agriculture while ozone is formed from industrial pollutants.

"Reductions in these pollutants would have a greater impact" in the next two decades than curbing emissions of the main greenhouse gas -- carbon dioxide -- according to scientists on the sidelines of 187-nation UN climate talks in Poland.

The Arctic is warming at twice the rate of the rest of the world and ice shrank to a record low in 2007, leading to worries that it could pass a point of no return.

"The Arctic sea ice may already have passed a 'tipping point'," said Pam Pearson, an Arctic pollution expert at the Climate Policy Center who presented the findings. "An ice-free summer Arctic is now possible well before 2050".

"Some scientists are arguing that it (the Arctic Ocean) could be (ice free) in summer within the next 10 to 20 years," said Bob Watson, a former head of the UN Climate Panel who chaired a presentation of the research in Poznan.

The three pollutants -- soot, ozone and methane -- linger in the atmosphere far less time than carbon dioxide, meaning cuts in emissions would have a quicker impact in cleaning the air.

The UN panel projected last year that it could be clear of ice by the end of the century. A thaw would threaten indigenous peoples and wildlife such as polar bears and seals.

A melt of the Arctic ice would warm the top of the globe and lead to warming further south. An ice-free Arctic would also make the region more accessible to oil and gas exploration and shipping.

74. Climate Talks in Poznan Defer Major Challenges

International climate negotiators left Poland with a roadmap for completing work on a global-warming treaty in 2009 - a small yet critical step in the face of the global economic meltdown. With the US delegation in a state of post-election limbo and Europe locked in a battle over its new climate initiative, developing nations captured the limelight in Poznań by ramping up their own commitments and calling for industrialized nations to do the same. The talks - the 14th UN Conference of the Parties (COP), held on 1–12 December - also saw the launch of a fund to help countries cope with a warmer world. And negotiators made some progress on ways to include deforestation in the successor to the Kyoto Protocol, which expires in 2012.

But delegates largely spent the two weeks positioning themselves for the formal negotiations process leading up to Copenhagen, where the talks are scheduled to conclude in December 2009. They adopted what is being called the 'Poznań package', which lays out a necessarily aggressive - and perhaps optimistic - agenda, but remains silent on the most vexing questions, including how to divvy up responsibility for reducing greenhouse gases.

In Poznań, Mexico announced that it will commit to reducing emissions to 50% below 2002 levels by mid-century. South Africa said it would halt the growth in its emissions by 2020–25 and begin reducing them by 2030. China is aggressively pursuing alternative energy, and Brazil showed up with a climate plan that would, among other things, curb Amazon deforestation by 70% within nine years.

On the subject of facilitating adaptation to climate change, negotiators finally settled their differences over the launch of a fund to help poor countries cope with global warming. Developing countries prevailed in their efforts to get direct access to the money through a board established under the UN convention, a move that bypasses institutions such as the World Bank.

The conference ended without a decision on how to increase revenues for the fund, currently valued at about \$200 million - far from the tens to hundreds of billions of dollars annually that many think will be needed to help countries adapt their agricultural systems, cope with freshwater shortages and address rising sea levels. The sole revenue source at present is a 2% levy on projects that industrialized nations fund in emerging economies to offset their own emissions.

Poznań marked the halfway point in talks to agree a new global climate accord. Negotiations were launched in Bali last year and are set to be concluded in Copenhagen next December.

The secretariat of the UN framework convention on climate change (Unfccc) said the meeting's main success was "a clear commitment from governments to shift into full negotiating mode next year". This commitment came with a work plan for 2009.

A second, more tangible, achievement was to make fully functional an adaptation fund for developing countries. The final sticking point was whether developing countries should have direct access to the fund. It was decided that they would.

Ministers could not agree, however, on whether to raise new adaptation funds by extending an existing levy of two per cent levy on transactions under the clean development mechanism (CDM) to Kyoto's other trading mechanisms.

Ministers did approve small improvements to the CDM. More substantial changes, including an appeals procedure for project developers whose proposals have been rejected, were postponed until next year.

Agreement also proved elusive on including carbon capture and storage (CCS) projects in the CDM, on enhancing its regional distribution, and on extending eligibility criteria for afforestation and reforestation projects.

The only progress on the issue of technology transfer was an agreement to promote it with €50m of existing resources from the Global environment facility (GEF), a fund that supports environment projects in developing countries.

Meanwhile, also on Friday, a group of developed and developing countries led by the UK issued a joint ministerial declaration in Poznań committing themselves to early action on cutting carbon emission releases from deforestation. The European commission endorsed the initiative.

75. Clean Air, Clean Port: Push Is On For Safer Cruise Ship Fuel

Neighborhood negotiations over plans for a Mayport cruise ship terminal could decide whether nearby homeowners can breathe easy. As part of the talks, residents and port officials are hashing out rules to limit use of the ships' normal fuel, which activists and some governments have criticized for years as dirty and sulfurous. That could lead to the first case of an East Coast seaport requiring cruise vessels to use cleaner power at the dock.

The Jacksonville Port Authority, which wants to build a \$60 million terminal, has offered to prohibit cruise lines from using a cheap and heavy grade of bunker fuel called IFO-380 when they're dockside.

The port has asked residents to lay out their own proposals in writing. The sides will spend the next two weeks trying to reach some agreement that can be brought to a City Council committee.

Under the port's plan, the ships could use a different fuel to operate auxiliary engines while the passengers disembark and the ships take on supplies and pick up new passengers, said Nancy Rubin, a port spokeswoman. She said cruise ship stops at the port's current terminal usually last about eight hours.

The terminal would be designed to accommodate electrical service that also could power the ships, Rubin said. But the port hasn't committed to wiring the terminal site for that service, which preliminary estimates suggest could cost from \$4 million to \$7 million.

Although shore power is becoming increasingly common at West Coast cruise terminals, many cruise ships must be renovated to be able to tap in. That conversion cost has been estimated around \$1 million per vessel.

Powering the ships is only one piece of the port's negotiations with neighbors. But the limits on fuel use could carry important consequences for residents and sea life near the mouth of the St. Johns River.

Burning bunker fuel produces many more fine sooty particles than burning lower-sulfur alternatives.

Federal agencies have sharply curbed the amount of particulate pollution allowed from fuels used by vehicles and machinery on land during the past decade, saying those restrictions would prevent many instances of asthma and lung disease.

Oceangoing vessels have been regulated less because they're usually far removed from most people, making them less important.

But data used by the Environmental Protection Agency in October in discussion of emissions controls estimated that oceangoing vessels produce about 11 percent of the particulate load in Jacksonville air.

The ships were estimated to have much more impact on air in other Southern seaports, including Savannah, Ga. and Charleston, S.C.

Baldwin argued that normal winds at Mayport would carry soot across homes and carry some over the river, limiting the amount of sunlight penetrating the dark river and affecting plants and animals there. She said that if the terminal is built at all - and she's not endorsing that - she'd want them to use shore power or low-sulfur fuels that have been mandated for shipping in California, but not in the Southeast. The Northeast Florida Sierra Club adopted a similar view, recommending fuel with no more than 0.2 percent sulfur content.

Marine diesel fuel with that sulfur level is used by many small commercial vessels, said Lanie Fagan, communications director for the Cruise Lines International Association. But in an e-mail exchange, Fagan said she wasn't aware of any East Coast port that mandated low-sulfur fuel for cruise lines, or whether it was available in large enough quantities for big ships.

The bunker fuel used at Jacksonville's current cruise terminal has a little less than 2 percent sulfur, said Keith Hill, vice president of marketing for Colonial Oil Industries, which supplies the fuel.

A low-sulfur fuel commonly called marine gas oil is readily available, Hill said, but is more than twice as expensive as bunker fuel.

76. Global Vehicle Industry in Deep Recession

a. Toyota Forecasts First Operating Loss as Sales Slump

Toyota Motor Corp. forecast a first-ever annual operating loss, blaming a relentless sales slide and a crippling rise in the yen while declaring an emergency unprecedented in its 70-year history. The world's biggest automaker had been expected to issue its second profit warning in less than seven weeks after domestic rival Honda Motor Co. also cut its outlook again, but the downward revision was bigger than analysts predicted.

"We are facing an unprecedented emergency," President Katsuaki Watanabe told a year-end news conference. "This is a crisis unlike the crises of the past."

Toyota cut its group operating forecast to a loss of 150 billion yen (\$1.7 billion) for the year ending March 31, after shocking financial markets last month by slashing its group operating profit forecast by 1 trillion yen to 600 billion yen. It made a record profit of 2.27 trillion yen last year.

b. US Pledges Emergency Loans

The forecast compounds the global automotive crisis and comes three days after General Motors and Chrysler LLC staved off bankruptcy through a U.S. pledge for \$17.4 billion in emergency loans. Automakers around the world are caught in a sharp reversal of demand as the financial crisis spreads, squeezing credit and consumer sentiment.

c. Isuzu Cuts Back Thailand, Russia Expansion on Demand

Isuzu Motors Ltd., Japan's largest truck maker, scrapped expansion of pick-up truck production in Thailand and delayed a plan to build heavy duty trucks in Russia next year as the global recession saps vehicle demand. Isuzu may also delay making diesel car engines for Toyota Motor Corp. from 2012, President Susumu Hosoi said in an interview in Tokyo.

The company's 67 billion yen (\$739 million) capital spending for the fiscal year ending March 31 will be 10 percent lower than its initial estimates, Hosoi said. Economic recessions in the U.S., Japan, and Europe are sapping demand for vehicles worldwide and Thailand's economy may contract for the first time in a decade next quarter, partly due to political turmoil.

In Thailand, the company won't add a new assembly line for pick-up trucks at the Gateway plant, where it already builds commercial vehicles. A slowdown in Russia and a stronger yen against the ruble prompted Isuzu to postpone its plan to make heavy-duty trucks at a factory jointly operated by OAO Severstal- Avto of Russia and Sojitz Corp. of Japan.

Isuzu had allocated 230 billion yen to expand production 58 percent in the three years ending March 2011, from the previous period. In the three-year business plan that started in April, the carmaker aimed to raise global sales 32 percent to 840,000 vehicles from last fiscal year.

Isuzu announced separately that it has decided to halt a diesel engine project with Toyota due to a slowdown in global growth, according to a statement released through the Tokyo Stock Exchange. Toyota bought a 5.9 percent stake in Isuzu in 2006 to cooperate on diesel engines. The two companies last year said they would start production of the 1.6-liter diesel engines by 2012. Toyota's compact car equipped with the engine is already being tested, he said.

d. Toyota halts U.S. Prius project

Toyota Motor Corp., with its sales plunging in the United States, is freezing its plan to build the Toyota Prius in a new plant near Tupelo, Miss. Toyota's board in Japan reached the decision to halt the project "due to the steep decline" in U.S. sales.

Sales of the hybrid car have softened in recent weeks as gasoline prices dropped from a summer spike of more than \$4 a gallon. The Prius sold 8,660 units in November, down from 16,737 in November 2007.

Total Toyota sales in the United States fell 32 percent in November.

This is the second time Toyota has changed plans on the \$1.3 billion Mississippi project, which already has begun to draw component suppliers to the area. In February 2007, Toyota announced it would spend \$1.3 billion there to produce a new generation of Highlander crossovers. But after Toyota broke ground, SUV sales began to soften. In July of this year, Toyota said it instead would build the Prius there.

A spokeswoman for Toyota's North American manufacturing operations says the company will continue constructing the building, which is about 90 percent complete. The company made its decision before it had begun ordering the equipment that would go into the plant.

Toyota has no timetable to resume the project, the spokeswoman says, but it will remain a Prius factory whenever the project restarts.

77. Greenland's Glaciers Losing Ice Faster This Year than Last Year

Researchers watching the loss of ice flowing out from the giant island of Greenland say that the amount of ice lost this summer is nearly three times what was lost one year ago. The loss of floating ice in 2008 pouring from Greenland's glaciers would cover an area twice the size of Manhattan Island in the U.S., they said.

Jason Box, an associate professor of geography at Ohio State, said that the loss of ice since the year 2000 is 355.4 square miles (920.5 square kilometers), or more than 10 times the size of Manhattan. "We now know that the climate doesn't have to warm any more for Greenland to continue losing ice," Box said. "It has probably passed the point where it could maintain the mass of ice that we remember.

Box, a researcher with Ohio State's Byrd Polar Research Center, along with graduate students Russell Benson and David Decker, presented their findings at the annual meeting of the American Geophysical Union in San Francisco.

The research team has been monitoring satellite images of Greenland to gauge just how much ice flows from landlocked glaciers towards the ocean to form floating ice shelves. Eventually, large pieces of these ice shelves will break off into the sea, speeding up the flow of more glacial ice to add to the shelves. Warming of the climate around Greenland is believed to have added to the increased flow of ice outward from the mainland via these huge glaciers.

Using daily images from instruments called MODIS (Moderate Resolution Imaging Spectroradiometer) aboard two of NASA's satellites, Box and his team are able to monitor changes in 32 of the largest glaciers along Greenland's coast. They determined that during the summer of 2006-2007, the floating ice shelves at the seaward end of those glaciers had diminished by 24.29 square miles (62.9 square kilometers). But one year later -- the summer of 2007-2008 — the ice loss had nearly tripled to nearly 71 square miles (183.8 square kilometers). Much of this additional loss is from a single large floating ice tongue called the Petermann glacier. Late this summer, the Ohio State researchers were able to watch as a massive 11-square-mile (29-square kilometer) chunk broke off from the tongue of this massive Glacier in Northern Greenland. At the time, they also noted that a massive crack further up the ice shelf suggested an even larger piece of ice would soon crack off.

78. Ex-Soviet Bloc Leads CO2 Emissions Rise Since 2000

Economic revival in the former Soviet bloc has been the main driver in pushing up industrialized nations' greenhouse gas emissions since 2000, UN data show. Emissions by 40 industrialized nations grew by 2.3 percent to the equivalent of 18.0 billion tons of carbon dioxide in 2006 from 17.6 billion in 2000, the Secretariat said in an annual compilation of data that underpins UN climate treaties. The biggest gains since 2000 were by nations of the former Soviet bloc, where emissions rose 7.4 percent to 3.7 billion tons in line with an economic upturn, after tumbling with the collapse of smokestack industries in the early 1990s.

Overall emissions by other industrialized countries were up by 1 percent since 2000, with transport the worst performing sector.

The Secretariat played down a 0.1 percent dip in emissions in 2006 from 2005, saying the trend still seemed up. That fall was likely linked to factors such as high oil prices, or a mild winter in Europe and North America that cut demand for heating.

The UN Climate Panel says global emissions should peak by 2015, and then fall, to avoid the worst effects of climate change that could bring water and food shortages by causing floods, heat waves and more powerful storms.

The data released covers industrialized nations -- developing nations such as China and India have no obligations to report.

Despite the rising trend since 2000, emissions were down 4.7 percent from 1990 levels of 18.9 billion tons, caused mainly by the 1991 collapse of the Soviet Union. Kyoto calls for average cuts of at least 5 percent below 1990 levels by 2008-12.

79. UN Says Giant Asian Smog Cloud Masks Global Warming Impact

A three-kilometer thick cloud of brown soot and other pollutants hanging over Asia is darkening cities, killing thousands and damaging crops but may be holding off the worst effects of global warming, according to the UN. The vast plume of contamination from factories, fires, cars and deforestation contains some particles that reflect sunlight away from the earth, cutting its ability to heat the earth.

"One of the impacts of this atmospheric brown cloud has been to mask the true nature of global warming on our planet," United Nations Environment Program head Achim Steiner said at the launch in Beijing of a new report on the phenomenon. The amount of sunlight reaching earth through the murk has fallen by up to a quarter in the worst-affected areas and if the brown cloud disperses, global temperatures could rise by up to 2 degrees Celsius.

But the overall effect of slowing climate change is not the silver lining to a dark cloud that it appears to be.

The choking soup of pollutants may hold temperatures down overall, but the mix of particles means it is also speeding up warming in some of the most vulnerable areas and exacerbating the most devastating impacts of higher temperatures.

The complex impact of the cloud, which tends to cool areas near the surface of the earth and warm the air higher up, is believed to be causing a shortening of the monsoon season in India while increasing flooding there and in southern China.

Soot from the cloud is also deposited on glaciers, which are at the centre of environmentalists' and politicians' concerns because they feed Asia's key rivers and provide drinking water for billions who live along them. There the particles capture more solar heat than white, reflective snow and ice -- speeding up melting of a key resource. At a monitoring station near Mount Everest, soot has been found at levels which scientists say would be expected in urban areas.

There is also a high human cost. The report estimates that around 340,000 people are dying prematurely because of damage to their lungs, hearts and risk of cancer.

Scientists are still studying the impact on crops, but possible problems include falling harvests because of less energy for photosynthesis and higher ozone concentrations. There may also be

damage from acidic and toxic particles in the cloud that land on plants, and wider changes to weather patterns may dry up or flood fields.

"The emergence of the atmospheric brown cloud problem is expected to further aggravate the recent dramatic escalation of food prices and the consequent challenge for survival among the world's most vulnerable populations," the report said.



One consolation, however, is that if the world stopped emitting the particles that form the cloud, it could be expected to vanish in weeks, unlike many longer-lasting greenhouse gasses.

The ingredients that make up the cloud are little different from the smog that cloaks many of the world's large cities, particularly in developing nations.

But scientists have realized this local pollution is a global problem, because of the way it rises and spreads. "We used to think of the brown cloud as a regional-scale urban problem, now we know because of fast transport it travels vertically for three to four kilometers and spreads," said Professor Veerabhadran Ramanathan, head of the UN scientific panel which is carrying out the research.

There are similar brown clouds over parts of Europe, North America, Africa and the Amazon Basin, though research so far has

been focused on the Asian cloud which stretches from the Arabian Peninsula to the Pacific Ocean.

80. WMO Publishes New Report on Aerosols

Countries need more accurate predictions of rain and snowfall: to improve forecasts for severe events such as flooding and drought; to manage water resources for agriculture, energy and the drinking supply; and to enable the tourism and other economic sectors to adapt to local changes, among a host of other uses. Air pollutants, particularly tiny particles called aerosols, play a very significant role in how rain, snow and hail form in the atmosphere. The new international scientific review *Aerosol Pollution Impact on Precipitation*, released by the World Meteorological Organization (WMO), and published jointly with the International Union for

Geodesy and Geophysics (IUGG), examines what scientists know and don't know about how aerosols affect global weather and climate patterns.¹

Aerosols are tiny solid particles or liquid droplets that remain suspended in the atmosphere for a long time. They can originate naturally (for example from volcanoes) but also as a result of human activities in the form of wind-blown dust, biomass-burning particles and smog particles from fossil fuel combustion and industrial activities. Once in the air, they impact the atmosphere in a number of ways, at the most basic level by reflecting and absorbing radiation from the sun.

Understanding how aerosols can shift the global water cycle is critical for weather forecast and climate models. The dearth of accurate representations of aerosols and other pollutants in meteorological models is hindering efforts to provide policy-makers the best-available weather and climate planning tools.

The new review, published as a book, provides a comprehensive analysis of gaps in our knowledge about how aerosol pollution disrupts precipitation formation. It recommends ways that countries and international organizations can accelerate our understanding and translate it into the creation of more powerful decision-making tools. According to Secretary-General Michel Jarraud, WMO is prepared to continue its leading role in organizing international studies to unravel the complex interactions occurring among aerosols, clouds and precipitation and to reduce roadblocks to improving weather and climate prediction.

¹ Reference: WMO/IUGG, Scientific Review on Aerosol Pollution Impact on Precipitation, eds, Springer, e-ISBN: 978-1-4020-8690-8, Z. Levin, W.R. Cotton, 2008.